Univerza *v Ljubljani*
Filozofska fakulteta

Exploring English by Means of Contrast

Edited by Andrej Stopar and Ivo Fabijanić

Ljubljana 2024

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Layout design / Prelom: Nana Martinčič

Published by / Založila: University of Ljubljana Press
For the publisher / Za založbo: Gregor Majdič, Rector of the University of Ljubljana
Issued by / Izdala: University of Ljubljana Press, Faculty of Arts
For the issuer / Za izdajatelja: Mojca Schlamberger Brezar, Dean of the Faculty of Arts, University of Ljubljana
Cover / Platnica: Zora Stančič, untitled / brez naslova (1986, lithograph / litografija)

Printed by / Tisk: Birografika Bori d. o. o.
Ljubljana, 2024
First edition / Prva izdaja
Number of copies / Naklada: 130
Price / Cena: 21.90 / 21,90 EUR

The book was published with the support of the Slovenian Research and Innovation Agency (ARIS). / Knjiga je izšla s podporo Javne agencije za raziskovalno in inovativno dejavnost Republike Slovenije (ARIS).

The book was produced within the framework of the programme group P6-0218, funded by ARIS from the budget of the Republic of Slovenia. / Knjiga je nastala v okviru programske skupine P6-0218, ki jo iz sredstev proračuna RS financira ARIS.

First e-edition. / Prva e-izdaja. Publication is available in open access at / Publikacija je v digitalni obliki prosto dostopna na: https://ebooks.uni-lj.si/ZalozbaUL
DOI: 10.4312/9789612972677

Kataložna zapisa o publikaciji (CIP) pripravili v Narodni in univerzitetni knjižnici v Ljubljani

Tiskana knjiga
COBISS.SI-ID=186860547
ISBN 978-961-297-268-4

E-knjiga
COBISS.SI-ID=186856195
ISBN 978-961-297-267-7 (PDF)

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Contrasting English and South Slavic Languages: An Introduction

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Ivo Fabijanić, University of Zadar, Croatia

The monograph *Contrasting English and South Slavic Languages* contains a collection of contrastive, cross-linguistic studies of South Slavic languages and English.

The history of contrastive approaches to linguistic studies can be traced back to the early 20th century when linguists began systematically comparing different languages. Such studies traditionally compare two or more languages and have a typological focus; they are mainly synchronic and explore both systematic differences and similarities between the languages under observation, where one language is described from the perspective of the other (König 2012).

The contrastive approach thus aims to identify the unique linguistic structures of each language and compare them to those of other languages, providing insights into the nature of language and its use. In the 1970s, contrastive analysis was expected to become both a potential source of a general theory of language and a method of characterizing individual languages (Filipović 1985, 17, quoting Ferguson 1968).

In their more applied form, contrastive studies focus on the development of language teaching methods, translation research, and second language

acquisition. The assumption is that the contrastively observed differences may also represent challenges for both language learners (Granger 2003) and translators. Lado (1957) and Fries (1952), for example, advocate for a systematic approach to the comparison of languages believing that by comparing the linguistic systems of different languages we can identify the areas of difficulty that learners of a non-native language may encounter.

The *Yugoslav Serbo-Croatian-English Contrastive Project* is an example of a typical project that adhered to the above ideas and also included some of the languages analysed in this monograph. Starting at the end of the 1960s, it aimed to describe the points of contrast between Serbo-Croatian and English by focusing "on difficulties of the Serbo-Croatian-speaking learner of English" (Filipović 1985, 10). Although the project mainly explored the differences and similarities between the two languages, the findings of the theoretical studies were to be applicable in the language learning and teaching contexts.

Despite relying on different theoretical frameworks and being based on different assumptions about the nature of language and the relationship between languages, contrastive analysis was criticized as being overly simplistic in its approach to language analysis as well as to language learning and teaching. After its peak in the 1960s and 1970s, contrastive linguistics experienced a decline due to the inability of the field to fully address the complexities of foreign language acquisition and the emergence of other approaches to linguistic analysis (König 2012).

This critique and various advances across a broad range of the sciences led to the development of new theories and approaches to linguistic analysis. A significant innovation that influenced those studies that follow the contrastive tradition was the advent of corpora, and since the 1990s we can observe a "convergence between contrastive linguistics and corpus linguistics", which shows that "corpus-based approaches are essentially comparative" (Xiao 2013, 267). This is also reflected in their applied aspects, for instance in translation (Baker 1993), pedagogy (Sinclair 2004), lexicology and lexicography (Cowie 1981).

Following other technological advances, contrastive and cross-linguistic studies have helped to shed light on the ways in which different languages interact with one another in the brain or in the mind (see, for instance, Luck and Kappenman 2011; Price 2012; Flecken, Wallbert and Dijkstra 2015). Some of the developments in linguistics have also brought about conceptual innovations – cognitive approaches, for instance, see language as reflecting cognition

(Langacker 2000; Geeraerts and Cuyckens 2007) and reject the notion of grammar as a completely autonomous formal system. Moreover, a considerable emphasis in contemporary contrastive and cross-linguistic studies has also been placed on the analysis of language that ventures beyond the sentence by exploring the intricacies of discourse and pragmatics.

The contributions included in this monograph reflect many of the above developments in linguistic research. One of the aims of the volume is to continue the long tradition of contrastive studies by addressing the relationship between English and South Slavic languages, while also considering the plethora of theories, approaches and methodologies available to linguists in the present moment. This task has been enthusiastically pursued by the twelve authors of the eight chapters in this monograph that explore English in contrast to Bosnian, Bulgarian, Croatian, North Macedonian, Serbian, and Slovene.

Alexandra Bagasheva (Sofia University "St. Kliment Ohridski", Bulgaria) has conducted a study on the word-formation of psych verbs, specifically the deverbal derivation of *Experiencer*. Her approach in the study titled "The Derivational Habitat of *Experiencer* in English and Bulgarian: An Onomasiological Perspective" is described as "contrastive cognitive-onomasiological" and based on the hypothesis that conceptual, linguistic, and metalinguistic factors condition the lack of a dedicated *Experiencer* pattern in English and Bulgarian. Bagasheva's research shows that the syntactically relevant special properties of psych verbs do not translate into derivational patterns and processes (*Theme* being the exception) and confirms that there are no dedicated affixal patterns or types for exclusively marking *Experiencer* in English or Bulgarian. While discussing the significant differences between the two languages, Bagasheva notes that *-ing* is not used to mark *Experiencer* in English, whereas a corresponding pattern in Bulgarian systematically and exclusively names *Experiencer* (and *Agent*) and is not required to derive any of the other participant roles due to context. The author suggests that the lack of prominence of *Experiencer* marking in word formation is most likely conceptual – the processes in the mind are not accessible to the observer, and thus the mental event is a construal of their own (this is in line with Croft et al. 2018). However, language specific and metalinguistic factors are at play as well: it may be impossible to theorize an abstract schema that encompasses the diversity of mental events involving *Experiencer*, perhaps even due to the lack of adequate tools for linguistic analysis.

Nermina Čordalija (University of Sarajevo, Bosnia and Herzegovina), **Roelien Bastiaanse** (University Medical Center Groningen, the Netherlands), and **Srđan Popov** (University of Groningen, the Netherlands), in their collaborative multi-authored study "What do Event-Related Potentials Reveal about Processing Grammatical Aspect in Bosnian/Croatian/Serbian? – A Comparison with English Aspect", provide a linguistic description of grammatical aspect and an empirical insight into its processing. The authors note that in Bosnian-Croatian-Serbian (BCS), grammatical aspect is intrinsic to time reference while English grammaticalizes aspect only partly, and simple forms are not marked for aspect. With BCS aspect is encoded synthetically via affixes, while English grammaticalizes aspect periphrastically. In BCS perfective and imperfective verb forms cannot be used in the same context with the same or similar meaning, and imperfective verb forms cannot be used in the real present time frame at all. English, on the other hand, shows a flexible system where different verb forms may express the same or similar aspectual semantics. To address the question of how such morphosyntactic and semantic differences between the two aspectual systems are reflected in processing, Čordalija, Bastiaanse and Popov conduct an event-related potentials (ERP) experiment with the aim of studying the electrophysiological responses to aspectual violations in BCS. The findings are in line with most previous ERP studies on grammatical aspect, suggesting that aspectual violations trigger immediate reanalysis and repair processes reflected in the P600 component. The results are also compared with those from an ERP study on English aspect violations by Flecken, Wallbert and Dijkstra (2015), which showed that violations of aspect in English did not yield a clear electrophysiological response.

Biljana Čubrović (University of Belgrade, Serbia) investigates the strategies employed by L2 learners of English with a Serbian language background in the acquisition of the pairs of English vowels whose qualitative characteristics are markedly different in English, but virtually the same in Serbian. Her study "New Vowel Category Acquisition in L2 Speakers of English: The Case of High Front and High Back Vowels" approaches this goal experimentally – Čubrović uses two groups of English speakers, one with Serbian as their L1 and the other with Mainstream American English as their L1, to compare the vowel pairs FLEECE/KIT and GOOSE/FOOT. She examines the spectral features (F1 and F2 values) in the productions of the observed vowels and checks whether the F1–F2 difference acquired by speakers of Serbian as L1 is in line with the targeted difference for English. Čubrović's reasoning for the study is contrastive in nature – she compares the two relevant vowel

systems and assumes that a vowel quantity language such as Serbian may influence the quality of vowels in the learners' production of English vowels. She finds that the group which includes advanced speakers of English with Serbian as L1 successfully formed new vowel categories for the KIT and FOOT vowels that do not overlap with the respective FLEECE and GOOSE vowels. However, the formation of new vowel categories varies – at least one L2 speaker seems to rely more on vowel duration, a likely transfer from Serbian. The analysis shows that the English GOOSE/FOOT contrast is not problematic for L1 speakers of Serbian, while the FLEECE and KIT vowels seem to be more challenging and have not yet been fully accommodated into the English vowel inventory. These findings provide new insights into the interaction of vowel quality and quantity across languages (for similar discussions, see Casillas 2015; Escudero and Boersma 2004; Roberto Gonçalves and Silveira 2014; Hirata and Tsukada 2004).

Selma Đuliman (University of Sarajevo, Bosnia and Herzegovina), in her paper "Translating Humour in *The IT Crowd:* An Analysis in Favour of Introducing Humour Studies into Translation and Interpreting Curricula", discusses some of the challenges in translating humour from the (British) *The IT Crowd* series into the Bosnian language. The goal was to emphasize the need for introducing humour studies into university curricula. Humour is observed and contrasted between English and Bosnian, and analysed within Minutella's (2014) analytical framework, involving cultural references, wordplay and language variation for humour detection, and Chiaro's (2004) approach to humour translation, which entails substitution, replacement with an idiomatic expression, or replacement with compensatory, verbally expressed humour. A selection of eight scenes from *The IT Crowd* is presented, followed by a discussion of the humour translation challenges in each scene. The transcription and translation of the scenes are provided by the author, since the series has not been translated into Bosnian, since it has not been aired by any of the country's networks. The two main issues emphasized in relation to the process of translating humour are that students of translation studies should be familiar with the basic trends in humour research in linguistic and cultural studies, and that the translation of humorous content can be highly challenging even for more experienced translators, despite the seemingly superficial and familiar plot of the audio-visual material. The results indicate that some humorous content is easy to detect in the source language, but difficult to translate, and there were also instances of translatable content resulting in the loss of humour in the target language. The author claims that humour studies enable

easier understanding and translation for students, while contrastive analysis serves as a pedagogical means of bringing humorous content in translation studies classes into focus.

Frančiška Lipovšek (University of Ljubljana, Slovenia) tackles the role of verbs and adverbs in structuring fictive motion. In her study titled "The Role of Verbs and Adverbs in Structuring Fictive Motion in English and Slovene" a motion verb in a fictive motion sentence is defined as not expressing actual motion but likely referring to some physical property of the subject entity by virtue of its meaning, while an adverb of manner utilized in a fictive motion sentence is described as not being able to express the manner of motion but necessarily referring to some correlated property of the subject entity. Taking this as a starting point, the chapter authored by Lipovšek examines the role of vertical and irregular motion verbs and manner adverbials in English and Slovene fictive motion expressions. The study is corpus-based (the studied sentences are extracted from the British Web, ukWaC, and the Slovenian Reference Corpus, Gigafida 2.0) and the results compare Slovene data with data from English, but also in relation to other languages (Matsumoto 1996; Rojo Valenzuela 2003, 2010; Tomczak and Ewert 2015). The new observations about the English-Slovene language pair are as follows: they differ in the mapping potential of verbs – Slovene verbs display less specific meanings than English ones – while the correlations between the manner-related meanings of adverbs and the properties of stationary entities are equally represented in both languages. The author notes that the identified differences are due to the lexicon (many English verbs have not distinct counterparts in Slovene) or some other differences between the two language systems, and do not depend on fictive motion.

Liljana Mitkovska (AUE-FON University, North Macedonia) and **Eleni Bužarovska** (Ss Cyril and Methodius University, North Macedonia) authored the study "Negated Biased Questions in English and Their Equivalents in Macedonian", in which they present the analysis of English biased questions with negation and their Macedonian equivalents. English negated questions have different readings depending on their discourse goals – the "outer" and "inner". The two readings are disambiguated by several Macedonian translational equivalents: negated questions with the negation particle *ne* "not", and questions introduced with the interrogative particles *neli*, and *zar/em*. *Neli*-questions assert the truth of the propositional content, while *zar*-questions challenge the truth of *p*. The authors examine the uses of negated questions in the transcript of the American soap opera *All My Children* (2001). The corpus of 300,000 words

consists of short dialogues on various subjects that concern the protagonists of the series, and the sample is compiled from all negated questions found in the text. The familiarity relations reflected in the language use come from speakers' similar social backgrounds, along with kinship and friendship ties. The bulk belong to the high negation type, while low negation questions are underrepresented (with only four examples). The original questions and their translations are stored in a database for the next step of the analysis, in which the translation variants are classified according to the applied translational strategy. The analysis confirms the initial assumption that they tend to pattern with the two readings of these questions: outer and inner negation (as in Romero and Han 2004). *Neli*-questions mainly render outer negation questions, *zar*-questions pair with inner negation questions, while *ne*-questions are rather ambiguous, and their interpretation may depend on prosodic features. The interplay of two pragmatic factors decides the choice of the translational equivalent: the context and the conversational goal of the question.

Jelena Vujić (University of Belgrade, Serbia) and **Tijana Šuković** (University of Belgrade, Serbia), in "Personal-Name Blends as Instances of Morphological Creativity in English and their Equivalents in Serbian: a Constructionist View", follow Booij's (2010) framework of Construction Morphology in analysing personal-name blends in English on a corpus compiled from popular American sitcoms, TV dramas and films, and their (possible) translational equivalents in Serbian, offering an insight into the available morphological mechanisms of creating (morpho-)semantically equivalent personal-name portmanteaus in Serbian. The aim of the contribution is to show that despite being instances of morphological creativity, English personal-name blends represent form-meaning correspondences, which proves them to be generated by constructional schemas rather than arbitrary coinages. As playful and humorous expressions that are the outputs of morphological creativity, personal-name blends are highly context-dependent and understood only by a close speech community. By applying a constructionist approach, they show that their meaning does not have to be completely unpredictable and indecipherable. Vujić and Šuković demonstrate that a specific schema and/or sub-schema can be attributed to several blend formations rather than to single instances, which indicates that they are more rule-governed than may initially appear. The findings also indicate that the outputs of blending may be regarded as extracted from schemas because of the lack of a specific model, which is in line with Tuggy's belief (2006, 102) that analogy-based and schema-based models are not "strict alternatives", because they may be "simultaneously active" since "the difference between them is one

of degree". Furthermore, they demonstrate how the identification and formulation of English blend construction schemas, which specify all the vital information regarding the prosodic, syntactic, semantic and pragmatic features of the novel formations, can be highly valuable to translators, helping them to find and create suitable equivalents in TL, and maximizing the preservation of the form-meaning-use correspondence of the original, as well as that (somewhat) modified English schemas might actively operate in Serbian speakers' mental lexicon for nonce word creation.

Dragana Vuković Vojnović's (University of Novi Sad, Serbia) contributed the chapter "Adjective + Noun Collocations in Tourism Discourse – A Contrastive Corpus-Based Study of English and Serbian", which builds on the tradition of contrastive studies like the ones by Ivir (1969) and Đorđević (1989). She has the goal of identifying recurring *adjective + noun collocations* and analysing their main morpho-syntactic, semantic, and communicative features in the context of web-based promotional tourism texts in English and Serbian. With this purpose in mind, Vuković Vojnović compiles two comparable corpora in English and Serbian from the tourism-related (British) English and Serbian websites, and extracts key *adjective + noun collocations* by means of two software tools, TermoStat Web 3.0 and AntConc. Based on their normalized frequencies per 10,000 words, the collocations are first analysed quantitatively. The qualitative analysis, on the other hand, examines the specific use of *adjective + noun collocations* in the context of tourism texts, as well as the similarities and differences of the collocations in the two languages. The results of the study indicate that *adjective + noun collocations* are more frequent in the Serbian corpus, while the English corpus contains more *noun + noun collocations*. Some Serbian collocations can be considered genuine translation equivalents, while others may be somewhat modified. For instance, the same adjective in Serbian may appear in the superlative form or have a more distinctive meaning. These findings have implications for tourism discourse studies, language typology and lexicography, as well as English for the tourism and hospitality industry. Vuković Vojnović also notes that a contrastive approach to the analysis of lexical collocations, especially in the specialized context, deepens knowledge about the morphosyntactic and lexical-semantic characteristics of the compared languages, revealing some universal features, while also identifying their similarities and differences.

The editors wish to express their sincere gratitude to the authors who contributed their research to this monograph, and to the reviewers of both individual chapters and the book as a whole. We would also like to thank the participants

of the similarly titled workshop at the 9th *Biennial International Conference on the Linguistics of Contemporary English* that took place in Ljubljana, Slovenia, in 2022. The papers presented at the conference and the discussions that followed were instrumental in inspiring the present volume. Finally, the publication would not have been possible without the support of the publisher, the University of Ljubljana Press, and the funding provided by the Slovenian Research and Innovation Agency.[1]

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1 The editors acknowledge the financial support from the Slovenian Research and Innovation Agency (research core funding No. P6-0218 2023, and funding for the publication of scientific monographs).

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The Derivational Habitat of *Experiencer* in English and Bulgarian: An Onomasiological Perspective

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Abstract

Psych verbs' special status and their associated properties have loomed large in syntactic analyses, but remain relatively under-researched with regard to word formation. The expression of Experiencer,[1] as the inevitable participant role for such predicates, appears a central analytical and classificatory factor in syntax (e.g., subject-experiencer vs. object-experiencer verbs), whereas the *Experiencer* deverbal derivation remains under-researched. In this work the ecological niche of deverbal *Experiencer* derivation in English and Bulgarian is analyzed from a contrastive cognitive-onomasiological perspective, and the polysemy networks in which *Experiencer* derivation in the ecology of deverbal nominalizations participates are explored. A tentative hypothesis is formulated as to the plausible factors conditioning the lack of a dedicated *Experiencer* pattern in either language, which can be grouped into conceptual, linguistic and metalinguistic ones. The most fundamental factor seems to be the fact that what happens in the mind is non-accessible, and despite its cognitive primacy, it can only be modeled after more familiar types of events and interactions.

Keywords: psych verbs, *Experiencer*, derivation, onomasiology, English-Bulgarian analysis

1 Throughout the text when a semantic label is in italics it names a conceptual-onomasiological category, which is derived from an underlying conceptual schema. When a semantic label is in plain script it is used as a label for syntactically defined thematic/semantic term.

1 Introduction

According to Landau (2010) *Experiencers* are cognitively and linguistically special: "[b]eing the primary species of experiencers ourselves, it is hardly surprising that we assign a privileged status to the category of sentient entities capable of mental life" (Landau 2010, 3). Surprisingly, and to the best of my knowledge, *Experiencers* have not made it into the limelight of focused word formation research, unlike their prime appearances in studies focused on syntax-driven interfaces. Assuming that "cognitive primacy has causal effects" (Landau 2010, 3) on the grammar, the lack of dedicated *Experiencer* derivational pattern in two distantly genealogically related languages (one Slavic, the other Germanic) – both with nominative-accusative syntax with different ergative reflexes, associated with significant differences in their voice systems and verb compounding (on verb compounding in the two languages and the ergative cryptotype see Bagasheva 2012 and 2014) – and hence with distinct word formation ecology, invites at least a reflection, if not an explanation.

Psych verbs have been defined in various ways, but the common core detectable in all definitions can be pre-theoretically summarized as lexical items encoding states or events of internal, affective, desiderative or cognitive experience, through which we encode "our mental contact with the world" (Downing 2015, 171). The focus of extensive attention in relation to this group of verbs in separate languages and cross-linguistically, from diverse standpoints and within different frameworks, have been argument assignment and linking/mapping problems at the semantics-syntax interface (Croft 1986; Dowty 1988, 1991; Jackendoff 1990, 2007; Kiparsky 1987; Levin 1993; Pesetsky 1995; Van Valin 1990, 2005; Van Voorst 1992; Zaenen 1993, to name but a few). Considering the significance of the correlation between syntactic encoding and affixal functions in languages (e.g., Grimshaw 1990; Lees 1960; Härtl 2015; Levi 1978; Marchand 1969; Paducheva 1998; Ryder 1999; Selkirk 1982; Spencer 2005, 2015), the lack of specific research on the participant word formation properties of this group of verbs needs to be addressed, and serves as the motivation for the account provided here.

Affixal (systemic) polysemy[2] has been extensively studied and a cross-linguistic tendency for an *Agent/Instrument*(/*Location*) recurrent polysemy has

2 This term is used as defined by Apresjan (1974) as "regular polysemy" or recurrent patterns of radial networks of correlated possible affix readings across languages.

been repeatedly evidenced (Rainer 2011, 2014; Ryder 1999; Baeskow 2015, to name but a few). A noticeable symmetry between *Agent* and *Patient* marking in English has been discussed (Baeskow 2015), i.e., the correspondence between *-er* vs. *-ee* affixal derivation as in e.g., *dump**er*** – *dump**ee***, with occasional overlaps in marking, e.g., *-ee* in English marking agents as in *escap**ee***, *attend**ee***, etc. or the *-er* marking patients as in *bak**er***, *fry**er*** (Barker 1998; Booij and Lieber 2004; Ryder 1999, etc.).

Despite the cognitive salience of psych verbs, little research has been carried out regarding Experiencer participant nominalization and potential correspondence with Stimulus marking. Assuming that the opposition between *Experiencer* and *Theme* and *Experiencer* and *Stimulus* within the force dynamic structure of mental events (Croft et al. 2018) can be likened to the derivationally expressed *Agent* – *Patient* contrast as in English *employ**er*** vs. *employ**ee***, the objective of the research is to see how participant nominalizations from psych verbs are realized in the language pair English – Bulgarian. Admittedly, a full account should comment on the differentiation between *Experiencer* and *Affectee* and between *Stimulus*, *Theme* and *Affector* and monitor any derivational specialization in view of these semantic differentiations, but as this is an initial, exploratory research, in the remainder of the chapter these are discussed indiscriminately, with a few exceptions, in the relevant context. Affector and Affectee are defined for the special type of agentive-causative psych verbs such as *Mary **frightened** John*, which deviate from typical agentive verbs (Alexiadou 2016) but also from typical psych verbs (Liu 2016). They occupy the middle ground along the notions of affectedness and change and are associated with a special set of roles, which are defined as follows: "[d]ifferent from the non-sentient Stimulus, an Affector volitionally instigates an internal change on an Affectee in a more dynamic and eventive manner" (Liu 2016, 4).

In view of the above, the problem of the word-formation behaviour of psych verbs offers practically unlimited possibilities for analytical treatment and research. I have limited the perspective here to the following interrelated research questions:

Are any of the properties of psych verbs (conceptual and syntactic) reflected in participant nominalizations?

How is *Experiencer* referential participant deverbal nominalization in English and Bulgarian actualized, i.e., are there dedicated affixal patterns or word formation processes for the derivational encoding of *Experiencer* in the two languages?

What are the basic similarities and contrasts in "the population of the semantic niche" of *Experiencer* in the two languages; i.e., are the polysemy chains of participant nominalizations fully coincidental or how do they differ?

In order to answer these questions, the rest of this chapter is structured as follows: part two briefly presents the adopted analytical framework and its theoretical contextualization; in part three the central properties of psych verbs in the two languages are discussed; part four focuses on presenting a contrastive onomasiological account of *Experiencer* nominalization in English and Bulgarian; in part five possible reasons for the findings and some conclusions are provided.

2 Notes on the framework and theoretical background

Within the framework adopted here, a cognitive-functional onomasiological approach to word formation, Langacker (1991) recognizes the theoretical significance of deverbal nominalizations and Heyvaert (2010) emphasizes their centrality in the symbolic inventory of the lexicogrammar. Prominent in this inventory are participant nominalizations. Since language is remarkably anthropo- and egocentric (Dirven and Verspoor 2004), it is expected that participants in psych verb frames will be noticeably significant and will likely be encoded in constructions of various degrees of complexity. The *Experiencer* nominalization ecosystems of English and Bulgarian are examined to explore this issue, but first some background on the encoding of the respective target in syntactic constructions is provided.

The analysis is based on the key tenets of the onomasiological approach to word formation (Štekauer 1998, 2001, 2005, 2015), supplemented with Lieber's (2016) onomasiology informed ecological view of English deverbal nominalizations and embedded in the larger framework of the cognitive-constructionist architecture, where language is assumed to be a dynamic system of symbolic pairings of meaning and form. Among the central tenets of the onomasiological theory is the word-formation type cluster, which is comprised of all lexemes coined for expressing a specific conceptual category, e.g., *Patient*, *Instrument*, *Location*, etc. There are eight onomasiological types, which differ in terms of the expression of the onomasiological categories of the determining constituent of the mark, the determined constituent of the mark, and the onomasiological base. Morphemes are mapped onto these constituents by the Morpheme-to-Seme Assignment Principle, which is premised on the idea that "the semantics of morphemes stored in the lexicon

is matched with the individual semantic categories of the onomasiological structure" (Körtvélyessy, Štekauer and Zimmermann 2015). Thus, the analysis of a word-formation type cluster may focus on the onomasiological types or it can explore the ecology of the morphemes (and processes) involved in the mapping of the requisite semantic constituents. The stored morphemes themselves (including what are traditionally called word formation processes, such as compounding, conversion, affixation, etc.) constitute a complex ecosystem of polyfunctionality and competition. In what follows the second option is adopted.

In keeping with Krzeszowski's recommendation for choosing a meaning component for contrastive word formation analysis,

> [s]ince formal comparisons of individual lexical items do not seem to lend themselves to any significant generalizations, contrastive studies of word formation are better off if they are based on some conceptual framework. [...] As a matter of fact, any aspect of the meaning can serve as a basis for cross-linguistic comparisons (Krzeszowski 1990, 75).

The word-formation type cluster *Experiencer*, one of the prominent participant nominalizations, is chosen as *tertium comparationis*. The terms *Agent*, *Patient*, *Instrument*, *Experiencer*, *Theme* and *Stimulus* are used here not as thematic roles but as comparative semantic categories (for a discussion of the appropriacy and nature of comparative semantic categories in word formation analysis see Bagasheva 2017), akin to the conceptual categories driving a naming process (which for analytical purposes are equated with participant labels in frame analysis as in Fillmore (2006) and FrameNet). Even though some of the terms coincide with thematic roles as defined in syntactic analysis, the terms used as grounds for comparison here are derived from "schemata, i.e., mental representations of the knowledge which human beings share about objects and events in the world" (Ortner and Ortner 2015, 910) and thus are coterminous with the conceptual types used in onomasiological word formation theory. They are labels based on conceptual schemata, not theta-roles, and are tools of formal and theoretical neutrality in relation to any syntactic account of word formation. The schema as operative in word-formation is here understood as defined by Tuggy (2005, 235):

> A schema is a pattern, a rough outline, a coarse-grained, less-fully-specified version of a concept which the elaborations render, each in a different way, in finer, more elaborate detail. All of the schema's specifications are true of its elaborations, but each elaboration of a schema specifies details which the schema does not.

Furthermore, Lehmann (2015, 701; emphasis added) recognizes "categories such as agent noun, place noun, or gender marking, [as] the oldest, most common and most widely used **semantic categories** in word-formation, providing a suitable **onomasiological basis** for cross-linguistic comparison". Such categories are defined for analytical purposes in the study of derivational categories and derivational semantics. After all, semantic labels in both syntax and derivational morphology are just "convenient mnemonics" for prominent structural configurations of conceptual structure (Jackendoff 1990, 47). The categories employed in the subsequent discussion can be presented in an alphabetical order without any claims on primacy as follows:

Agent – the performer of an action with the properties of animacy, volition, intentionality and directedness of the action or causality (which excludes *sneezer*, for example);

Experiencer – a sentient, animate being (prototypically human) capable of experiencing emotions, entertaining thoughts and beliefs, of cogitation, etc. (e.g., *admirer, dreamer, believer*, *hearer*, etc.);

Instrument – an inanimate (including material) that an agent uses to implement an event (*toaster*, *sharpener*);

Patient – a participant in a situation upon whom an action is carried out or who is the carrier of certain attribute (e.g., *dumpee*, *beatee*, *старец* (*starec*, an old man), etc.);

Stimulus[3] – the trigger in a perception or emotional reaction event (e.g., *downer*, *eyesore*);

Theme[4] – the entity (irrespective of animacy) towards which the emotions of an Experiencer are directed (e.g., *admiree*).

The last preliminary note relates to the pervasive non-compositionality of word formation products or lexical constructions, implicit in Baeskow's contention

3 The difference between *Stimulus* and *Theme* is conditioned by the inceptive as opposed to the lasting nature of the emotion, beside the specialization between triggering of an emotion and being the recipient of an emotion, e.g., *The play* (Stimulus) *impressed the viewers* vs. *John loves jazz music* (Theme).

4 *Affector* and *Affectee* (recognized by Liu (2016) as significant both for syntactic constructions and for lexicalization patterns) are not included in the list as they were defined in the previous part. The causative nature of purposeful evocation of emotional reactions collapses the agentive-causative and psych verb properties and maps over the mental event schema/frame over the dynamic (canonical) event schema.

that "word-formation involves aspects of meaning, which are neither predicted by the syntax nor reducible to dictionary entries" (Baeskow 2015, 39). On the basis of this assumption that derivational meaning is different from both lexical meaning and principles of syntactic meaning computation and against the background of extensive affixal polysemy, it is the complexity of the ecosystem of affixes and rival derivational processes within a word-formation type cluster that presents the ideal granularity level and focus in contrastive word formation research and presents a suitable *tertium comparationis*. For this reason, adopting Lieber's (2016) metaphor of the derivational ecosystem, and her understanding of morphological types as either specific affixes or particular word formation processes, e.g., conversion (Lieber 2016, 57), in what follows a discussion is presented of the ecological niche of *Experiencer* marking in the nominalization ecosystems of English and Bulgarian, tracing the polysemy chains therein. The concept of nominalization includes the derivation of nouns from all kinds of bases (adjectival, nominal, verbal, etc.). As the main focus of discussion here falls on *Experiencer* as central participant in the conceptualization of psych verbs, the analysis is restricted to referential participant deverbal nominalizations, excluding all other possible types of nominalizations, be them defined in terms of their bases or in terms of the output (i.e., event, result or state nominalizations). For the proper understanding of the specificity of *Experiencer* as a derivational semantic category, we need to review the special properties of psych verbs, since they project the frames (in the sense of Fillmore 2006) from whose schemata (Tuggy 2005) *Experiencer* is conceptually delineated and word-formationally encoded.

3 The special properties of psych verbs

In Langacker's (1999) opinion the experiencing of emotions may be included as a conceptual archetype and can be used for linking basic grammatical constructs with semantic characterization. Emotions may be viewed as 'forces' and emotion verbs may be treated as 'causal-evaluative events' (Lyons 1980; Lakoff and Kövecses 1987; Talmy 1985, 1988; Radden 1998; Kövecses 1998, 2000, among others), a view which directs lexical-semantic (conceptual) and morpho-syntactic analyses of psych verbs and their role in the architecture of language.

The basic features of the various types of psych verbs that have drawn the attention of syntacticians from various persuasions and analytical backgrounds relate to aspectual classifications (eventive vs. stative; change-of-state properties,

causative, transitivity, control, volition, etc.), correlation between semantic roles and syntactic mapping, lexical semantics and argument structure, causality, agentivity, directedness vs. inherence of the experience, correlation with voice systems, etc. This plethora is not matched within word formation research, but a few questions have been debated, e.g., the thematic hierarchy and affixal selection (Rodrigues 2021); possible correlations between the syntax (basically aspectual characteristic and argument realization rules) of psych verbs and *-able* adjectival derivation in English (Alexiadou 2018) and the polysemy of *-ment* suffixation in relation to psych verb bases (Kawaletz and Plag 2015). Whatever theoretical or analytical position is adopted, argument realization and subject or object-orientation of psych verbs, case marking of the Experiencer (here a thematic role), inchoativity/eventivity vs. stativity and causality seem to be the most controversial analytical questions in encoding participant roles of psych verbs in syntactic constructions within the constructicon (for an overview of conceptions and applications of this notion in the constructionist understanding of the architecture of language see Lyngfelt 2018 and Lyngfelt et al. 2018).

Within formal, syntactically informed treatments of word formation phenomena (e.g., Lees 1960), which are generally syntagmatically oriented and rule-based, argument restrictions on word formation, or the influence of the morpho-syntax-lexicon interface on word formation, have led to the establishment of structural rules holding in the domain, parallel to thematic role mapping in syntax. Most of these are defined as restrictions on word formation, basically compounding and nominalizations (for overviews see Baeskow 2015; Härtl 2015; Lieber 1998, 2016), but none focuses exclusively on *Experiencer* derived from psych verbs, against the discussion of other derivations form psych verbs (see Alexiadou 2018; Kawaletz and Plag 2015; Rodriguez 2021). Syntactic accounts of psych verbs have led to the establishment of implicational hierarchies of subject roles, "Stimulus prominent > Affector prominent > Experiencer prominent, if the leftmost, then all to the right" (Liu 2016, 44) and languages with preferences for one or the other of the possibilities as most frequent have been identified. Numerous other generalizations have been formulated concerning psych verbs, including the establishment of a second pair of basic semantic roles, Affector and Affectee, which emphasize volitional causation of psychological states in the affected party and degree of affectedness (e.g., Beavers 2011, 2013; Kenny 1963; Liu 2016; Tenny 1987, 1992; etc.), such as *John* (Affector) *irritated Peter* (Affectee) *with his constant nagging*. Another pattern that stands out is the *Experiencer* and *Theme* (object of the

emotion) emotion verbs of the *love*, *adore/ обичам*[5] (*običam*, love), *обожавам* (*obožavam*, *adore*) type, e.g., *John* (*Experiencer*) *loves his new car* (*Theme*), where *Theme* is an object of an emotion, which is not necessarily triggered by that object and the eventive ranking is rather low.

Psych verbs, despite the common label, constitute a heterogenous class. Beside the subdivision into the frequently recognized major classes cognition, emotion, desideration and perception (Halliday 1994; Downing 2015), numerous subclasses with distinguishable properties have been identified (Dixon 2005; Liu 2016) and distinct participant roles have been offered: e.g., *Perceiver* and *Impression*; *Cogitator* and *Thought*; *Decision-maker* and *Course*; *Experiencer* and *Stimulus* (Dixon 2005); *Cause* and *Affectee*, *Affector* and *Afectee* (Liu 2016), etc. This multiplicity arises from, on the one hand, the abundant dimensions along which the subtypes are differentiated: e.g., directedness, degree of intentionality, aspectual properties, causality, invited or uninvited emotion and various combinations of these and, on the other hand, from linguists' attempts to capture analytically the schema-based conceptual distinctions within psych verb frames, which far surpass in detail and complexity any syntactic classification of thematic/semantic roles. Depending on the degree of granularity targeted by an analyst, these can be further split or lumped together. The important point to make is that the semantic categories employed for the purposes of word formation analysis are not coterminous with the labels of theta- or semantic roles in syntax (despite the use of homonymous, formally identical labels). Although there is uniformity in the principles of meaning-form mappings within the symbolic constructicon, constructions of different degrees of complexity embody different configurations with variable patterns of parametrization (see Evans 2016 for an elaboration of the postulate of parametrization in the correspondence between the conceptual system and the symbolic inventory within cognitive linguistics) and varying extent of explication of conceptual content. This leads to the differentiation between semantic categories in word formation and thematic/semantic role labels in syntax, despite their conceptual affinities. In more complex constructions more parametric dimensions of cognition are explicitly encoded, which are measured in terms of degree of schematicity, elaboration and abstraction (for the relevant understanding of schematicity and elaboration see Heyvaert 2010 and for abstraction Booij 2010). For analytical purposes this means that basic conceptual features and dependencies within a cognitive schema that is linguistically encoded will

5 All verbs presented in isolation, including in all tables, are given in the 1st person, singular, present tense. Aspectual differences are neither marked nor taken into account.

most likely be present in all constructions mapped with the schema irrespective of their levels of elaboration, schematicity and abstruction. Such is the case with the parallel between the lexical and clausal encoding of affectedness (patienthood, for example) (see the introductory part).

The two languages under study are recognized as nominative-accusative. English is typologically recognized as a highly analytical, isolating language (Štekauer, Valera and Körtvélyessy 2012) with a flexible part of speech system (Vogel 2000), while Bulgarian is described as a fusional-inflectional language with a moderate degree of analyticity and a rigid, overtly marked part of speech system (Nicolova 2009). In terms of *Experiencer* encoding in syntactic constructions, there are a couple of differences between the two languages, despite the overall similarities, i.e., the psych verbs in both languages allow roughly the same clausal constructions. As contrasts are more informative, only the exclusive options in Bulgarian, without parallels in English are mentioned here.

The first option available only in Bulgarian is related to reflexivity: the middle construction with a Stimulus subject with a prepositionally expressed (potentially dative) Experiencer, e.g.:

(1)

Тази	*книга*	*се*	*нрави*	*на*
Tazi	kniga	se	nravi	na
This-DEM.F	book -F.SG	itself ACC.REFL	like-PST-3-SG	to

читател-и	*в*	*по-напреднала*	*възраст*.
čitatel-i	v	po-napred-nal-a	vâzrast.
reader-PL	at	more-advanced-ADJ-F-SG	age-INDF-F

This book appeals to readers of more advanced age.

English: *This book likes itself well/by many

Another construction exclusive to Bulgarian is the impersonal construction with nominal or adverbial predicatives with dative Experiencer, such as *мъчно ми е* (mâčno mi e, [sadly to me is], '*I feel sad*'), (for details see Tisheva and Djonova 2022) with possibility for doubling of the Experiencer, as illustrated below:

(2)

Нервно	му	е	(на Иван)
Nervno	mu	e	(na Ivan)
Nervous-ADV	he-DAT	is	(to Ivan)

Ivan feels nervousness.

English: *It is angrily to John with/about/at his girlfriend's jokes.

In view of the cognitive prominence of *Experiencer* and the significance of this concept for syntactic constructions it may be expected that the same will apply to deverbal nominalizations from psych verbs, although this appears not to be the case. In the next part, the lexical constructions in the word formation type cluster *Experiencer* are discussed within the broader ecosystem of deverbal nominalizations in the languages under investigation.

4 Experiencer derivational marking in English and Bulgarian

Data presented in Štekauer, Valera and Körtvélyessy (2012) indicate that the most productive word formation processes are suffixation (95% of the languages of the world) and compounding (90%) followed by reduplication (80%), prefixation (72%) and conversion (63%). Ivanová and Bednaríková (2020, 27) report that "word-formation is primarily based on affixation in Slavic languages". In keeping with such data, extensive research on the word formation systems in English and Bulgarian has revealed that from a broad ecological perspective the following differences are noticeable: in English compounding and blending are far more productive than in Bulgarian; conversion is far more profitable and active in English than in Bulgarian, the latter associated with the overall problematic nature of conversion in Slavic languages; in contrast, affixation is almost equally viable in both languages. Numerous definitions of conversion exist, more importantly, they diverge not only in terms of essence, but also in terms of language (or language group) for which they are provided. According to Bauer, Lieber and Plag (2013, 27, 545 and 562) conversion in English is a morphological word-formation process, "a change from one word class to another with no concomitant change in form", which implies that thus understood conversion will hardly operate at all in Bulgarian. In the

Slavic analytical tradition, conversion (also known as paradigmatic or affixless derivation) encompasses diverse phenomena, where formal changes are recognized (e.g., thematic markers, inflectional affixes, etc. – for a concise overview of the issues, see Ivanová and Bednaríková 2020). To avoid confusion, for the purposes of the current research conversion is assumed not to involve any formal changes, no matter which language is discussed.

Against the background of these encoding mechanisms, the ecosystems of deverbal nominalizations in the two languages have been characterized to include the following: for Bulgarian (Avramova and Baltova 2016) – action nouns, agent nouns/female agent nouns, names of persons according to a special attribute or predilection,[6] patient nouns, object and result nouns, instrument nouns, and place (location) nouns; for English (Bauer, Liber and Plag 2013), with the restriction to the categories of personal or participant nouns – "agents, patients, themes, instruments, inhabitants, locations, and gendered forms" (Bauer, Liber and Plag 2013, 216). In the Bulgarian overview article *Experiencer* is not mentioned at all, while in the English comprehensive guide to derivational morphology *Agent* and *Experiencer* are always discussed together indiscriminately (despite the lack of *Experiencer* in the list of participant nouns).

In view of this polyfunctionality or systemic polysemy of affixes, what has to be analysed is what other nominalizations are coerced for the expression of *Experiencer* or what polysemy chains *Experiencer* marking participates in. Lieber (2016, 56) claims that

> [t]here are in fact almost no cases in English where we find a one-to-one relationship between form and reading. Looked at from the point of view of interpretations, there are very few readings that are characteristically expressed by a single affix or morphological process; more often than not particular readings can be expressed by a variety of forms.

Beside this indeterminacy of morphological types (separate affixes or processes), we also need to take into account the systematicity of constructional polysemy. That is, different available readings have to be related in a way that can be systematically explained. Booij (2005, 221) utilizes the notion of domain shift to account for the *Agent* – *Instrument* polysemy, "the notion AGENT is transferred to the domain of inanimate material things that are conceived of

6 It could be argued that conceptually the *Experiencer* in *Experiencer-Theme* frames could fall somewhere along this continuum of types – e.g., *cat lover* – someone with a propensity for loving cats.

as agents that perform a particular task". He actually adopts the natural grammaticalization path established by Heine, Claudi and Hünnemeyer (1991, 48) as a cross-linguistically valid directed chain of domain shifts within constructional polysemy networks: "PERSON > OBJECT > ACTIVITY > SPACE > TIME > QUALITY". Though this principle applies unproblematically for *Agent-Instrument*, it cannot account for the *Agent-Experiencer* extension since both remain within the *Person* region.

In view of this and to broaden Lieber's ecological metaphor, the meanings of an affix are fluidly coarticulated not only by all rival affixes populating a niche, but also by the interrelated semantic niches that have emerged in particular languages for the respective affix. Acknowledging that "there is such a great degree of overlap, polysemy, and general malleability of reading in such nouns that we need to consider the ecosystem of nominalizations as a complex, interdependent whole" (Lieber 2016, 117), in what follows an attempt is offered for such an account of the *Experiencer* niche in English and Bulgarian. Whenever there "are readings for which there is no apparent predominant form" (Lieber 2016, 56), we need to look for the coerced constructions for the respective conceptual target. The problem is that a domain-shift explanation will not work in *Agent – Experiencer* polysemy as, on the one hand, both belong to the same domain, and on the other, not all *Agent* affixes can also express *Experiencer*.

Before focusing on the constructional polysemy networks of affixation in the two languages, a broader ecological view shows that among the five most frequent word formation processes neither reduplication nor prefixation are employed for coining *Experiencer* nominalizations in either English or Bulgarian. Conversion, as a word formation process with productivity comparable to that of affixation in English, does not seem to produce *Experiencers* but yields *Patients, Agents*, *Instruments* and *Stimulus* (Lieber 2016). In Bulgarian, conversion is a process of low productivity (Avramova and Baltova 2016) but, surprisingly, it yields *Experiencers* from present active participial forms of verbs (as well as *Agents*) – e.g., *страдащ* (*stradaš*, suffering), *любящ* (*lyubyaš*, loving), *интересуващ се* (*interesuvaš se*, interested), etc. The fact that the source is an inflectional form does not undermine the word formational status of such *Experiencer* nominalizations. These are impersonal verb forms formed with the suffixes *-aš*[7], *-eš* and *-yaš*. They are used to derive all types of *Experiencers*. They correspond most closely to the behaviour of the *-ing* suffix

7 Gender-specific marking in Bulgarian is disregarded here.

in English, but since it is among the most noticeable contrasts between the polysemy networks in the niches of participant derivations in English and Bulgarian it will be further discussed below. Compounding, considered one of the most productive processes in English, yields *Experiencers – cat lover*, *woman hater*, etc. In Bulgarian, compounding (recognized as a central process in the language (Avramova and Baltova 2016)) yields the same type of *Experiencer* in a similar manner to English – *котколюбец* (*kotkolyubec*, cat-lover), *женомразец* (*ženomrazec*, woman hater). In both languages, compounding resulting in *Experiencer* nominalizations is of the verbocentric, synthetic or parasynthetic type (for a more elaborate account of compound human nominalizations in the two languages and the differences between synthetic and parasynthetic verbocentric compounds see Bagasheva (2015). Leaving bracketing paradoxes aside, it can be claimed that in *Experiencer* nominalizations in the two languages compounding goes hand in hand with affixation. Notably, in Bulgarian, *Experiencer* compounds include as the right member a form that is either not a lexeme in isolation or has a different meaning, e.g., neither **любец* (*lyubec*, lover), nor **мразец* (*mrazec*, *hater*) are attested lexemes in Bulgarian, i.e., parasynthesis is the norm in *Experiencer* compound nominalizations. In both languages *Experiencers* associated with (volitional) emotional states directed towards a *Theme* are encoded by compounding, where the first constituent is the *Theme* and the second the deverbal *Experiencer*. In Bulgarian the most frequent affix in Experiencer compounds is *-ец* (*-ec*), followed by *-тел* (*-tel*), while in English the most productive one is *-er*. A summary of the utilization of different word formation processes employed in the two languages for populating the word-formation type cluster (with no reference to the separate onomasiological types identified by Štekauer 1998, 2001, 2005) is presented in Table 1.

Table 1. Word-formation Type Cluster Experiencer by process type.

	English	Bulgarian
Suffixation	√	√
Compounding	√	√
Reduplication		
Prefixation		
Conversion		√

As suffixation is a comparably productive process in both languages, greater attention is devoted to separate suffixal patterns in the remainder of this part.

Table 2 below presents the suffixation part of the habitat of *Experiencer* in English and Bulgarian, with the English data taken from Bauer, Lieber and Plag (2013) and Lieber (2016) and the Bulgarian data harvested from the Bulgarian Reverse Dictionary, Bulgarian Derivational Dictionary, Dictionary of New Words in Bulgarian and a series of relevant scholarly books and articles (referenced below under Data Sources). Table 3 presents the suffixal ecosystems of referential participant nominalizations in the two languages and establishes the polysemy networks in which suffixal *Experiencer* nominalization participates. The suffixes for all deverbal participant nominalizations are presented, where unlike in the English source *Agent* and *Experiencer* are presented separately. *Stimulus* is used as a blanket term encompassing *Theme*, *Affector* and *Stimulus* proper, because *Stimulus* is the most prototypical nominalization and, consequently, apart from the tendency for specialization of (para)synthetic compounding for *Experiencer-Theme* conjoining in a single lexeme (see *woman hater* and *женомразец* (*ženomrazec*, woman hater) above), there are no other discernible specializations (with the exception of *-ач* (*-ač*) suffixation in Bulgarian, commented on below).

Table 2.[8] Word-formation Type Cluster *Experiencer* by suffixal patterns.

	Experiencer
English	*-ant (-ent)*; *-ee, -er, -ist*
Bulgarian	*-ač (-jač); -ec; -lyo; -or; -tel; -yor*

8 Table 2 is actually derived from Table 3 after the exclusion of claimed but not attested affixes for *Experiencer* derivations.

Table 3. Referential participant deverbal nominalizations by suffixal patterns.

	Agent[9]	**Instrument**	**Patient**	**Experiencer**	**Stimulus**
English	*-ant (-ent)*; *-ation*; *-ee*; *-eer; -er*; *-ing; -ist; -meister; -or; -ster*	*-ance*; *-ant*; *-ation*; *-er*; *-ing*; *-ment; -or*	Animate *-ee*; *-er*; Inanimate *-age*; *-al*; *-ance*; *- ation*; *-ee*; *-er*; *-ery; -ing*; *-ity*; *-ment*; *-ure*	*-ant (-ent)*; *-ation*; *-ee*; *-eer; -er*; *-ing; -ist; -meister; -or; -ster*	*-ant (-ent)*; *-er*; *-ist; -ment; -or;*
Bulgarian[10]	*-ar* (*-jar*); *-ač*; *(-jač)*; *-ant/ ent*; *-ator/ itor*; *-ec*; *-(n)ik*; *-or*; *-tel; -yor*	*-ar (-jar)*; *-ač (-jač)*; *-olo/-ilo/-(i) lka*; *-ec*; *-(n) ik*; *-or*; *-tel; -yor*	*-ar (-jar); -ač;(-jač); -ie; -nie; -ivo; -ec; -(n)ik; -or; -tel*	*-ač (-jač); -ec; -lo; -lyo; -or; -tel; -yor*	*-ač (-jač); -ec; -lo; -tel; -yor*

As can be gleaned from Tables 2 and 3, *Experiencer* is not "an unexploited semantic niche" (Lieber 2016, 57) and a number of suffixes populate it. The nature of this semantic niche and its population is, however, never discussed in its own right in the word formation literature. It is always indiscriminately included in the company of *Agent*, *Instrument* and *Stimulus*. The lack of semantically and word-formationally annotated comparable corpora for the two languages makes it impossible to provide quantitative analysis of the frequency of the separate affixes, or to stipulate on the language-internal onomasiological competition between them (which explains their alphabetical

9 The suffixes are arranged alphabetically without any claim for productivity or frequency rating. The English ones, with the exception of *Stimulus*, have been taken from Bauer, Lieber and Plag (2013) and Lieber (2016) with their participant encoding potential preserved as in the original. The analysis reveals that the *Experiencer* ones are not as numerous as this indiscriminate lumping together of Agent and Experiencer in the sources suggest. The Bulgarian ones have been self-compiled on the basis of extensive research.

10 There are affixes to specifically mark Experiencer in the feminine gender in Bulgarian such as *-a*, *-la* and *-k*a, but delving into the peculiarities of gender-distinct affixation is beyond the scope of the current chapter.

ordering in Table 2 and in Table 3). The qualitative discussion offered here focuses on contrasting the polysemy chains of the affixes used for *Experiencer* encoding in the two languages. To substantiate the data in Table 2 a procedure of manually screening the reverse dictionaries of the two languages (English – 2002, Bulgarian – 2011) was accomplished.

As naturally follows from the embodied cognition thesis (see Gibbs 2005 for a discussion of embodiment in cognitive science) in cognitive linguistics, physical events serve as the basis for conceptualizing mental events. Parallels between the conceptualization of physical events and mental events are expected, as well as commonalities in their construal in constructions of different complexity, which suggests that any noted differences will be highly informative. Before focusing on a discussion of the most productive separate affixal patterns, an overview of the polysemy networks of participant deverbal nominalizations in the two languages is presented.

In both English and Bulgarian the word formation cluster types of *Agent*, *Patient* and *Experiencer* are more densely populated by potential realizations than the ones of *Instrument* and *Stimulus*. In both languages there is at least one uninterrupted polysemy chain encompassing all five types (examples follow the ordering of types as in Table 3): e.g., English – *-er*: *baker*, *stapler*, *beater*, *dreamer*, *downer*, Bulgarian – *-ец* (*-ec)*: *крадец* (*kradec*, thief), *четец* (*četec*, reader), *ленивец* (*lenivec*, lazybones), *страдалец* (*stradalec*, sufferer), *живец* (*živec*, stimulator). In other affixal patterns there are conspicuous gaps: while in Bulgarian *Patient* is conspicuously missing with regard to *-tel* suffixation: *писател* (*pisatel*, writer), *излъчвател* (*izlâčvatel*, emitter), *мечтател* (*mečtatel*, dreamer), *дразнител* (*draznitel*, irritator), in the English *-ist* suffixation *Patient*, *Instrument* and *Stimulus* are missing: *pianist*, *agonist*. The reasons for such polysemy constellations are too numerous and complex, and require dedicated research beyond the scope of the current review. In short, there are notable parallels and fewer contrasts between the two languages. The contrasts concern the polysemy of separate suffixal patterns, but do not indicate any more fundamental contrasts that might correlate with the more conspicuous contrasts in the syntactic constructions employed for encoding Experiencer (see part 3 above).

Worthy of comment is the contrast between the two languages in seamlessly employing the inflection-derivation gradient. In both languages an inflectional form via conversion can yield both *Agents* and *Experiencers* – the *-ing* form in English and the active present participle form in *-ащ* (*-aš*),

-ещ (*-eš*) and *-ящ* (*-yaš*) in Bulgarian. The conversion or meaning extension process from the participle in Bulgarian results in adjectives and participant nouns exclusively, while *-ing* in English can produce action noun, event, agent, result, patient, an adjectival reading, an adverb reading, and so on. Probably due to its extensive polysemy chain (far beyond participant nominalizations) and also because it is the most inflectional of all the affixes used for participant nominalizations, it does not yield *Experiencer*. Even though the participles in the two languages may be assumed to be functional equivalents in terms of agentive and adjectival meanings, the similarities stop here. Corresponding to the other readings of *-ing*, in Bulgarian the following dedicated affixes are used: *-(а)не* (*-(a)ne*) – action noun, e.g., *писане* (*pisane*, writing), учене (*učene*, learning/studying); *-ащ* (*-aš*), *-ещ* (*-eš*) and *-ящ* (*-yaš*) – the adjectival reading, e.g., *разбиращ* (*razbiraš*, understanding), *обичащ* (*običaš*, loving), *мечтаещ* (*mečtaeš*, dreaming), *любящ* (*lyubyaš*, loving); *-айки* (*-ayki*), *-ейки* (*-eyki*) – the adverbial reading, e.g., *пеейки* (peeyki, singing), *смеейки се* (*smeeyki se*, laughing); *-ба* (*-ba*), *-еж* (*-ež*), *-ние* (*-(n)ie*), *-иво* (*-ivo*), *-ка* (*-ka*), *-ница* (*-nica*) – result, e.g., *резба* (*rezba*, carving), *строеж* (*stroež*, building), *послание* (*poslanie*, message), *плетиво* (*pletivo*, knitting), *отливка* (*otlivka*, casting), *драскаица* (*draskanica*, scribbling). This plethora of specialized deverbal suffixes accounts for the lack of extensive polysemy between participant encoding means and other nominalizations in Bulgarian. Thus, it seems that *Experiencer* is contrastively marked within the ecology of deverbal nominalizations in both languages: the most polysemous of all nominalizing affixes *-ing* in English does not yield *Experiencer* nominalizations, while one of the least productive processes in Bulgarian (conversion from an inflectional source) produces only *Agents* and *Experiencers* within referential participant deverbal nominalizations. More generally, in English participant nominalizations are part of synonymous chains with other deverbal nominalizations, while in Bulgarian no such overextension in deverbal nominalizations from psych verbs is detectable (where participant nominalization is a subset of deverbal nominalizations including other readings such as action, state, and result).

The polysemy networks indicate that there is a systematic polysemy between *Agent* and *Experiencer* in both languages, which cannot be explained via Booij's (2005) domain extension principle of accounting for affixal polyfunctionality (see above), although the remaining extensions of affixal functions can (across the whole spectrum of deverbal nominalizations). The explanation is more comprehensive, fundamental and conceptually primitive

– mental events are modeled conceptually and linguistically after physical events in a seamless unity grounded in the embodied nature of human cognition and its linguistic encoding. This parallel runs at all levels of patterning of meaning and form in language and is far more fundamental than the metonymic domain extensions.

At the level of lexical constructions, a consistent (although not absolute, e.g., *attendee* (*Agent*) vs. *scratcher* (*Patient*)) tendency for correspondences has been established in the differential and corresponding affixal encoding of *Agent* and *Patient* in physical events – in English *-er* (*writer*) vs. *-ee* (*amputee*), but not in Bulgarian – *съветник* (*sâvetnik*, adviser) vs. *наемник* (*naemnik*, hireling). The removal of animacy from agentivity (the former preserved in *Experiencer* in mental events) and a reversal of the directionality of causality / triggering of an event between *Agent – Patient* in physical events, where the *Agent* is cause/trigger and the *Patient* is the affected entity within the conceptual frame, and *Stimulus – Experiencer* in mental events, where the *Stimulus* is the cause/trigger and the *Experiencer* the affected entity in the frame, may explain why there is no such correlation in lexical encoding of mental events.

It transpires that *-ee* in English is involved in the derivation of psych verb nominalizations, used for the encoding of *Experiencer*, e.g., *amusee, Affectee*, e.g., *offendee,* and *Themes* in emotion *Experiencer-Theme* configurations, e.g., *hatee*, where the conceptual dimensions of causativity and affectedness are to a large extent preserved. This fact is indicative of the dependence of the conceptualization (and theorizing) of *Experiencer* on the idea of agentivity and the dependence of lexical encoding of mental events on established patterns for physical events. In the same vein of reasoning, Baeskow (2015, 251) provides a generalized derivational schema for *-er* derivations of low agentivity, or to be more specific, mental event participants, such as *believer*, noting that they "entail 'introspective sentience'" for their external argument:

[<E<x^{ext}>>, -dynamic]] [<R>, [+common, +concrete, +animate, +human]

→ PROTO-AGENT <introspective sentience, independent existence>

(type *lover*, *thinker*, *believer*)

In short, *-er* is systematically used for encoding both *Experiencer* and *Stimulus/Affector* in English. For example, Bauer, Lieber and Plag (2013, 218) specifically list *Experiencer* nouns but under the heading of *-er* attaching to "verbs

taking sentential complements: *[…], hoper, […], realizer, reckoner, resolver, […] theorizer, thinker, reasoner, wonderer*", i.e., Experiencers in cognitive events, where the agentivity-based semantic dimension of "introspective sentience" is inherently present.

Interestingly a special group of *Stimulus* nouns is identifiable in English, in which compounding and affixation join forces again: "*bringer-downer, cheerer-upper, exciter upper, pepper upper, perker-upper, picker-upper, thinker-upper*" (Bauer, Lieber and Plag 2013, 218). These derivations display an inherent polysemy chain extending from *Agent* and *Affector* to *Stimulus*, operative also from simple bases, e.g., *howler*, *puzzler*, *pleaser*, but does not involve *Experiencer* nominalizations. In Bulgarian this polysemy chain is operative exclusively in suffixation, but does not involve compounding.

Even though in discussing affixes in English Bauer, Lieber and Plag (2013) lump together *Agent*, *Experiencer* and *Instrument*, the productivity of the suffixes *-ant (-ent)*; *-ation*; *-eer; -meister;* and *-ster* as Experiencer affixes seems to be approaching zero, if we are to judge by their measurement of productivity (novel formations in corpora, not attested in OED). None of the examples they provide for these affixes names *Experiencer*. Kawaletz and Plag (2015, 298) establish that "*-ment* almost exclusively attaches to verbs from two clearly defined sub-classes of PSYCH VERBS, i.e., AMUSE VERBS and MARVEL VERBS" (emphasis in the original). The authors further discover that this affix can (via metonymic transpositions or domain extensions) encode *Event*, *State* and *Stimulus*, but never *Experiencer*. The Bulgarian affixes corresponding most closely to *-ment* are *-не* (*-ne*), which names *Action* and *Event* and *-ние* (*-nie*), which encodes *Event*, *State* and *Result*, but neither can encode *Stimulus* or *Experiencer*, e.g., *тресене* (*tresene*, shaking), *назначение* (*naznačenie*, appointment), *лечение* (*lečenie*, treatment).

Among the Bulgarian set of affixes the ones used most frequently to produce *Experiencer* are *-тел* (*-tel*) and *-ец* (*-ec*), *e.g., мечтател* (*mečtatel*, dreamer), *страдалец* (*stradalec*, sufferer), *обожател* (*obožatel*, adorer), etc.). The affix *-tel* can be used for all subtypes of *Experiencer* and is also systematically used to produce *Affector* and *Stimulus* (just as the case with the English *-er,* e.g., *дразнител* (*draznitel*, teaser), *подбудител* (*podbuditel*, instigator, trigger), etc.), but there is no clear process or pattern for nominalizing *Affectee* or *Theme* from a verbal base apart from conversion from a passive past participial form of the verb (e.g., (*обичан* (*običan*, loved), *мразен* (*mrazen*, hated), *разочарован* (*razočarovan*, disappointed), etc., just as in English *loving* vs.

loved). *-Ач* (*-ač*) seems to be specialized for perceptual *Experiencer* and that for cognitive events – e.g., *подслушвач* (*podslušvač*, '*eavesdropper*'), *познавач* (*poznavač*, *connoisseur*) – although *-tel* is also used as frequently for such derivations. The specialization status is rendered by the fact that *-ač* is not used to produce other types of *Experiencers*.

The overview analysis of the extensive polysemy chains in the ecosystem of deverbal nominalizations in English leads Lieber (2016, 8) to the conclusion that "nominalizations do not have fixed meanings, but that they can take on a variety of readings by virtue of their sparse lexical semantics and the filling in of their representations in contexts". Even though this may be true of the ecosystem of English nominalizations, this level of malleability is not characteristic of the ecosystem of nominalizations in Bulgarian. The extensive polysemy chains in English include across-the-board deverbal nominalizations, including event, result, location, etc. readings alongside participant readings. In Bulgarian there is a clear line between participant deverbal nominalizations and other deverbal nominalizations. Systemic polysemy is detectable only within the niche of participant deverbal nominalizations. Whether we are talking about polysemy – in the sense that "the semantic relationship between two patterns is still perceived synchronically" and perceived "as a relationship of motivation" (Rainer 2014, 349) – or of absolute indeterminacy, does not preclude the fact that this property obtains within a narrower semantic niche (participant encoding) in Bulgarian and seems to be an across-the-board feature of the ecosystem of nominalizations in English (with the exception of a few less productive but specialized suffixes such as *-eer*, *-meister*, which seem not to be very active).

5 Concluding remarks on the (conceptual) ecology of Experiencer marking

The exploratory, qualitative review of the onomasiology of *Experiencer* in English and Bulgarian presented above revealed no unique morphological type for *Experiencer* deverbal derivations. Rather this participant nominalization shares almost all of its encodings with *Agent* and less frequently with *Instrument* and *Stimulus*. This seems a discrepancy in the face of the pronounced anthropocentricity of language (Dirven and Verspoor 2004) and the special conceptual status assigned to Experiencers by Landau (2010), but is a natural consequence of the embodied nature of human cognition and the

cognition-language interface, further supported by the human tendency to approach the conceptualizing of unfamiliar domains via modeling them after more easily accessible, tangible and familiar domains, which underlies conceptual metaphor theory (Lakoff and Johnson 1980).

The analysis of the data in both languages suggests that the syntactically relevant special properties of psych verbs do not translate into derivational patterns and processes, with the notable exception of *Theme* being preferably marked with *-ee* as opposed to Stimulus with a marked preference for *-er* encoding, e.g., *hatee*, *adoree* vs. *bringer-upper*, *downer*, etc. There does not seem to be any higher generalization or abstractive schema that could capture special psych verb properties (which admittedly have been formulated within syntax-informed research contexts) and patterns of *Experiencer* derivations simultaneously (despite the admirable attempt for an overarching, whole-system generalized account of nominalizations of Heyvaert (2010)).

Experiencer seems not to be a derivationally individuated category in either English or Bulgarian. There are no dedicated affixal patterns or types for exclusively marking *Experiencer*. In both languages there is full constructional polysemy of *Agent* and *Experiencer* and the constructional polysemy frequently extends over to *Patient*, *Instrument* and *Stimulus*, with a tendency for a reduction in the number of available patterns for *Instrument* and *Stimulus*. Despite the natural metonymy-based polysemy between *Agent* and *Instrument*, there seem to be in both languages exclusive patterns differentiating between *Instrument* on the one hand and *Experiencer* and *Stimulus* on the other, and an overlap between *Instrument* and *Stimulus* marking to the exclusion of *Experiencer*.

Beside the high degree of similarity between the niches of participant nominalizations in the two languages, a few notable contrasts can be noted. Among the significant differences the following should be mentioned: *-ing* is not used for marking *Experiencer* in English, while one of the patterns corresponding to this polysemous element, the noun converted from the present active participle in Bulgarian, systematically and exclusively names *Experiencer* (and *Agent*) and is not contextually coerced to derive any of the other participant roles. "The population of the semantic niche" (Lieber 2016) of *Experiencer* in the two languages displays different networks of intra-niche relations. In English the participant semantic niche extends over to other types of nominalizations as well (event, result, action, quality (i.e., adjectival reading), manner (adverbial reading (e.g., *-ing*), in Bulgarian

participant nominalizations are more sharply delineated from other niches in the ecosystem of nominalizations with a plethora of specialized deverbal suffixes. This coheres with the different types of part of speech system that the two languages are characterized with and the more strongly expressed fusional-inflectional character of Bulgarian.

The reasons for the lack of prominence of *Experiencer* marking in word formation may be of a conceptual nature (i.e., due to the cognition-language interface); language specific (niche structuring of the word formation ecosystem and its place within the ecology of the respective language) or metalinguistic (i.e., associated with the science of language – the lack of adequate tools of analysis, level of delicacy of analysis or diversity in terminology, etc.). Peirce's epiphany that "indeterminacy belongs only to ideas; the existent is determinate in every respect; and this is just what the law of causation consists in" (Peirce, CP 8.330) still rings true.

Probably the most conspicuous and plausible conceptually grounded reason is the fact that "what is happening in the mind is not outwardly apparent to the observer. Hence, the actual mental event – state or process, for example – is a construal by the observer who produces" (Croft et al. 2018, 8) a linguistic expression for describing the mental event. Closely related with this argument is the recognition of the lack of "physical transmission of force between the external situation and the person's mental state. Hence there is no force dynamic relation between participants" (Croft et al. 2018, 8). Ensuing from this is the metalinguistic preoccupation with physical event studies (Croft 2012; Goldberg 1995; Levin and Rappaport Hovav 1995, 2005; Talmy 1976, 1988, etc.), associated with Langacker's (2004) canonical event model, which can be captured by the billiard-ball model or the series of action chain abstractions, which are associated with the archetype roles of *Agent* and *Patient* and the restricted attention paid to (some types of) mental events (Croft et al. 2018).

The most substantial reason stemming from the language-cognition-metalinguistic interface is the impossibility for theorists to devise an abstract schema that can coherently encompass the diversity of mental events which we humans conceptualize as involving an *Experiencer*. The attempts of scholars to design an analytical model have led to the specialized descriptive schema for capturing the nuances of mental event conceptualizations as reflected in language, presented in Table 4 and taken from Croft et al. (2018, 13). In this the scholars offer a minimal model of mental force dynamics.

Table 4. A specialized descriptive schema for capturing the nuances of mental event conceptualizations as reflected in language (see Croft et al. 2018, 13).

Label	**Definition**
Attend	*Experiencer directs attention to Stimulus: dynamic, volitional, no change to Stimulus.*
Affect	*Stimulus causes change of mental state of Experiencer: dynamic, causative. Used also to describe a Beneficiary/Maleficiary subevent in other types of events.*
Experience	*A perceptual, cognitive or emotional relation holds between Experiencer and Stimulus: stative (or inceptive), Experiencer is grammatical subject.*
Experience*	*A perceptual, cognitive or emotional relation holds between Experiencer and Stimulus: stative (or inceptive), Stimulus is grammatical subject.*
Judge	*Experiencer discerns or confers a perceptual, conceptual or evaluative status on an entity or a relation between entities: dynamic, volitional, no change to Stimulus.*
Intend	*Agent intends to act on another participant in some way but action on the participant is not realized: no change (yet) to participant. Used also to describe a Purpose subevent in other types of events.*
Engage	*A relation between an argument denoting a participant and another argument denoting the event/subevent that the participant is involved with. The participant is a core participant in the event.*
Refrain	*A relation between an argument denoting a participant and another argument denoting an event/subevent that the participant ends up not being involved with. The participant is a core participant in the event.*

The impossibility of abstracting a high-level generalizing schema that encompasses the totality of nuanced mental events is associated with the multiple possible constructional configurations, which capture the most central types of relations enumerated in the table above. This detailed representation of cross-linguistically applicable differentiation with validity for syntactic configurations seems of no immediate significance for the word formation encoding of participants in mental events. After the Relational Hypothesis, which holds that "[a]ll rules/schemas can be used relationally, while only a subset of them can be used generatively as well", "the grammar is grounded in the relations among lexical items", and "generativity is the add-on, albeit a very important one" (Jackendoff and Audring 2020, 4). In other words, the relational networks among word formation schemas, i.e., the constructional polysemy networks, encode the essential conceptual distinctions, which may

be abstracted and be used in a more generatively operational manner in constructions of higher constituent complexity.

Another closely related reason from the cognition-language-study of language interface is the recognition of prelinguistic abstract conceptual, universal categories of *Agent* and *Patient*. Rissman and Majid (2019) claim that there is a panhuman cognitive bias for distinguishing *Agents* and *Patients* as abstract prelinguistic conceptual categories and a conspicuous tendency to markedly discriminate between them linguistically (and behaviourally), with a lack of evidence for such a clear tendency for other participant roles (in conceptual schemata). Against Booij's (2005) view of domain extensions within the polysemy chains of an affixal secondary schema accommodating various constructions, it is safe to hypothesize that such extensions within a single event type (e.g., physical event – Langacker's canonical event) are based on the cognitive mechanism of metonymy, the *Agent-Patient-Instrument* polysemy chain for example, where metonymy is understood as "a contiguity-based figure/ground effect between elements of a conceptual frame or between the frame as a whole and one of its elements (or vice versa)" (Koch 1999, 154). The same type of polysemy holds within the chain of mental events between *Experiencer* and *Stimulus*, for example. The *Agent-Experiencer* extension, however, results from the conceptual blending (Fauconnier and Turner 2022) in the overall cross-domain mapping between the canonical event model and the mental event model, in which the newly emergent structures have blended features, without directly inheriting properties from either input.

This coheres with Croft's (1993) claim that psych verbs do not fit with transitivity (and vary substantially in terms of causality and volition), from which we can conclude that despite almost identical lexical encoding of *Experiencer* and *Agent* some mismatches occur. The lack of specific lexicalization of *Experiencer* runs parallel to its co-lexicalization with *Agent*, *Stimulus*, *Affector*, *Affectee*, and *Theme*. Such patterns are assumed to indicate semantic affinity between the co-lexicalized concepts and suggest a degree of conceptual conflation of frequently co-lexicalized roles (Rissman and Majid 2019, 1852). The nature of the semantic affinities of *Experiencer* with the other referential deverbal nominalizations is a tempting avenue for further research.

Although the current review is far from a full account of the ecosystems of participant nominalizations in English and Bulgarian, it is a first step in this direction from a contrastive perspective and the backbone for future research.

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What Do Event-Related Potentials Reveal about Processing Grammatical Aspect in Bosnian/Croatian/Serbian? – A Comparison with English Aspect

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Abstract

Grammatical aspect expresses information about the temporal contours of an event. Such essentially semantic information is encoded via aspectual affixes in Bosnian/Croatian/Serbian (BCS) and periphrastically in English. As a South Slavic language, BCS grammaticalizes the binary opposition between imperfective and perfective aspect, while English distinguishes between the progressive and the perfect. Generally, grammatical aspect is obligatorily expressed on the verb in BCS but not in English. In an event-related potentials (ERP) experiment, we study the electrophysiological responses to aspectual violations in BCS. The robust P600 suggests that aspectual violations in BCS trigger repair processes as the parser detects the aspectually incongruous form and repairs it so that it can fit a wider sentential context. We then compare our ERP study on BCS aspect violations with an ERP study on English aspect violations by Flecken, Wallbert and Dijkstra (2015), and discuss the cross-linguistic differences between two inherently different grammatical aspect systems, BCS and English.

Keywords: aspect, event-related potentials, P600, English-Bosnian/Croatian/Serbian analysis

1 Introduction

Tense and aspect express the time frame of an event (Smith 1991; 1997; 2013; Bastiaanse 2013). Tense locates the event in time by relating the event time to the speech time (Comrie 1976; 1985). Grammatical aspect expresses the speaker's perspective of the internal temporal constituency of the event (Comrie 1976; 1985). Slavic aspectual oppositions 'imperfective' and 'perfective' are typically treated as prototypical exemplars of aspectual oppositions (Binnick 1991). The choice of perfective aspect for a particular utterance gives a holistic view of the event without recognizing different stages that make up the event, whereas the choice of imperfective aspect provides an internal view of the event, making semantically visible the stages of the event (Comrie 1976; Gasparov 1990; Smith 1991; 1997; 2013; Filip 1999; Madden and Zwaan 2003).

1.1 Aspect in Bosnian/Croatian/Serbian

Novak-Milić and Čilaš-Mikulić (2013) define BCS aspect as a lexical-grammatical category that differentiates between the imperfective and perfective. Very few aspectually ambiguous exceptions aside, in BCS the imperfective and perfective aspects are always expressed on the verb, which entails that each verb is either imperfective or perfective (Riđanović 1976; 2012; Stevanović 1989; Jahić, Halilović and Palić 2000; Klajn 2001; Silić and Pranjković 2007; Čirgić, Pranjković and Silić 2010; Novak-Milić and Čilaš-Mikulić 2013). Since finite verbs as well as the non-finite forms are generally marked for aspect, aspect in BCS, hence Slavic, is intrinsic to time reference (De Swart 2012; Riđanović 2012).

1.1.1 Formal realization

In standard BCS textbooks (as well as traditional Slavic aspectology in general) it is postulated that imperfective and perfective forms are morphologically related because aspectual meanings are conveyed by aspectual affixes (Stevanović 1989; Jahić, Halilović and Palić 2000; Klajn 2001; Silić and Pranjković 2007; Čirgić, Pranjković and Silić 2010). Jahić, Halilović and Palić (2000) describe two opposite processes in BCS: perfectivization – the derivation of perfective verbs from the imperfective ones as in (1), and imperfectivization – the derivation of imperfective verbs from the perfective ones as in (2).

(1)

šaptati$_{\text{IPFV}}$ – *šapnuti*$_{\text{PFV}}$: 'to be whispering' – 'to have whispered'

(2)

zaraziti$_{\text{PFV}}$ – *zaražavati*$_{\text{IPFV}}$: 'to have infected' – 'to be infecting'

Traditional BCS and Slavic linguistics also assumes that a minority of verbs are inherently perfective (e.g., Novak-Milić and Čilaš-Mikulić 2013), while most verbs are inherently imperfective, deriving the perfective form by prefixation, as can be seen in (3) (Riđanović 1976; 2012). A verb can also be perfectivized by changing the suffix in the imperfective stem, as in (4) (Silić and Pranjković 2007; Čirgić, Pranjković and Silić 2010).

(3)

pisati$_{\text{IPFV}}$ – ***na****pisati*$_{\text{PFV}}$: 'to be writing' – 'to have written'

(4)

*bac****a****ti*$_{IPFV}$ – *bac****i****ti*$_{PFV}$: 'to be throwing' – 'to have thrown'

Klajn (2001) and Riđanović (2012) point out that it is not uncommon that aspectual affixes (prefixes in particular) introduce a new meaning component to the semantics of the verb, as in (5).

(5)

ići$_{\text{IPFV}}$ (*to go*) – *otići*$_{\text{PFV}}$ ('to go way')
doći$_{\text{PFV}}$ ('to come')
ući$_{\text{PFV}}$ ('to enter')
izaći$_{\text{PFV}}$ ('to leave')
preći$_{\text{PFV}}$ ('to cross')

Perfectivizing prefixes such as the ones in (5) are typically referred to as 'lexical prefixes' (Ramchand 2004; Gehrke 2007; Altshuler 2014 among many others), as they modify the lexical meaning of the verb: the derived perfective verbs in (5) do not have the same semantics as the root imperfective form. In such examples, aspectual morphology derives verbs with semantics different from the unprefixed imperfective verb form. This implies that some aspectual affixes resemble a derivational morphology that derives new lexemes rather than different word forms of the same lexeme (Bybee 1985).

This is precisely the most curious feature of BCS, and Slavic aspectual systems more generally – their morphology. Such a lexical nature of some of its morphology has inspired linguists to describe the nature of Slavic aspect as lexical-grammatical (e.g., Novak-Milić and Čilaš-Mikulić 2013). Nevertheless, BCS and Slavic aspect is a grammatical category because it does not relate to the inherent features of the verb (as lexical aspect) but rather expresses a speaker's viewpoint and it is grammaticalized. Slavic aspectology, however, shows a lack of agreement when it comes to the exact grammaticalization means. The traditional literature that treats aspectual partners as pairs of the same lexeme (the views outlined above) predicts that grammaticalization unfolds via affixes. That aspectual partners are forms of one lexeme is also supported by some psycholinguistic evidence (e.g., Anstatt and Clasmeier 2012).

However, it was shown in (5) that some affixes not only alter the semantics of the verb but consequently affect its argument structure (*ići*$_{\text{IPFV}}$ ['to go' – intransitive] – *preći*$_{\text{PFV}}$ ['to cross' – transitive]; Stevanović 1989). For this reason, some studies on aspect assume that grammaticalization is achieved via affixes but that not all affixes morphologically express grammatical aspect and that some actually mark lexical aspect (Gehrke 2004; 2007; Ramchand 2004; Slabakova 2005; Sussex and Cubberley 2006).

Some also claim that affixes do not mark grammatical aspect, but that the stems of what are traditionally considered aspectual partners (e.g., *lomi-* and *slomi-* 'to break', see 8 above) are stored in the lexicon (e.g., Willim 2006; Filip 2003; 2017; Klimek-Jankowska et al. 2018). Another instance of disagreement arises here: some studies assume that stems are already specified for aspect in the lexicon (e.g., Klimek-Jankowska et al. 2018), while others that stems are aspectless in the lexicon and that the aspect feature is acquired in the course of derivation (Tatevosov 2011).

Our goal is not to defend the basis of the above-presented theoretical approaches, as our experimental study does not probe into aspectual morphology and derivation *per se*. However, we aim to very briefly touch upon the complexity of the Slavic aspect analysis before focusing on the assumption relevant for the current work, one that is actually common to all the divergent views above, that Slavic and BCS grammaticalizes aspect.

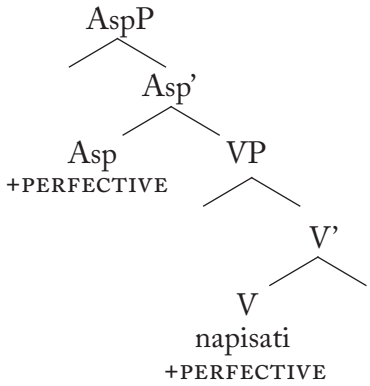
More precisely, for our study that only contains perfectivizing affixes and not lexical affixes that introduce new semantics to the verb, we assume that verbs originate in the lexicon as imperfective or perfective and that aspectual morphology supplies the aspectual value. Moreover, following the theoretical

accounts of time reference proposed by Mezhevich (2008; for Russian) and the feature-checking mechanism as described by Pesetsky and Torrego (2004), we assume that in BCS the functional category for grammatical aspect (Aspect Phrase) is projected. We also postulate that aspect is grammaticalized via affixes. At some point in the derivation, affixes have to be associated with the functional head *Aspect*, where the semantic (formally dubbed as 'interpretable') feature [±perfective] needs to be checked. According to Pesetsky and Torrego, feature-checking means that the functional head *Aspect* carries the initially unvalued feature [±perfective] that is valued (i.e., checked) as, say, perfective only when the lexical item such as *napisati*$_{\text{PERF}}$ ('to have written') carrying the perfectivizing prefix enters the derivation of the sentence. For BCS, this means the following.

First, the verb enters the derivation with a valued aspect feature. The concrete value of the aspect feature depends on the morphological form of the verb. For example, the verb *napisati* ('to write') is perfective due to its perfectivizing prefix *na-*. Then, in BCS, the functional category for grammatical aspect (Aspect Phrase) is projected. The functional head *Aspect* contains the yet unvalued feature [±perfective]. The feature gets valued by agreement with the [±perfective] feature of the verb. In the case of *napisati* ('to write'), the feature [±perfective] of the functional head *Aspect* gets valued as [+perfective] via agreement with the verb that carries the [+perfective] feature as illustrated in (6). Therefore, it is verb morphology that determines the aspect feature.

(6)

Derivation of Aspect Phrase



However, there are constraints in the context when the aspect feature is marked [+ perfective] that are important for experimental studies. Therefore, another relevant phenomenon concerning BCS aspect is its syntactic distribution.

1.1.2 Function

According to Riđanović (1976; 2012), there are three broad aspectual meanings in BCS: punctual (action took place at some point in time), durative (action ongoing), iterative (action repetitive). Perfective aspect expresses what Riđanović calls the punctual meaning as in (7), while imperfective aspect conveys the durative as in (8) and iterative meanings as in (9). All standard textbooks in all variants of BCS rely on these common descriptions (Jahić, Halilović and Palić 2000; Klajn 2001; Silić and Pranjković 2007; Čirgić, Pranjković and Silić 2010).

(7)

Učenici	su	napisali	esej.
Students	AUX	$\text{wrote}_{\text{PFV}}$	essay

'Students wrote an essay.'

(8)

Učenici	sada	pišu	esej.
Students	now	$\text{write}_{\text{IPFV}}$	essay

'Students are now writing an essay.'

(9)

Učenici	često	pišu	eseje.
Students	often	$\text{write}_{\text{IPFV}}$	essays

'Students often write essays.'

However, perfective verb forms cannot be used to express the present unfolding at the time of speech as (10) and (11) show (Riđanović 1976; 2012, Klajn 2001; Novak-Milić and Čilaš-Mikulić 2013).

(10)

*Sada napišem	esej.	
Now write$_{1SG.PRS.PFV}$	essay	

'I write an essay now.'

(11)

*Učiteljice trenutno	upišu	ocjene	u	dnevnik.
Teachers currently	write$_{PRS.PFV}$	grades	in	gradebook

'Teachers currently write grades in the gradebook.'

It is aspectual violations that arise when the perfective verb form is used in the real present contexts as in (10) and (11) that we investigate in our ERP study. We assume that in sentences such as (10) and (11), the temporal frame of the sentence is determined by the semantics of the adverbial *trenutno* ('currently') and *sada* ('now') and set as the real present. Upon encountering the perfective verb *upišu*$_{PFV}$ ('to have written') or *napišem*$_{PFV}$ ('to have written'), the perfective meaning of completion expressed by the verb violates the real present temporal frame. Essentially, this is a semantic violation because the verb *upišu*$_{PFV}$ ('to have written') and the verb *napišem*$_{PFV}$ ('to have written') are morphosyntactically well-formed (the forms are a legal combination of a prefix and a stem). What is in conflict here is the semantics of the temporal lexical adverb and the perfective verb. The question we ask in the ERP study is whether this violation is perceived by native speakers as a semantic violation or a morphosyntactic one despite its semantic origin.

To provide a contrastive analysis of our ERP findings and the first ERP study on this type of aspectual violations, the work of Flecken, Wallbert and Dijkstra (2015) on aspectual violations in English, a theoretical description of English aspect and its comparison to BCS aspect are all discussed below.

1.2 Grammatical aspect systems: English versus BCS aspect

English and BCS aspect differ structurally and functionally. The aspectual systems of these two languages show different aspectual realizations. The descriptive grammars in English specify aspectual distinctions between the progressive and the perfect (Comrie 1976; Greenbaum and Quirk 1990; Jacobs 1995; Biber et al. 1999; Greenbaum and Nelson 2009; Hasselgård, Lysvåg

and Johansson 2011). The status of English perfect aspect has been a matter of debate. While some authors treat it as aspectual distinction that expresses anteriority (e.g., Filip 2011), others consider the perfect a compound tense (e.g., Reichenbach 1947; Verkuyl 1999; Huddleston and Pullum 2002; Leech 2004). Bhatt and Pancheva (2005) suggest that the perfect should not be treated as a type of grammatical aspect because it can combine with another aspectual distinction, the progressive.

Unlike the BCS aspectual system that uses complex aspectual morphology (prefixes and suffixes) on the verb, the English progressive aspect (as well as perfect aspect, if considered an aspectual distinction) is expressed periphrastically in an auxiliary + participle construction (Quirk et al. 1985; Jacobs 1995; Aarts 2001; Greenbaum and Nelson 2009; Filip 2011; Hasselgård, Lysvåg and Johansson 2011) as (12–13) show, and where tense is marked on the operator as either past or present.

(12)

John was smiling. (Progressive)

(13)

Ben has fallen asleep. (Perfect)

Another characteristic of the English aspectual system is that simple forms that are not marked for aspect can also express aspect in combination with arguments and adjuncts (*He wrote a letter* – perfective*; It rained all day* – imperfective). With the exception of a few verbs that are aspectually ambiguous this is not possible in BCS, as BCS verbs are generally marked for aspect (Jahić, Halilović and Palić 2000; Klajn 2001; Čirgić, Pranjković and Silić 2010; Riđanović 2012) and do not depend on arguments and adjuncts for aspectual interpretation. Therefore, in terms of aspect realization, English expresses aspect periphrastically in combination with inflection and does not grammaticalize the perfective. BCS expresses aspect synthetically by aspectual morphology. Moreover, BCS grammaticalizes both imperfective and perfective aspect.

In addition to different formal realizations of aspect, the relationship between the aspectual form and its aspectual meaning is not identical in both languages. Portner (1998) adopts an 'event semantics' approach to the progressive and describes it in terms of the properties of particular events. He thus posits that progressive verbs express that a certain state continues and non-progressive ones that a certain event culminates. Ter Meulen (1985), Link (1987) and

Krifka (1992) base their analyses on the idea that the progressive describes a segment of the event. Similarly, Vlach (1981) and Lascarides (1991) argue that the progressive entails a process that is ongoing at the time expressed by tense information.

Therefore, the English progressive aspect corresponds to the BCS imperfective aspect for the most part. However, the BCS imperfective aspect shows a wider range of meanings, including the general-factual meaning (a past completed event presented in the imperfective to state the existence of the event) that English progressive aspect cannot convey. In (14), the imperfective aspect presents a complete and bounded situation in the past and not an internal interval or an unbounded situation that is a typical imperfective interpretation. Gasparov (1990) argues that such general-factual uses of the imperfective imply an existential interpretation (that a certain event occurred). However, the English progressive equivalent of the sentence below *Have you been reading* War and Peace*?* cannot have a perfective interpretation.

(14)

Jesi	li	ikad	čitao	Rat	i	mir?
$AUX_{2SG.PRS}$	PRT	ever	$read_{PTCP.IPFV}$	War	and	Peace?

'Have you ever read *War and Peace*?'

Therefore, the English progressive and the BCS imperfective should not be treated as identical aspectual distinctions, but rather the progressive is a type of the imperfective, whereas the imperfective can express meanings other than the progressive meaning.

The habitual meaning conveyed by the imperfective in BCS is generally expressed by simple forms in English. If the progressive (roughly speaking, the English equivalent of the BCS imperfective) is used in the habitual context, a very specific interpretation is achieved – disapproval and irritation with someone's habit, as in (15) (Alexander 1988).

(15)

She writes letters every day vs. She is writing letters every day.

English does not possess a grammaticalized perfective aspect but perfective meanings can be expressed by the perfect aspect, as in (13) above or by formally aspectless simple forms as in (16).

(16)

The boy walked to the store.

Quirk et al. (1985) and Aarts (2001) refer to the English perfect aspect as 'perfective'. Nevertheless, perfect aspect can also express a type of imperfective meaning – an interval that started in the past and spills into the present (*John has been sick*, Filip 2011).

In sum, the English progressive and the BCS imperfective are not identical aspectual oppositions. In English, the perfective meaning is expressed by simple forms that are not formally marked for aspect or by perfect forms that can also express imperfective meaning. The BCS perfective has a specific meaning, while the imperfective is underspecified as it can express more than one meaning. In English, it is the opposite. The progressive is specific, while non-progressive forms show a wider range of meanings. Therefore, English shows more flexibility and more options for an overlap – one aspectual meaning expressed by two different forms. In contrast, BCS aspect has a straightforward distribution with hardly any options for an overlap – the general-factual imperfective aside, imperfective and perfective verbs forms cannot be used in the same context with one and the same meaning. This is one of the unique features of the so-called Slavic-style/type aspect (Dahl 1985; Bybee and Dahl 1989). How different aspectual systems are processed has been investigated by using event-related potentials (ERPs).

1.3 Event-related potentials

Unlike behavioural data that can reveal quantitative differences between conditions, ERP data can reveal the nature of the processes underlying certain processing difficulties (Kaan 2007). The most well-studied ERP components related to word and sentence processing are the N400, the (early) Left Anterior Negativity (E)LAN and the P600.

The N400 effect is a negative deflection typically found 300-500 ms with a centro-parietal maximum and widely reported (but not exclusively) after the onset of a semantically/pragmatically incongruent item (*He spread the warm bread with socks*) (Kutas and Hillyard 1980). The N400 then reflects the inability to integrate lexical and semantic information (Tanner, Grey and Van Hell 2017).

Morpho-syntactic category and phrase structure violations typically elicit an early left anterior negativity (ELAN) with the latency of 100-200 ms after the onset of the critical stimulus (Kutas, Van Petten and Kluender 2005; Kaan 2007). The LAN, which peaks 300-500ms after the onset of the critical stimulus, is typically associated with morpho-syntactic and word form violations (Neville et al. 1991).

Another component often reported in morphosyntactic studies is the P600. This is a positive deflection that peaks 500-900 ms after the onset of the critical stimulus and with a posterior scalp distribution. There have been considerable debates on the nature of cognitive processes that underlie the P600. Some studies found the P600 for (morpho-)syntactically anomalous words (e.g., Friederici, Hahne and Mecklinger 1996) so that the P600 was initially believed to reflect syntactic integration difficulties (Osterhout and Nicol 1999; Kaan et al. 2000; Allen, Badecker and Osterhout 2003 among many others). However, the P600 was also found for non-syntactic violations, such as semantic violations, animacy violations or thematic role violations (e.g., Chow and Phillips 2013). Later accounts thus do not interpret the P600 as an index of syntactic processing alone.

More generally, Hagoort (2003) argues that the P600 reflects the time that is needed to unify all the relevant information that pertains to the interpretation of the sentence and select the appropriate analysis for the sentence. Van Herten, Chwilla and Kolk (2006) suggest that the P600 is indicative of general error monitoring processes that are triggered upon encountering syntax-semantics discrepancies. Similarly, Kolk and Chwilla (2007) argue that the P600 reflects engagement of the conflict-monitoring mechanisms. Friederici (2002) argues that the P600 reflects thematic integration and revision and repair processes. Bornkessel-Schlesewsky and Schlesewsky (2008) also assume the failure to correctly map thematic roles is reflected in the P600. Brouwer, Fitz and Hoeks (2012) argue that the P600 is evoked by continuous efforts to integrate semantic information following anomalous input. Tanner, Grey and Van Hell (2017) explain that all these later accounts of the P600 regard it as an index of late-stage processing where all information (syntactic, semantic, thematic, etc.) is integrated and that they postulate that the P600 is triggered when mismatching representations are attempted to be reconciled and integrated which sets in motion reanalysis processes. Previous studies on aspect have shown that aspectual violations elicit the P600 component, albeit not consistently.

1.4 Previous studies on aspect processing

The neuro- and psycholinguistic nature of aspect (violation) processing is rather understudied. However, two types of studies exist: those that investigate local aspectual violations (Zhang and Zhang 2008; Hao, Xun and Lu 2021) and others that investigate the mismatch between aspectual meaning of the verb and a wider sentential context (Bott and Gattnar 2015; Flecken, Wallbert and Dijkstra 2015; Zeller and Clasmeier 2020).

Zhang and Zhang (2008) present a study on the electrophysiological correlates of aspectual violations in Chinese caused by the co-occurrence of progressive and perfective markers on the verb. Their results show a 200–400 ms negativity with a posterior and left central distribution followed by a P600 in the 450–800 ms time window. Zhang and Zhang (2008) argue that the P600 effect reflected syntactic repair and resolution of conflict at the encounter of aspectual violations. They also explain that the negativity effect could not be interpreted as a left anterior negativity (LAN), which is usually associated with the detection of a morphosyntactic violation (Friederici 2002), due to a different distribution.

Hao, Xun and Lu (2021) performed another ERP study on aspectual violations in Chinese. In this work, aspectual violations were caused by the incongruity between the lexical aspect of the verb (achievement verbs that are +punctual -durative) and the grammatical aspect encoded by the progressive marker *zhe*. Aspectual violations elicited a negativity in the 300-500 ms time-window that had a centro-right distribution that the authors refer to as the N400-like component, which is usually related to semantic and lexical processing (Kutas and Federmeier 2011). That effect was followed by the P600 component as well as a late anterior negativity on the word immediately adjacent to the aspectual marker. Hao, Xun and Lu (2021) suggest that the mismatch between lexical aspect of the verb and grammatical aspect expressed by aspectual markers involved both semantic and syntactic processing, as reflected in the N400-like and the P600 components. The authors interpreted the late anterior negativity on the post-critical word as a secondary repair process that followed the repair process on the critical word indicated by the P600.

Only a few studies have investigated the morpho-semantic violations which arise due to mismatch between grammatical aspect and some other element in the sentence, such as the adverbial phrase. In an eye-tracking study, Bott and Gattnar (2015) show that the mismatch between the durative meaning of

the adverbial phrase and the perfective interpretation of the verb in Russian was processed directly at the violation, as Russian grammaticalizes aspect. In German, however, violations were detected only after the verb had acquired all its arguments. Bott and Gattnar (2015) argue that in German the detection of violations depends on the whole verb-argument structure, since German does not morphologically express aspect.

Zeller and Clasmeier (2020) investigated aspectual violations in Russian, another Slavic language that has the same perfective/imperfective opposition as BCS. They created violations by establishing habitual temporal context via topicalized temporal lexical adverbs or adverbial phrases and using the infelicitous perfective verb forms. The results show a robust P600 for aspectual violations in the late P600 window (800–1000 ms). The authors argue that the P600 should be interpreted as an index of the processing difficulty that arose in sentences with aspectual violations when the parser attempted to integrate the aspectual information on the verb in the sentence context.

Flecken, Wallbert and Dijkstra (2015) used an ERP experiment to study English aspect violations that arose due to a mismatch of aspectual information on the verb phrase with the previous temporal context (**Every day, Sophie is swimming in the pool*; **Right now, Sophie swims in the pool*). In their experiment the participants read questions that set up the progressive (*What is Sophie doing now in the pool?*) or habitual context (*What does Sophie do in the pool every Monday?*). After an introduction such as *Right now Sophie*, Flecken, Wallbert and Dijkstra measured ERPs time-locked to the verb phrase in the following four conditions: 1) *is swimming* (control, aspect match); 2) *swims* (violation, aspect mismatch); 3) *are swimming* (morphosyntactic violation); and 4) *is cooking in a pool* (semantically inappropriate verb form).

Semantic violations elicited a clear N400 effect, while violations of morphosyntax triggered a P600 modulation, as expected. Aspectual violations, however, showed a short early negativity (250-350 ms) which was not followed by either an N400 or P600. Flecken, Wallbert and Dijkstra (2015) explain that the early negativity they found did not resemble the LAN due to its more central distribution on the scalp, and argue that the absence of the P600 for aspectual violations suggests that aspectually incongruous sentences in English do not trigger reintegration and reanalysis, or additional processing costs. A follow-up offline grammaticality judgment task also showed the relative acceptance of aspectually incongruous forms in English. More precisely,

sentences with aspect mismatch were judged as more ungrammatical compared control sentences that were aspectually congruous. However, they were judged as more grammatical than sentences with morphosyntactic violations. Flecken, Wallbert and Dijkstra (2015) thus concluded that aspect mismatch sentences were not judged as highly ungrammatical in the grammaticality judgment task.

Čordalija (2021) performed a cross-modal lexical priming study that did not involve a violation paradigm but that tracked (re-)activation patterns of the subject in sentences with imperfective and perfective unergative and unaccusative verbs in BCS to investigate the interplay between unaccusativity and verbal aspect. The findings show that the subject of perfective unaccusative verbs was (re-)activated post-verbally, at the gap position, while this was not the case for unergative verbs and imperfective unaccusative verbs. This suggests an inextricable link between the perfective aspect and unaccusativity in BCS. The following sections describe how aspect was investigated in the present study.

1.5 Present study

We performed an ERP experiment to investigate the electrophysiological responses to aspectual violations in BCS. The following research question guided this research: Is the violation of grammatical aspect processed in the same way in BCS and English? And if not, what is the difference in processing as shown by ERPs?

In the experiment, aspectual violations were created by introducing the perfective verb form in a real present temporal frame. The critical word was the perfective verb that occurred in a context that requires an imperfective form. The semantics of temporal lexical adverbs sets the time frame of the sentence as the real present unfolding at the moment of speaking. This time frame is violated by the semantics of the perfective verb form indicating completion, which is a semantic paradox given the time frame of the sentence. Therefore, the semantics of the perfective verb form is incongruous with the time frame of the overall sentence and hence the possibility of the N400. Nonetheless, the semantics of the perfective verb form is encoded grammatically in BCS. Despite its semantic basis, since BCS aspect is coded grammatically, following Popov et al. (2020) we expect the P600 that will reflect structural repair processes at the feature level.

2 Method

2.1 Participants

We tested 17 participants (mean age 26.8; 9 females). All participants were L1 speakers of the BCS language, with representatives of all three variants: Bosnian, Croatian, and Serbian. One participant was excluded from the analysis due to strong artefacts in the EEG signal. Participants were right-handed, had normal or corrected-to-normal vision and hearing with no history of previous language or reading disorders or neurological injury. In the consent form the participants were informed of the duration of the experiment and procedure. They were told that they could stop and withdraw from the experiment at any time. Participants received 15 euros for participation in the experiment. The study was approved by the Research Ethics Committee (CETO) at the University of Groningen.

2.2 Materials and design

The ERP experiment comprised 40 grammatical and 40 ungrammatical sentences in the violation paradigm. We used 20 BCS verbs: 15 transitive and five intransitive verbs. Out of those 20 verbs, 13 verbs derived the perfective form by prefixation, two verbs required suffixation to derive the perfective aspectual partner and five verbs were unprefixed perfectives.[1]

Each verb was used to create two different sentences. All the sentences occurred in the grammatical condition (40 sentences) and the ungrammatical condition (40 sentences) in the violation paradigm, and thus served as their own control in case of variations caused by different perfectivization means and transitive/intransitive differences.

1 In our ERP study, we investigated whether native speakers process aspectual violations as semantic or morpho-syntactic violations. Aspectual affixes were not investigated *per se*. Hence, the different means of perfectivization in the stimuli and a few unprefixed (inherently) perfective verbs. Following Mezhevich (2008), we assume that aspectual morphology conveys aspectual meanings. In the case of unprefixed perfective verbs, we assume that just as with any prefixed perfective, they also enter the derivation of the sentence with a [+perfective] feature. Whether that feature is conveyed by a null morpheme or unprefixed perfectives are stored in the lexicon as inherently perfective is beyond the scope of this paper. This study focused only on those verbs where the perfective and the imperfective variants differ in the aspectual value and where the perfectivizing prefix does not introduce additional semantics. Perfective verbs with lexical affixes are outside the scope of this study and a topic for future research.

(17)

Asistenti	*trenutno/često	pročitaju	članak o	umjetnoj inteligenciji.
Assistants	currently/often	read$_{PRS.PFV}$	article about	artificial intelligence

'Assistants *now/often read an article about artificial intelligence.'

As (17) shows, the experimental sentences had the following structure: occupation nouns in plural in the subject position + the temporal lexical adverb/adverbial phrase (*now* and *at the moment* in the ungrammatical condition and *often* and *always* in the grammatical condition) + the perfective verb form + the direct object + either a postmodifier of the direct object or an adverbial phrase both consisting of three to five words. Since the regions of interest comprised the verb position and the immediately adjacent position, the subsequent positions in the sentence were not totally identical and contained the above-mentioned variations in structure. We used *now* and *at the moment* in the ungrammatical condition and *often* and *always* in the grammatical condition to prevent participants from developing expectations with regard to temporal expressions and verbs form following them.

Sentences with intransitive verbs had the same structure as transitive sentences except for the object. For these items, we added sentence-final adverbial phrases, hence all sentences had approximately the same length. Sentences were distributed across two presentation lists using a Latin square design so that each list comprised 20 grammatical and 20 ungrammatical sentences.

The ERP experiment had two types of control sentences. The first type were sentences with and without time reference violations (60 sentences) from Tokmačić and Popov (2019). In the grammatical control sentences, the past time reference of the perfect periphrastic verb form was congruent with the temporal lexical adverb. In the ungrammatical control sentences, the perfect periphrastic form expressing past time reference violated the future time frame of the sentence that was set by a topicalized temporal lexical adverb. All verbs occurred in the imperfective aspect, as the imperfective is considered to be the unmarked form and can occur in all three time frames.

(18)

*Sutra/Jučer	je	pedagog	pozivao	roditelje	na razgovor.
Tomorrow/Yesterday	AUX$_{PRS}$	counsellor	invite$_{PTCP.IPFV}$	parents	on talk

'*Tomorrow/Yesterday the counsellor was inviting parents to a meeting.'

Control sentences had a structure as illustrated in (18): the topicalized temporal lexical adverb (*yesterday* and *the day before yesterday* in the grammatical condition; *tomorrow* and *the day after tomorrow* in the ungrammatical condition) + the present tense auxiliary that is part of the perfect periphrastic verb form + the subject realized as a singular occupation noun + the non-finite verb (the second element of the perfect periphrastic verb form) + the object + adverbial phrase. *Yesterday* and *the day before yesterday* were used in the grammatical condition, *tomorrow* and *the day after tomorrow* in the ungrammatical condition to prevent participants from developing expectations with regards to temporal expressions and verbs forms following them.

We also added the second type of control sentences (20 items) that contained only grammatical sentences with the temporal lexical adverb *currently* or the adverbial phrase *at the moment* and the imperfective verb form. We included control sentences with imperfective verb forms after temporal expressions *currently* and *at the moment* to prevent participants from developing expectations that such temporal expressions are always followed by infelicitous perfective verb forms as is the case in experimental sentences. The 12 imperfective verbs that occurred in the control sentences in our study were not imperfective counterparts of the verbs used in the experimental sentences, but were different lexical items. However, the sentence structure was similar, as (19) shows.

(19)

Cvjećari	trenutno	sade	novo cvijeće u kraljevskoj	bašti.
Florists	currently	$\text{plant}_{\text{PRS.IPFV}}$	new flowers in royal	garden

'The florists are currently planting new flowers in the royal garden.'

After the experimental and control sentences were created, they were distributed to 39 native speakers of BCS (mean age 19.8 years, with five males and 34 females) in a verification task. The participants were students at the English and psychology departments at the University of Sarajevo. They were instructed to judge the sentences as acceptable or unacceptable. All the sentences in the experiment were correctly deemed as grammatical or ungrammatical by 80%–100% of native speakers. Eighty filler sentences were added to each presentation list, yielding 120 sentences per list. The experiment started with six practice sentences.

The ERP experiment was performed at the University of Groningen, and due to the different language backgrounds of BCS speakers the stimuli were

adapted to different variants of BCS, although these adaptations never related to the verb (form). All the variants are mutually intelligible, but to avoid any potential confounds, and in addition to a few minor lexical differences between the Bosnian, Croatian and Serbian varieties, the sentences that included the modern replacement of the old Slavonic vowel *jat* were accordingly adapted for the three variants.

2.3 Procedure

The sentences were presented via the software E-prime 2.0. Participants were seated in front of a computer screen and instructed to read the sentences that were shown in a word-by-word presentation in the centre of the screen. The words were presented in white letters against a black background. Each stimulus was preceded by a 500 ms fixation cross and followed by a 300 ms blank screen. Words were presented for 300 ms. Each sentence was followed by a grammaticality question and the participants were instructed to attend to the sentences carefully and answer the question by pressing a button. The experiment consisted of four blocks and each block lasted between five to seven minutes. The total time for the experiment was approximately one hour and 30 minutes.

2.4 EEG recordings and data processing

The continuous electroencephalogram was recorded from 32 scalp electrodes (mounted on an elastic cap, WaveGuard original) using the eego software (ANT-neuro B.V., Enschede, Netherlands). An additional EOG electrode was placed above the left eyebrow to record eye movements. Electrode impedances were always kept below 10 kΩ. Data were acquired at a 500 Hz sampling rate with the common average reference. The offline processing was done in Brain Vision Analyzer 2.1 (Brain Products, GmbH, Munich, Germany). Offline filtering was performed using a band-pass filter (0.1–30 Hz), followed by automatic eye blink correction. The data were segmented into epochs starting 200 ms before the onset of the critical word (the target verb) and lasting until 1000 ms post-word onset. The artefact rejection (+/–100 μV threshold) was performed only on a section of each epoch (-200–1000 ms) that was included in the statistical analysis. The data were corrected relative to the 200 ms pre-stimulus baseline and were averaged per subject and per condition. All participants, except the one who was excluded, were above the threshold of 60% of averaged trials in all conditions.

2.5 Data analysis

For EEG analysis, averaged values (in μV) were extracted per participant, per condition, and per region of interest. The scalp electrodes were divided into nine regions of interest: left anterior (LA; F7, F3, FC5), midline anterior (MA; Fz, FC1, FC2), right anterior (RA; F4, F8, FC6), left central (LC; C3, CP5), midline central (MC; Cz, CP1, CPz, CP2), right central (RC; C4, CP6), left posterior (LP; P7, P3, O1), midline posterior (MP; Pz, POz), and right posterior (RP; P4, P8, O2). Mean amplitudes were analysed in three time windows (400–600 ms, 600–800 ms and 800–1000 ms).

For the statistical analysis, repeated measures ANOVAs were used with the following within subject factors: grammaticality (two levels: grammatical and ungrammatical), hemisphere (two levels: left and right hemisphere), and anteriority (three levels: anterior, central, and posterior). The significance level was set to $p < .05$. For each time window, two global repeated measures ANOVAs were performed, first for the lateral regions (all factors included), and then for the midline regions (factor hemisphere excluded). Follow-up tests were applied to those interactions that turned out at least marginally significant ($p<.1$) and that contained the factor *grammaticality*. The Geisser and Greenhouse (1959) correction was applied in cases when the assumption of sphericity was violated.

3 Results

3.1 Behavioural data

The accuracy analysis of grammaticality judgments for the experimental sentences in the ERP experiment showed that grammatical sentences were judged correctly in 88% of trials (range: 50–100%; SD: 14.9), while ungrammatical sentences were judged correctly in 93% of trials (range: 65–100%; SD: 9.1).

3.2 ERP data

In the first time window **(400–600 ms)**, the lateral analysis showed a significant interaction between grammaticality and anteriority ($F(1, 15) = 8.51$, $p = .011$, $\eta^2 = .362$), which did not yield any significance in the follow-up analysis (all ps > .1). Similarly, a significant interaction between grammaticality and anteriority in the midline also failed to provide any significant results in the follow-up tests (all ps > .1).

The factor *grammaticality* was marginally significant in the following time window (**600–800 ms**) in the lateral analysis ($F(1, 15) = 3.57$, $p = .078$, $\eta^2 = .19$), while it reached significance in the midline ($F(1, 15) = 8.52$, $p = .011$, $\eta^2 = .36$). In both instances, ungrammatical sentences elicited a more positive response than grammatical sentences.

In the last time window **(800-1000 ms)**, the factor *grammaticality* was marginally significant on its own ($F(15) = 4.33$, $p = .055$, $\eta^2 = 22$), as well as in an interaction with the factor *anteriority* ($F(2, 30) = 3.67$, $p = .061$, $\eta^2 = .2$). Post-hoc analysis showed that ungrammatical sentences were more positive than grammatical sentences in the central ($t(15) = -2.79$, $p = .014$) and posterior regions ($t(15) = -2.75$, $p = .015$), while the effect was absent in the anterior regions ($p > .1$). Finally, there was a main effect of grammaticality in the midline ($F(1, 15) = 7.36$, $p = .016$, $\eta^2 = 0.33$), with ungrammatical sentences eliciting a more positive waveform than grammatical sentences. The scalp topography for the relevant time windows is shown in Figure 1. ERP waveforms time-locked to the onset of the critical word across nine regions of interest are shown in Figure 2.

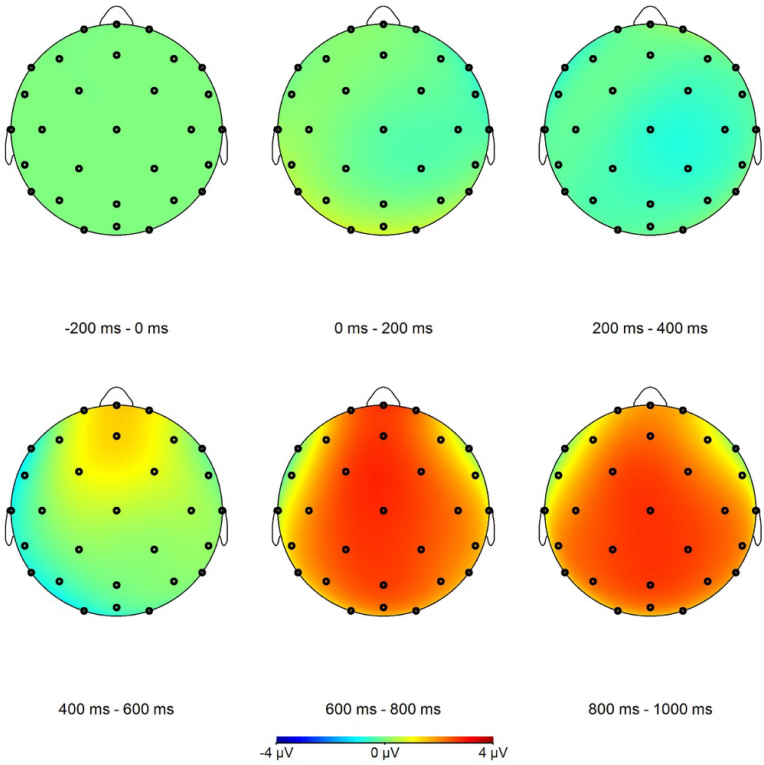


Figure 1. Topographic maps show a difference between grammatical and ungrammatical sentence processing with the effects observed in the 600-800 and 800-1000 ms time windows.

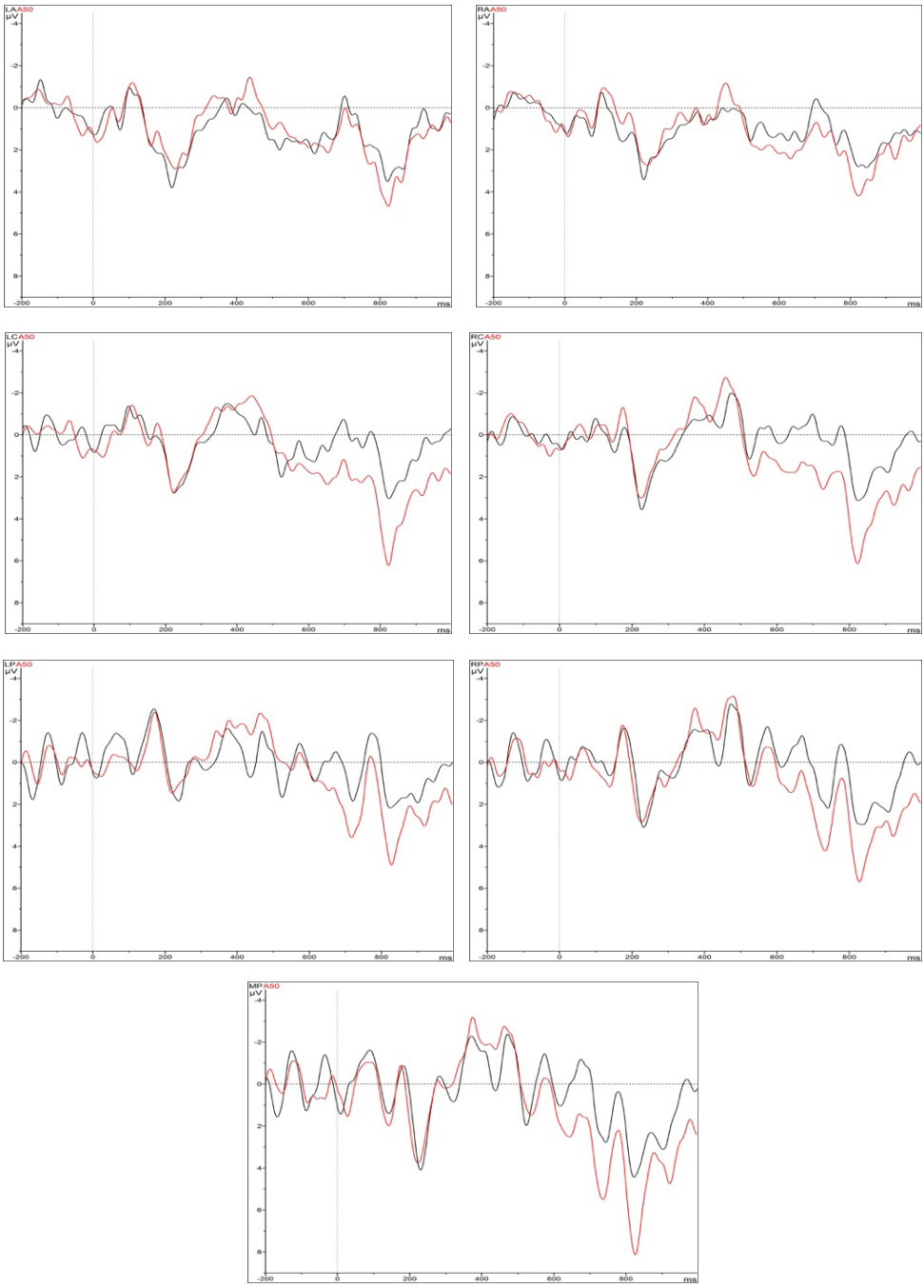


Figure 2. Grand average ERPs from the onset of the verb across nine ROIs: black lines represent grammatical sentences and red lines represent ungrammatical sentences.

4 Discussion

4.1 Processing grammatical aspect in BCS

The ERP experiment investigated violations of the present time frame of the sentence by a perfective verb form in BCS. The research question addressed the processing of aspectual violations in BCS and how it compares to English. We first discuss the results obtained for the BCS aspectual violations, and then compare aspect processing in BCS and English to answer our research question.

In the ERP experiment, aspectual violations in BCS resulted in a positivity in central and posterior regions that was absent in anterior regions. The posterior P600 is typically seen as reflecting structural and syntactic repair (Friederici 2002). Therefore, this P600 may reflect the reanalysis and repair processes that are triggered by the inability of the parser to integrate the incongruous aspectual form into the temporal frame of the sentence. Hagoort and Brown (2000) argue for two subcomponents of the P600: an early subcomponent with anterior and posterior distributions and a late one with only a posterior distribution. The early subcomponent is evoked by the inability to integrate the information in the preceding context and the late one is attributed to reanalysis and repair processes. To a certain degree, the effect of aspectual violations in our study supports this classification, as the P600 effect in the 800–1000 ms time window had central and posterior distributions but not anterior. Hence, the P600 effect in the 600–800 ms is understood as reflecting the difficulty in integrating the incongruous aspectual form in the context, while the late P600 might reflect a reanalysis and repair process.

To be more precise, we assume that in the sentences used in our study the temporal lexical adverb sets the time frame. When the parser encounters the verb form with a [+perfective] feature that is not congruous with such temporal frame, this triggers the structural repair at the level of the aspect feature and reanalysis processes. Consequently, a P600 and not an N400 is evoked by aspectual violations despite the fact that sentences with aspectual violations are essentially semantic violations: the perfective meaning of completion violates the wider sentence context which expresses the real present unfolding at the moment of speech. However, aspectual meanings are conveyed by grammaticalized aspectual affixes in BCS. As such, aspectual violations set in motion structural repair and reanalysis processes.

Even though there is an important methodological difference between our study and two studies that focused on Mandarin Chinese, our results are in line with the findings of Zhang and Zhang (2008) and Hao, Xun and Lu (2021), which found the P600 for aspectual violations. BCS aspect violations, however, did not result in the N400-like component as in Hao, Xun and Lu (2021). Hao, Xun and Lu suggest that in sentences with aspectual violations the punctual lexical aspect of the verb creates expectations for non-progressive morphology. When the progressive marker occurs, this causes a semantic mismatch that is reflected in the N400-like component. However, Hao, Xun and Lu (2021) claim that the mismatch between the lexical aspect of the verb and aspectual morphology eventually leads to a syntactic repair (the P600), as aspect markers are involved in syntax. In our study, however, despite their semantic basis and the expectation of the non-perfective morphology due to the semantics of the topicalized temporal expression, aspectual violations did not lead to the N400 (like) component, but to the immediate repair and reanalysis at the aspect feature as reflected in the P600. However, our study did not involve a local mismatch of aspects on the verb, as the lexical and grammatical aspects expressed by the verb were congruous in this work. The ERP effects that we found for the disagreement between aspectual features of the verb phrase and the wider sentence context are in line with another study that investigated the same type of non-local violations involving the category of aspect.

More precisely, our results and the findings of Zeller and Clasmeier (2020) are complementary, as both studies had a similar methodological design and Russian is another Slavic language with the same aspectual oppositions and a very similar aspectual system to BCS. Zeller and Clasmeier (2020) investigated violations of habitual temporal context by a perfective verb form in Russian and reported a P600 in the 800–1000 ms time window for aspectual violations. Our ERP results, however, differ significantly from those presented by Flecken, Wallbert and Dijkstra (2015) – the first ERP study that investigated the incongruity between aspectual feature on the verb and time frame of the sentence in English.

4.2 A comparison with English

In Flecken, Wallbert and Dijkstra (2015), aspectual violations (**Every day, Sophie is swimming in the pool*; **Right now, Sophie swims in the pool*) elicited a short early negativity (250–350 ms) which was not followed by either an

N400 or a P600. The authors argue that the negativity modulation that they observed arose because the progressive (*is swimming*) and the aspectually unmarked simple form (s*wims*) differ lexically, the former involving a periphrastic construction starting with the auxiliary 'be'. Hence the early negativity may reflect the violation of the expectation of the auxiliary 'be' in the verb phrase. We did not expect or find the early negativity that Flecken, Wallbert and Dijkstra (2015) reported because aspect in English and BCS have different aspectual systems. BCS imperfective and perfective aspect is conveyed by aspectual morphology and not periphrastically. Moreover, in our study, unlike in Flecken, Wallbert and Dijkstra (2015), the verb form was kept constant in grammatical and ungrammatical sentences.

We found a P600 for aspectual violations in BCS, while Flecken, Wallbert and Dijkstra (2015) did not for those in English. The answer to our research question is thus that grammatical aspect is not processed in the same way in BCS and English, as reflected in the different ERP components that aspect mismatch elicited: P600 in BCS and a short early negativity (250–350 ms) in English.

We argue that the reason for this difference in processing of aspect is a striking difference between the English and BCS aspectual systems. In BCS, aspectual meanings are straightforwardly encoded by either the imperfective or perfective verb form, and there is no overlap in aspect distribution and certainly not in the real present time frame. Consequently, in our ERP experiment the perfective meaning of BCS verbs could not be forced into an interpretation that would be compatible with the time frame of the sentence which yielded an immediate effect – a P600. In English, however, one aspectual meaning can be conveyed by different forms (perfective meaning can be conveyed by present perfect and simple past), and one form can convey different aspectual meanings (present perfect can express imperfective and perfective meanings), which means that there is much more room for an overlap between the forms and the aspectual meanings they convey. The parser might not have detected aspectual violations in Flecken, Wallbert and Dijkstra' sentences because the forms that were used to create violations can have secondary aspectual meanings that are compatible with the time frame of the sentence. More precisely, even though this use is restricted, the progressive aspect can be used in habitual contexts in English (e.g., *She is always losing her keys*) and conversely, simple forms can be used in progressive contexts (e.g., *And now we whisk the egg whites with a fork*).

5 Conclusion

This study provided a linguistic description of grammatical aspect and an empirical insight into its processing. More precisely, we studied the aspectual system of BCS in an ERP experiment and compared the processing of BCS and English aspectual systems. We noted that in BCS grammatical aspect is intrinsic to time reference, while English grammaticalizes aspect only partly and simple forms are not marked for this. BCS aspect is encoded synthetically via affixes, while English grammaticalizes aspect periphrastically. Most importantly, we elaborated the claim that the distribution of aspectual oppositions in BCS is straightforward – perfective and imperfective verb forms cannot be used in the same context with the same or similar meaning. Moreover, imperfective verb forms cannot be used in the real present time frame at all. English, on the other hand, shows a flexible system where different verb forms may express the same or similar aspectual semantics. For example, while the progressive form primarily expresses a durative meaning, it can also express habitual semantics that are normally expressed by aspectually unmarked forms.

To address the question of how such morphosyntactic and semantic differences between these two aspectual systems are reflected in processing, we conducted an ERP study on BCS aspect and compared our findings to those of Flecken, Wallbert and Dijkstra (2015), who explored electrophysiological responses to violations of English aspect. Our results are in line with most previous ERP studies on grammatical aspect – aspectual violations trigger immediate reanalysis and repair processes reflected in the P600 component. Interestingly, violations of aspect in English did not yield a clear electrophysiological response in Flecken, Wallbert and Dijkstra (2015).

We speculated that such strikingly different electrophysiological responses to aspectual violations in BCS and English might be indicative of two profoundly different aspectual systems. In BCS, the parser instantly detected violations of grammatical aspect because the distribution of aspectual oppositions is clear – perfective verbs cannot be used in imperfective contexts such as the real present time frame. In the English aspectual system, where the progressive aspectual opposition and non-aspectually marked forms may be used in the same or similar contexts, violations did not yield a clear ERP effect. We suggested that, rather than processing violations of English aspect instantly upon encountering them, the parser may have forced the interpretation of the contextually incongruous verb form into a less frequent but plausible secondary interpretation that is compatible with the time frame of the sentence.

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New Vowel Category Acquisition in L2 Speakers of English: The Case of High Front and High Back Vowels

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Abstract

This article aims to look into the strategies that L2 learners of English with a Serbian language background develop in the acquisition of those pairs of English vowels whose qualitative characteristics are markedly different in English, but essentially the same in Serbian. The production experiment focusses on two groups of English speakers, L1 and L2, with the aim of comparing the English high front FLEECE/KIT vowel pair and high back GOOSE/FOOT vowel pair. We analyse the vowel production of five L2 speakers of English whose L1 is Serbian, and five L1 speakers of Mainstream American English. The investigation is centred around the extent to which the F1–F2 difference typical of English vowels is acquired by proficient L2 speakers. The results of the acoustic analysis show that the qualitative difference is acquired in the L2 speaker group between FLEECE/KIT and GOOSE/FOOT vowels, but also that L2 speakers rely on different strategies in the formation of new vowel categories.

Keywords: L2 vowel acquisition, high front vowels, high back vowels, English-Serbian analysis

1 Introduction

The vowel inventory of English is famously complex in both Mainstream American English (MAE) and Southern British Standard (SBS) pronunciation models. The vowel inventory of MAE is known to be less numerous, but its enormous dialectal diversity complicates this matter somewhat. Due to the increasing exposure of Serbian L1 speakers to MAE rather than SBS in recent decades, this paper is based on the assumption that Serbian EFL learners' vowels of English are comparable to those of MAE.

Most phonetic research carried out in the context of Serbian speakers of English used SBS as a desirable target for their EFL learners (Paunović 2002; Marković 2007; Dančetović 2017; Bjelaković 2018). More recently Bjekić (2022) tackled the issue of L2 vowel quality acquisition of Serbian EFL learners using the MAE vowel inventory as a target, which is a novel approach.

The English vowels whose quality proves difficult to acquire from the standpoint of Serbian EFL speakers are the vowels of FLEECE and KIT, as well as those of GOOSE and FOOT, among others. This paper examines the spectral features (F1–F2) of the four English vowels in order to find out whether the new phonological categories have been formed in English as L2 in a group of proficient EFL speakers of English whose L1 is Serbian.

2 Theoretical background

The relationship between vowel quality and vowel quantity in the languages of the world is an intricate one, and L2 learners face obstacles throughout the vowel learning process. Even in the case of quantity languages like Serbian, phonetic matters are not simple. Serbian vowel pairs like /e, e:/ and /o, o:/ clearly manifest a heavy influence of quantity on vowel quality. Other vowel pairs do not. Another question that is raised is the matter of which acoustic cue is stronger, primary and more influential: quality or quantity, and whether this is in any way predictable in any given language.

Serbian is traditionally described as a language that has five vowel pairs distinguished by phonological length. This would essentially mean that the two high front vowels of *pîta* (Eng. *(he) asks*) and *pìta* (Eng. *a pie*) have virtually the same spectral features, where the former is long and the latter vowel is short. The same applies to the two high back vowels, e.g. *rûka* (Eng. *an arm*) and *rùta* (Eng. *route*), where the difference once again is explained as a quantitative one,

without differences in the vowel quality. Lehiste (1970, 31) and Lehiste and Ivić (1986) claim that /i/ and /u/ do not show a marked influence of quantity on vowel quality and that the short and long categories of these vowels are distinguished by duration alone. The Serbian short /i/ and short /u/ vowels are not centralized and lowered in the vowel space in relation to their long counterparts. On the other hand, the qualitative difference between the vowels of *beat* and *bit*, or *food* and *foot*, in English is significant, alongside the quantity distinction. EFL learners of various language backgrounds find the English vowel contrasts challenging to acquire because, unlike their L1, English combines spectral cues with duration to form a single vowel category. Different mechanisms and strategies may be used in the process of vowel category acquisition in English depending on several factors, such as the linguistic experience of speakers whose vowel properties are studied, as well as their L1 background.

Spanish learners of English are similarly presented with difficulty when acquiring the vowel contrasts not found in Spanish as their L1. Casillas (2015) studied the production of the FLEECE/KIT pair in early and late learner groups and found that the vowel contrast was fully acquired in the group of early English language learners. The finding for late learners suggests that the contrast was not produced categorically, and that duration is a more salient acoustic cue than the F1–F2 spectral properties. Escudero and Boersma (2004, 580) found that "beginners seem to have trouble with the length distinction, whereas more experienced learners have developed a lexical length contrast". This implies that duration may be regarded as the primary acoustic cue that L2 learners resort to initially, and that the spectral features are acquired at a later stage.

Brazilian Portuguese learners are reported to struggle with the acquisition of the vowel quality of English high front vowels, as evidenced by Roberto Gonçalves and Silveira (2014). These vowels remain a challenge even for more proficient EFL learners who mostly rely on the quantity difference which is used categorically in Brazilian Portuguese.

Japanese and English differ markedly in the use of quality and quantity in producing L1 vowel distinctions (Hirata and Tsukada 2004). Oh et al. (2011) confirm that Japanese learners of English predominantly struggle with the lax vowel group of American English.

3 Methodology

3.1 Participants

Ten speakers took part in the experimental vowel study. The recordings were made in a sound-attenuated booth at the Cornell University Phonetics Lab and at the Belgrade Phonetics Lab using Praat on a Sony VAIO laptop computer. The experimental procedure is replicated from Čubrović (2016), this time with the aim of investigating and comparing L1 and L2 high front and high back vowels.

Five male speakers of MAE were recorded in part 1 of the experiment. Before the recordings were made, participants were asked to fill in a short questionnaire, which included questions related to personal data (age, place of birth, current and previous places of residence, and languages spoken at home). These speakers are marked as E1–E5 and their important data is shown in the table below.

Table 1. Basic information on the L1 MAE speakers.

Speaker	Age	Place of birth	Language(s) spoken at home
E1	19	New York City, NY	English
E2	20	Cortland, NY	English (some Dutch and Frisian)
E3	20	Haverhill, MA	English
E4	21	Columbia, MD	English
E5	21	Manhasset, NY	English

As can be concluded from Table 1, all experimental subjects are predominantly monolingual speakers born and raised in the American Northeast, with the exception of E2, who has one parent who is also a speaker of Dutch/Frisian. All speakers mostly use English in their everyday communication. All participants were also learners of foreign languages, and had exposure to these in a formal, classroom context. At the time of the recording, all speakers lived in Ithaca, NY.

The second group of speakers, who are native speakers of Serbian and proficient speakers of English, took part in the same experiment. This sample was deemed a representative sample of L2 MAE speakers.

Table 2. Basic information on L2 MAE speakers.

Speaker	Age	Place of birth	Language(s) spoken at home
S1	22	Belgrade, Serbia	Serbian
S2	21	Belgrade, Serbia	Serbian
S3	22	Belgrade, Serbia	Serbian
S4	21	Belgrade, Serbia	Serbian
S5	21	Belgrade, Serbia	Serbian

The group of L2 MAE is monolithic in the sense that they all reported they spoke MAE, but had not lived or spent any time in the areas where MAE has an L1 status. All five participants were also English majors at a public university in central Serbia. Their self-reported level of English was C1 at the time of the recordings. The experimenter verified that the L2 group was leaning towards MAE.

3.2 Materials and recording procedures

The acoustic experiment investigated the spectral features (F1 and F2) of four monophthongs of MAE in the following monosyllables: *beat*, *bit*, *boot*, and *put*. In addition to the four words listed above, included in the recordings were also the following tokens: *bet*, *bat*, *but*, *bought*, *pot*, *boat* and *bait*. These played the role of distractors. All eleven monosyllables share a characteristic CVC structure, with an initial labial consonant (voiced or voiceless) and a final coronal consonant /t/ so as to eliminate any potential effects of different places or manners of articulation. Hillenbrand at al. (2001) studied the effects of consonantal environment in English and observed highly significant effects of the phonetic environment, which has been avoided in the current vowel study by maintaining the same place of articulation of the final consonant. The initial consonant is not expected to exert any influence on the vowel quality.

The selected word forms were imbedded in the carrier sentence "Say _____ again". The utterances were recorded three times, in random order. The total number of utterances amounts to 330 (10 speakers x 3 repetitions x 11 word forms), 165 for L1 MAE group and 165 for L2 MAE group. As this paper focusses on the vowels in *beat*, *bit*, *boot*, and *put* , the total number of tokens analysed for the purposes of further analysis was 30 per vowel.

Participants were presented with the utterances on the computer screen, one at a time, and the pace of recordings remained stable. Once one carrier sentence was pronounced, the experimenter would change the slide that displayed the next token. Before the recordings were made, the participants were given instructions about the experimental procedures and provided time to familiarize themselves with the recording materials. After the short preparation stage, participants were asked to read the sentences as naturally as possible. The experimenter's task was to follow the recording level throughout the recording session so as to avoid any undesirable weak or overloaded acoustic signals that would impede acoustic analysis.

The MAE vowel inventory consists of eleven different segments, /i ɪ e ɛ æ ʌ u ʊ o ɔ ɑ/ (Yavaş 2011, 77–78), as in the following words *beat*, *bit*, *bait*, *bet*, *bat*, *but*, *boot*, *put*, *boat*, *bought*, and *pot*, respectively. The vowels of *bait* and *boat* may be diphthongized, even though they essentially belong to the category of monophthongs. The vowel inventory of MAE typically contains three diphthongs, as in *bite*, *bout* and *void* (Yavaş 2011, 78). Table 3 lists all the tokens recorded, but the ones marked bold were subjected to further acoustic and statistical analysis.

The full list of the words recorded is given in Table 3.

Table 3. English word list.

Word form	**MAE target vowel**	**Consonantal context**
beat	/i/	Labial_Coronal
bit	/ɪ/	Labial_Coronal
bait	/e/	Labial_Coronal
bet	/ɛ/	Labial_Coronal
bat	/æ/	Labial_Coronal
but	/ʌ/	Labial_Coronal
boot	/u/	Labial_Coronal
put	/ʊ/	Labial_Coronal
boat	/o/	Labial_Coronal
bought	/ɔ/	Labial_Coronal
pot	/ɑ/	Labial_Coronal

4 Analysis and discussion

The recordings were digitized at 22,000 Hz and labelled manually in Praat (Boersma and Weenink 2013). The spectral properties of vowels were extracted with the help of a Praat script (DiCanio 2013). Those formant measurements that deviated from the expected values underwent manual checking, and were corrected where generated erroneously. The number of mistracked formants was negligible.

F1–F2 graphs were formed so as to examine the vowel space characteristic of L1 MAE vowels in relation to those of L2 MAE. The first formant (F1) is inversely related to the vowel height, whereas the second formant (F2) relates to the degree of backness, e.g. the fronter the vowel, the higher its F2. As part of the F1–F2 graphs that follow, F1 is plotted on the vertical axis and F2 on the horizontal one, so these resemble the vowel diagrams that are traditionally used in articulatory phonetics. Each point in the F1–F2 diagram represents one repetition of one word token. Formant values were not normalized due to the fact that all speakers are male.

We first plotted F1 and F2 measurements for the L1 group (with one standard deviation) to show how short and long vowels spread in the vowel space, and to examine the vowel area for each of the four vowels studied. The graphs were made using NORM (Thomas and Kendall 2007). The acoustic data in Figure 1 shows that L1 speakers employ a specific area in the vowel space for each of the four vowels, and that there are no overlaps between the comparable pairs, i.e. *beat* vs. *bit* or *boot* vs. *put*.

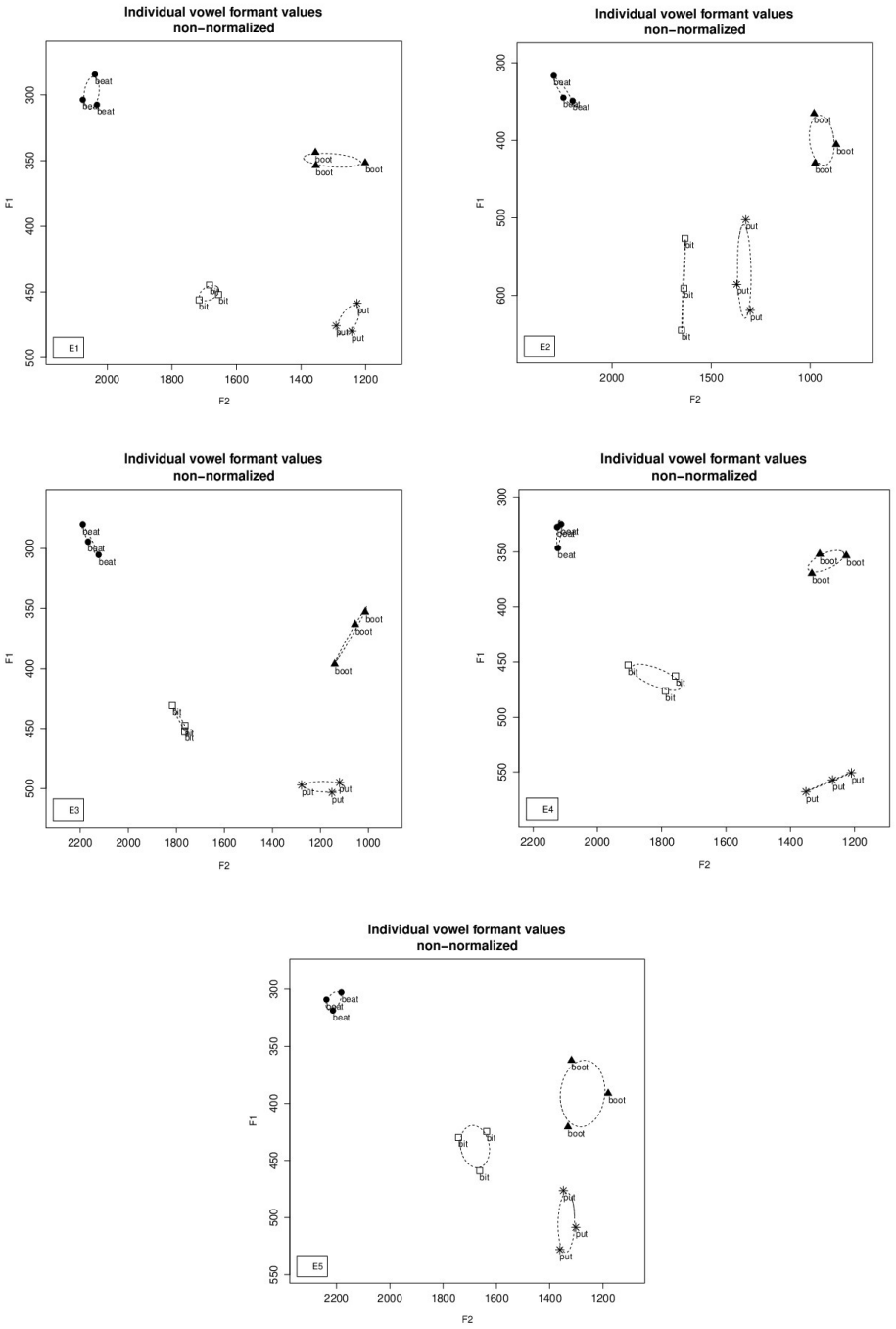

Figure 1. L1 high front and high back vowels for individual speakers (E1–E5).

Even though the four vowels are clearly separated in the vowel space for all five L1 speakers, some individual differences are observed. We will now look at the vowel space as used by all five individual speakers, E1–E5, and comment on any variations or similarities. The vowel of FLEECE is the most stable of all four and shows similarities with regard to frontness expressed by F2, which ranges from 2,112–2,294 Hz in speakers E1, E2, E3 and E4. The second formant of E1 speaker's FLEECE vowel is only slightly lower (F2 range is 2,038–2,075 Hz), which makes the vowel more peripheral and fronter. The F1 measurements for all five speakers are compact, ranging from 279–346 Hz.

The KIT vowel acoustic realizations seem similar in speakers E1, E3, E4 and E5 with regard to comparable F1 values (ranging from 424–476 Hz). Speaker E2 centralizes the KIT vowel more, which is marked by higher F1 values (526–644 Hz). The F2 range of KIT vowel is dispersed along the scale marking the degree of frontness (1,636–1,904 Hz). Speakers E3 and E4 have somewhat higher F2 values reducing the phonetic distance between FLEECE and KIT vowels.

The GOOSE vowel shows markedly more variation along the F2 scale, whereas measurement stability dominates in the F1 range (351–429 Hz). This implies that speakers' high back vowel varies on the degree of backness axis (F2 868–1,354 Hz). Speaker E2 produces the GOOSE vowel highest, followed by speaker E3, and at the other end of the backness scale speakers E4 and E5 shift their GOOSE vowel tokens to the central area of the vowel space.

The FOOT vowel is realized differently in the L1 speaker group. Speaker E2 pronounces it as a lower vowel and centralizes is more than the other speakers, thus bringing it closer to the KIT vowel in the front vowel area. The other four speakers have a tendency to use a similar range of F2 for KIT vowels, which to a certain extent overlaps with the F2 of GOOSE vowel. This finding results in the conclusion that for four out of five speakers in the L1 group the height of the tongue is a distinctive factor in the GOOSE/FOOT opposition.

Next we look at the four vowels as produced by five L2 speakers of English, marked S1–S5. Figure 2 shows that all five speakers have formed separate categories for the English vowels of FLEECE vs. KIT and GOOSE vs. FOOT, but also used different strategies in the new vowel category formation.

Speaker S1 has formed four different phonetic categories, but the distance in the vowel space between the long and short vowels is minimal. This speaker relies more heavily on vowel duration in distinguishing the English vowel pairs FLEECE/KIT and GOOSE/FOOT. This strategy may be attributed to the

transfer from Serbian as L1. The remaining four L2 speakers have formed separate categories for the four vowels in spite of the fact that Serbian, their mother tongue, does not recognize these.

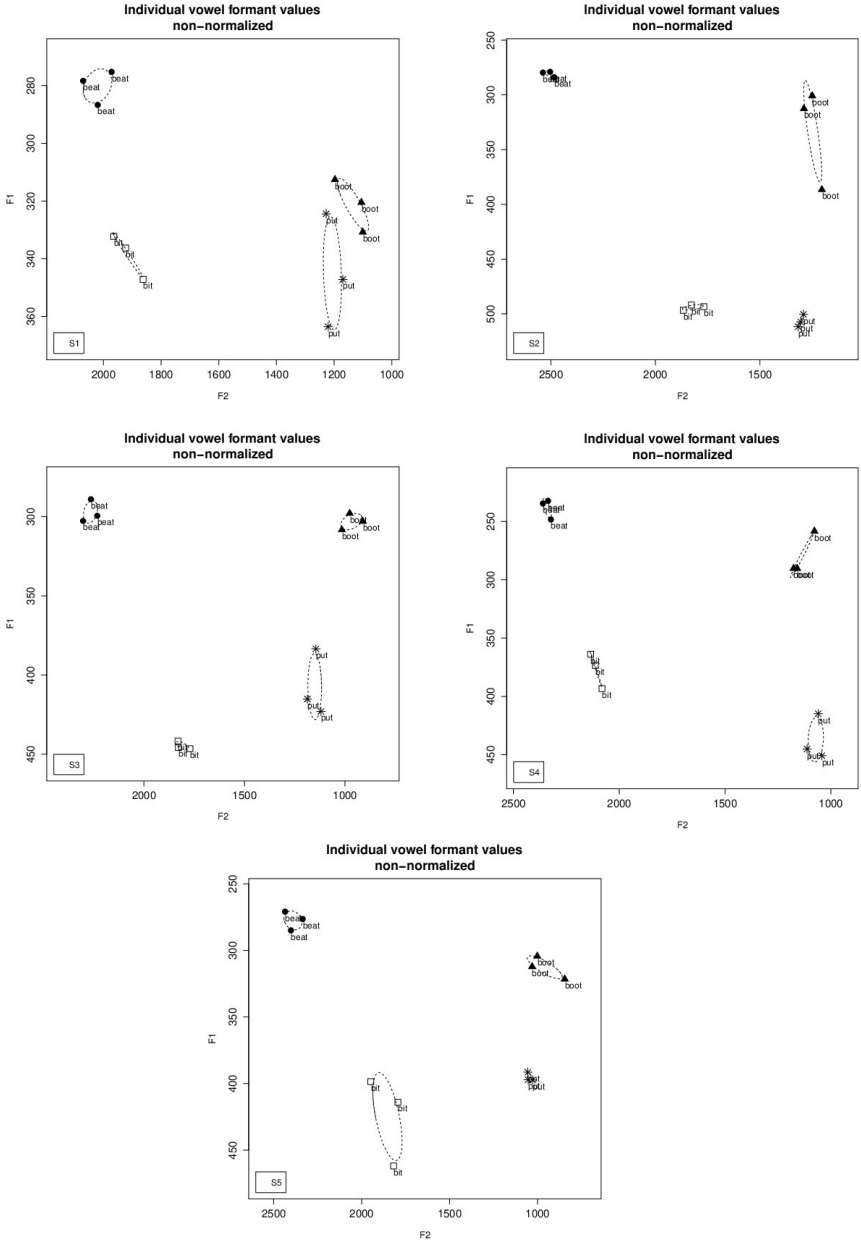

Figure 2. L2 MAE vowels.

It is commonplace to say that distinctions between short and long pairs of English high front and high back vowels are hard to acquire even for advanced EFL learners. These speakers typically find the quality of short vowels /ɪ ʊ/ especially burdensome. However, Figure 2 shows that the two high front vowels are well separated in the vowel space for the L2 speaker group.

For purposes of further discussion about any deviations from the L1 vowels, Figure 3 displays the L1 and L2 high front vowels. F1 values of the vowels of *beat* and *bit* for the L2 speaker group have somewhat higher values, which implies that the vowel itself is fronter and more peripheral in the vowel space in the speech of Serbian speakers of English. A high degree of dispersion on the F2 plane is observed in the L2 productions of the vowel of *bit* (from 1,767 Hz to 2,135 Hz). Speakers S2 and S3 have fully acquired the L1 vowel quality, which is clearly shown in Figure 2 above. All other L2 speakers produce a qualitative difference between the high front vowels, but their *bit* vowel is less centralized compared to the L1 vowel quality. Speaker E2 who belongs to the L1 group has distinctly higher values of F1 which may be accounted for by vowel lenition, as shown in Figure 1.

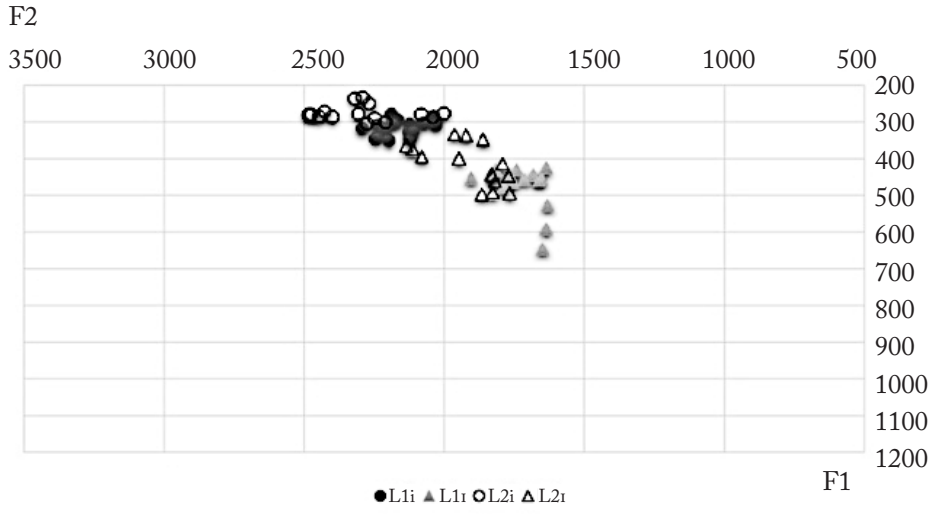

Figure 3. High front vowels in MAE L1 and L2.

The next pair of vowels to analyse are those of *boot* and *put*. Their spectral measurements are plotted in Figure 4. The L2 vowel of *boot* is characterized by somewhat lower F1 values, which points to an L2 vowel that is a higher vowel than its L1 counterpart. Some L2 tokens of the vowel in *put* evidently manifest overlapping with the L1 *boot* vowel, whereas only one L2 speaker acquired the vowel quality of the L1 *put* vowel (speaker S1). Figure 4 shows a certain degree of variability in both speaker groups. In conclusion, the L2 group has also formed a new vowel category for the FOOT vowel.

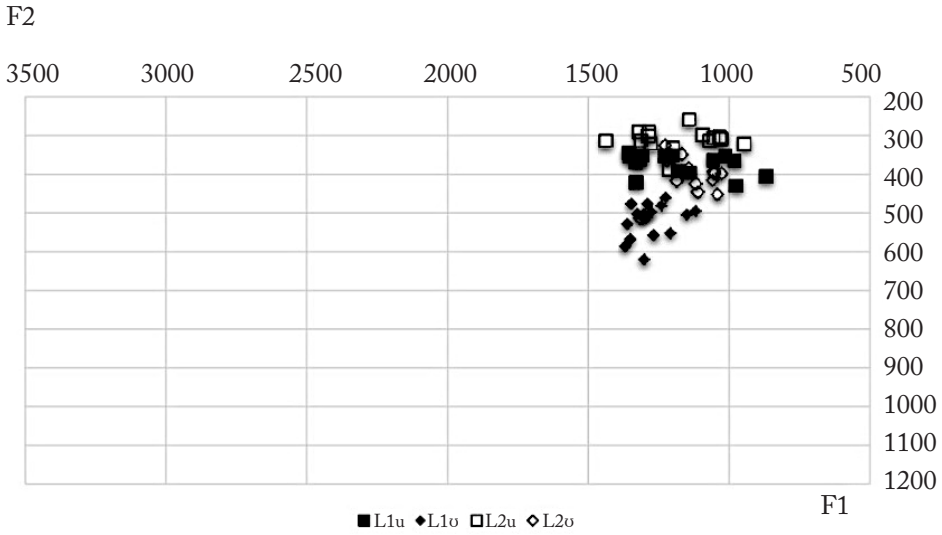

Figure 4. High back vowels in MAE L1 and L2.

4.1 Statistical analysis and discussion

In order to establish any differences in the vowel quality between the L1 and L2 speaker groups, a mixed-effects statistical model was run on the experimental data. The analysis was performed in R statistical software (2013) with the lme4 package (Bates et al. 2015). A separate model was run for each formant (F1 and F2) for each of the four monophthongs of English, with *Speaker Group* (L1 and L2) as a fixed effect and *Speaker* as a random effect.

The model returned statistically significant differences of speaker group on F1 for /i/ and on F2 for /i ɪ/. For the purposes of this paper, a p-value less than 0.05 (typically ≤ 0.05) in at least one of the formants (F1 or F2) was considered statistically significant. The summary of statistical findings is provided below in Table 4.

Table 4. Results of the mixed-effects model between L1 and L2 groups for F1 and F2.

Vowel	Pr(>|t|) F1	Pr(>|t|) F2
i	**0.00827 ****	**0.00707 ****
ɪ	0.0534	**0.0181 ***
u	0.126	0.104
ʊ	0.631	0.176

Significant codes: '**' 0.01 '*' 0.05

According to the results of the statistical analysis, the following vowels in the two groups of speakers do not show statistically significant differences: the vowels of *boot* and *put*. These vowel qualities may be rendered as fully acquired MAE vowels by the L2 group. The findings of this vowel study are strikingly different from a similar but more comprehensive study (Čubrović 2016) where the L2 speaker group consisting of long-term bilingual speakers of MAE who reside in the US only acquired the vowel of *but* of the nine monophthongs studied, but not one of the four vowels that are the focus of the present study. Bearing the two speaker groups in mind, the L2 group taken as a sample in the current paper is formed by undergraduate students majoring in English language, literature and culture. Bjekić and Čubrović (2021, 76) studied the MAE monopthtongs in a comparable experimental study with less advanced EFL speakers from another city in central Serbia, and found that "there is a significant difference in F1 and F2 between native and nonnative speakers for all English vowels except /i/". To sum up, trained language students performed better compared to the diaspora group or the less proficient EFL student group.

Figure 5 displays the F1 values with one standard deviation.[1] It can be seen from the standard deviation values in the graph that both L1 and L2 groups manifest a certain degree of variability.

1 The means of F1 and F2, and SD are provided in the Appendix.

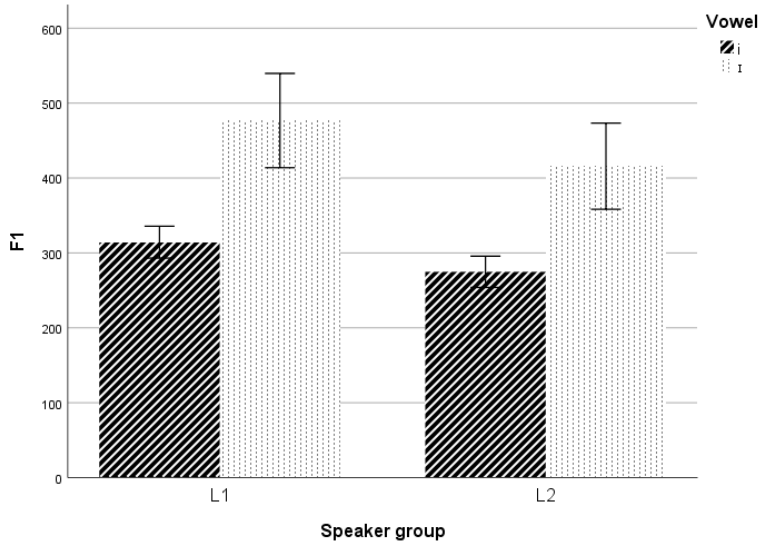

Figure 5. F1 in two speaker groups.

Figure 6 shows the values of F2 in the two groups of speakers, L1 and L2. More variability in F2 is evident in the L2 group as compared to the L1 group. This result may be attributed to high vowel variability and varying degrees of lenition in the GOOSE/FOOT vowels.

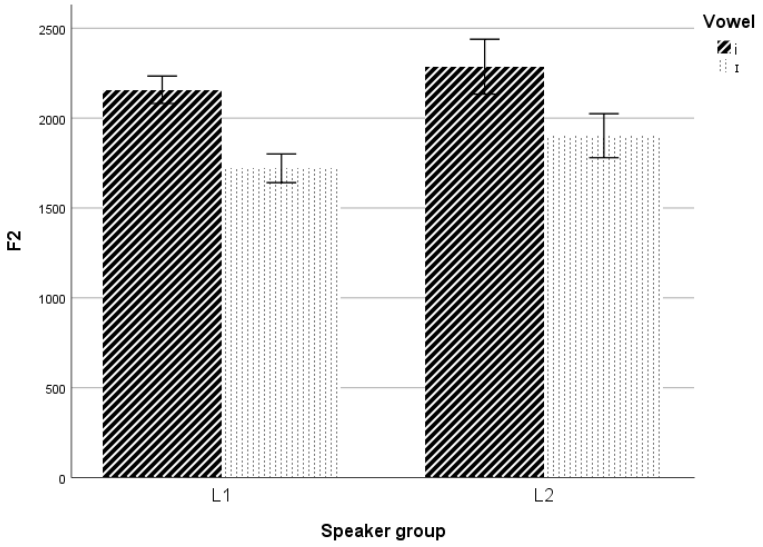

Figure 6. F2 in two speaker groups.

5 Conclusion

The two experiments in the present study add to the extensive body of acoustic research of L1 and L2 American English vowels, especially in the area of the production of high front and high back vowels. The results show a marked vowel variability in L1 American English vowels. The L2 speaker group, which included advanced speakers of English with Serbian as L1, has successfully formed new vowel categories for the KIT and FOOT vowels that do not overlap with the FLEECE and GOOSE vowels. However, the strategies used in the formation of new vowel categories vary in the L2 group, with at least one L2 speaker who seems to rely more heavily on vowel duration, a phonetic habit that has been transferred from Serbian as L1. The spectral analysis shows that the L2 group produced the GOOSE/FOOT contrast in a native-like fashion, i.e. that their productions did not differ from the L1 group with regard to F1 or F2 for each of the two vowels. The FLEECE and KIT vowels in the L1 and L2 groups still have some way to go before they are fully accommodated into the English vowel inventory.

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Appendix

Descriptive statistics with number of tokens for each word form, mean values of F1 and F2, and standard deviations

F1

Descriptive Statistics				
Segment	**Speaker group**	**N**	**Mean**	**Std. Deviation**
i	L1 MAE	15	314.33	21.30
	L2 MAE	15	274.74	20.88
ɪ	L1 MAE	15	476.67	62.92
	L2 MAE	15	415.78	57.52
u	L1 MAE	15	374.02	27.41
	L2 MAE	15	309.98	27.17
ʊ	L1 MAE	15	520.38	46.31
	L2 MAE	15	418.21	56.66

F2

Descriptive Statistics				
Segment	**Speaker group**	**N**	**Mean**	**Std. Deviation**
i	L1 MAE	15	2,157.36	76.27
	L2 MAE	15	2,286.01	152.56
ɪ	L1 MAE	15	1,720.73	79.87
	L2 MAE	15	1,902.04	122.48
u	L1 MAE	15	1,176.28	162.25
	L2 MAE	15	1,089.28	126.45
ʊ	L1 MAE	15	1,276.95	75.03
	L2 MAE	15	1,155.51	99.77

Translating Humour in *The IT Crowd*: An Analysis in Favour of Introducing Humour Studies into Translation and Interpreting Curricula

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Abstract

The paper discusses some of the challenges in translating humour from the British TV series *The IT Crowd* into the Bosnian language. The examples include transcription, translation, as well as analysis. Drawing from the experience of working with translation studies students, the goal is to emphasize the need for introducing humour studies into university curricula. Humour is observed in contrast between English and Bosnian, and analysed within Minutella's (2014) analytical framework involving cultural references, wordplay and language variation for humour detection, and Chiaro's (2004) approach to humour translation which entails substitution, replacement with an idiomatic expression, or replacement with a compensatory verbally expressed humour. The results indicate that some humorous content is easy to detect in the source language, but difficult to translate, and there were also instances of translatable content resulting in the loss of humour in the target language. Humour studies would enable easier understanding and translation for students, while contrastive analysis can serve as the pedagogical means of drawing focus to humorous content in translation studies classes.

Keywords: humour, translation studies, *The IT Crowd*, humour theories, English-Bosnian analysis

1 Introduction

The aim of this paper is to discuss some of the challenges in translating humour from the British TV series *The IT Crowd* into the Bosnian language. Translation of humour has been a challenge for many translators and interpreters, but, in this instance, humour translation is observed from the point of view of an instructor at the translation and interpreting programme (Faculty of Philosophy, University of Sarajevo).

Students who are to become future translators are faced with the challenge of translating humour as part of their Style and Translation course. Humorous content in the source text should be translated so that it is preserved in the target language. The challenge for students is that while they understand the humorous content in English, they are surprised to learn how difficult it is to adequately translate it into the target language.

In practice, translation studies and contrastive analysis, although related, have few methodological encounters (Czulo and Hansen-Schirra 2017, 1). Mona Baker (1993), for example, finds the connection in corpus-based methodology. Translation studies and contrastive analysis also meet within Jacek Fisiak's (1981, 2) observation about the pedagogical potential of contrastive studies: "Drawing on the findings of theoretical contrastive studies they provide a framework for the comparison of languages, selecting whatever information is necessary for a specific purpose, e.g. teaching, bilingual analysis, translation."

This framework is exceptionally important for translation studies classes since the translation process involves not only solving certain linguistic structures and comparing them in the target language, as the focus is on a text in its entirety, i.e., its pragmatic, contextual and semantic features. Hence, for a translation studies' instructor, focusing on specific aspects of a text in class is a necessity.

Humour is a phenomenon overwhelmingly present globally and cross-culturally, and so translators (frequently, also, interpreters) are faced with the challenges of translating it.

That is why humour should be studied as part of translation training programmes at universities, together with the introduction of subjects that treat humour in linguistic and cultural research.

2 Literature overview

Humour in linguistics has been studied for decades, yet we observe a constant struggle with defining the phenomenon. In fact, Attardo (1994, 13) states that "it is impossible to define 'a priori' the category of humor", restoring to a possible view by Catherine Kerbrat-Orecchioni (1981; quoted in Attardo 1994, 13) that a text is humorous if its perlocutionary effect is laughter.

Of a number of linguistic theories that appear in humour studies, such as superiority theory and relief/release theory, this paper will consider cases when humour appears as a result of incongruity. In linguistics, this notion concerns an incongruous relationship of linguistic categories that cause confusion among the recipients of humour. Victor Raskin was the first to approach incongruity from a linguistic perspective.

In his seminal work, *Semantic Mechanisms of Humor* (1985), Raskin observes incongruity in verbal humour through opposition of semantic scripts, and offers different categories of script opposition (1985, 113–27), with the following key definition of the conditions that render a text humorous:

> A text can be characterized as a single-joke-carrying-text if both of the [following] conditions are satisfied: i) The text is compatible, fully or in part, with two different scripts[;] ii) The two scripts with which some text is compatible […] are said to overlap fully or in part on this text. (Raskin 1985, 99)

Hence typical opposition, according to Raskin, is culturally dependent and finite, and includes examples such as actual vs. non-actual, normal vs. abnormal, possible vs. impossible, good vs. bad, life vs. death, obscene vs. non-obscene, etc. (1985, 113–14).

Later, Raskin and Attardo developed the General Theory of Verbal Humour (GTVH), containing six knowledge resources (KRs), one of which is Raskin's script opposition. Attardo devotes much of his attention to this theory in his book *Linguistic Theories of Humor* (1994). The topic of the current paper does not leave much space to deliberate on the entirety of GTVH, but one segment in particular is important for the analysis: the notion of verbal humour. All segments of the analysis concern verbally expressed humour, not humour stemming from facial expressions, cartoons, etc., and its translation.

It is important to introduce another scholar who wrote about humour, but in the framework of translation studies, namely, Delia Chiaro.

In her text "Translation and Humour, Humour and Translation", included in the book *Translation, Humour and Literature* (2010) that she edited, Chiaro emphasizes that translating verbally expressed humour "opens up a gigantic can of worms" (2010, 6). She addresses the common ways in which translators handle VEH, mentioning strategies that include leaving VEH unchanged, replacing the source language VEH with a target language VEH, and, lastly, ignoring VEH altogether (2010, 11–12).

Very close to such categorization is Chiaro's (2004, 200) methodological approach to the translation of verbally expressed humour: (1) substitution in the target language; (2) replacement with an idiomatic expression in the target language; (3) replacement with an example of compensatory VEH in the target language.

In her book *The Language of Jokes in the Digital Age*, Chiaro (2018, 48) emphasizes that

> subtitles for downloads and streaming are often provided by fansubbers, armies of young unprofessional translators whose mission is to translate new products as soon as possible into as many languages as possible for fans around the world. Thus, fast and cost-effective subtitling has rapidly become the most common form of screen translation especially amongst young (mostly highly) educated people who have proficient English language skills.

This important and very accurate remark may serve as encouragement for translation instructors and translation students alike never to give up on having high criteria and striving to achieve the best translation possible, in any register, including humor.

In this paper, we adopt the position that "humor may well remain within the eyes, ears and mood of the beholder" (Chiaro and Piferi 2010, 300). However, the position of the translator in that respect is to make an attempt at producing a humorous text as a result of either translation or subbing, but without being able to influence the outside reality, i.e., whether or not the audience will find a particular sequence humorous. It is important to emphasize here that the success of humour translation "is very much dependent on the translator's sense of humor; that is the translator's recognition of a comic instance" (Vandaele 2002, 150).

Clearly, what is being translated is the text from transcribed dialogues, which is why the selected corpus is marked as *verbally expressed humour* (VEH) (Chiaro 2005). In line with the notion of VEH, Vincenza Minutella, in her paper on the translation of humour in *Shrek* (2014, 67–89), offers the following classification: (1) humour based on cultural references and allusions; (2) humour based on wordplay; (3) humour generated by language variation.

The first category, *cultural references*, consists of "words that refer to concepts or objects specific to the Source Culture and that may be unknown in the Target Culture" (Minutella 2014, 69). These carry allusions, implicatures and connotations that concern different notions (people, objects, places, etc.).

The second category, *wordplay*, concerns puns in their most basic sense. Of course, many scholars have defined/written about puns (Koestler 1964; Attardo 1994; Ritchie 2004; Martin 2007; etc.), but perhaps the most useful for our purposes is Delabastita's explanation of what a pun *does*: "The pun contrasts linguistic structures with different meanings on the basis of their formal similarity" (1996, 128). The category thus concerns synonymy, polysemy, homonymy, etc. Some scholars differentiate between the terms *pun* and *wordplay*, but the position assumed for the purposes of this paper is that the category is interchangeable, since a stricter taxonymy could be applied for a thorough linguistic analysis of humour, not the translation process/results.

The third category entails the notion of *language variation*. The *Oxford Dictionary of English Grammar* (Chalker and Weiner 1994, 1179) provides the following definition (provided here is an excerpt that is relevant for this section):

> The terms variety and VARIATION are particularly used in the analysis of different kinds of English. Thus, we can talk of regional and social varieties (or variation); varieties according to the FIELD OF DISCOURSE; varieties consistent with spoken or written mediums; and 'stylistic' varieties, due to different degrees of formality, the attitude of the speaker, and so on.

In the case of humour, this category can also contain stereotypes, *in-jokes*, etc. These three categories may overlap.

3 Study

3.1 Context: Teaching humour in the translation studies programme

Humour has not been taught extensively as part of the courses offered by the English Department at the University of Sarajevo.[1] However, since the establishment of the translation programme in the second study cycle in 2005, it

1 The programme is available in Bosnian/Croatian/Serbian at https://ff.unsa.ba/index.php/bs/2014-12-13-22-32-48, but the overview of literature will provide the reader with sufficient insight into the main themes treated within individual courses.

had become clear that the subject of humour needed to be addressed. In that respect, we have created a *niche* within the Semantics and Pragmatics course where humour in general is introduced: its definition, major humour theories (with special emphasis on incongruity theories), understanding humour as a global (cross-cultural) and local (culture-specific) phenomenon. Although the subject matter introduced in these instances is very demanding, the time for discussion in class is fairly limited for this topic – at most four contact hours during the entire semester. The course is taught in the second semester at the postgraduate level.

The fourth semester includes another subject – Style and Translation – and humour is introduced here as a translation practice. By that point, students have become acquainted with various translation strategies, elements of audio-visual translation,[2] and so on. Furthermore, by that time they will have been exposed to a plethora of registers in translation, from legal to literary, medical to political, etc. Students engage in translating humour using audio-visual material, as well as jokes and humour in literary texts.

Although translating jokes (especially those that are culture-specific) presents a particular semantic challenge, given the opposition of semantic scripts (Raskin 2011), in this class the focus was on the translation of humour found in the audio-visual material of British TV series, such as: *Blackadder*, *Only Fools and Horses*, *Black Books*, *The IT Crowd*, and *Little Britain*.

A humour translation exercise is introduced by providing the students with selected material – transcribed sections of the scenes for translation. As part of the pre-assignment exercise, students are required to familiarize themselves with the TV series (characters and plot), although experience has shown that the majority of students are already familiar with *The IT Crowd*. They also need to revisit the main theories of humour presented in the Semantics and Pragmatics class.

At the very beginning of the exercise students are reminded that the translation of the provided material is intended for subtitling/subbing.

2 Humour can also be taught within the audio-visual translation class, which is an aspect analysed in this paper. However, since humour does not only appear in audio-visual materials, but also in many other forms of text, cartoons, etc., the need for a separate course is evident.

3.2 The corpus

As already mentioned, the corpus will consist of selected sequences from *The IT Crowd* TV series. This series is a challenge for translators because of the seemingly familiar situations and prejudices expressed against an entire profession (the "nerdiness" of software engineers), as well as against corporations, women, and certain races, along with comments about life and habits, and so on. Moreover, the language of *The IT Crowd* contains many more layers than first meets the eye. The series is packed with instances of absurdist humour, witticisms, running jokes, physical humour, dark humour and the like.

The British TV series that aired from 2006 to 2013 focuses on three members of the IT Department at Reynholm Industries: Jen (the head of IT who does not know the first thing about IT), Roy (an Irish IT expert) and Moss (a highly intelligent software engineer critically lacking in social skills). Many other characters appear in the TV series, most notably Douglas Reynholm (the son of the company's founder, Denholm Reynholm, who inherits his father's fortune and position following his suicide), and Richmond Avenal (a goth IT associate, who lives in the server room).[3]

3.3 Methodology

In this paper, a selection of eight scenes from *The IT Crowd* TV series will be presented, followed by a discussion of the challenges to the translation of humour in each scene. The transcription and translation of the scenes are provided by the author, since the TV series has not been translated in Bosnia and Herzegovina, nor been aired by any of the country's broadcasters. Still, experience has shown that students are mostly familiar with the show.

As stated in section 2, the analysis will concern verbally expressed humour, and thus other forms of humorous expression, gestures, motions, and so on will not be considered.

The analysis will entail categories introduced by Minutella (2014), encompassing: (1) cultural references and allusions, (2) wordplay and (3) language variation. These categories have been presented in the Literature Overview section and concern the detection and categorization of a humorous incident. Further in the analysis, Chiaro's framework regarding translation options will

3 More information on the TV series and characters is available at: https://www.imdb.com/title/tt0487831/ and https://www.channel4.com/programmes/the-it-crowd

be applied: (1) substitution in the TL; (2) replacement with an idiomatic expression in the TL; and (3) replacement with an example of compensatory VEH in the target language.

The scenes presented in this paper do not follow the chronological order they appear in the series, but in accordance with the difficulty they posed for the students in class, and may also pose for translation professionals in the Bosnian language. Next to the episode title, the season and the episode number will be cited (e.g. S2 E1).

Although the issue will not be addressed in this paper, it is worth mentioning that the very title of the TV series and the names of the episodes that are presented at the very beginning of the scenes selected for the analysis are another exceptional challenge for translators.

4 Analysis and discussion

(1) Moss and the German (S2 E3)

Moss: I may have misheard you there. Did you just say that you were going to eat me?
Moss: Možda Vas nisam dobro čuo. Da li ste upravo rekli da me namjeravate pojesti?

Johann: Yes.
Johann: Da.

Moss: Right, you did say that. Yeah, no, I'm here for the cookery.
Moss: Da, zaista ste to rekli. Pa, ja sam ovdje zbog kursa kuhanja.

Johann: No, no, no, this is the cookery.
Johann: Ne, ne, ne, ovo je kuhanje.

Moss: Look, I've got your advert here. I printed it out. „I want to cook with you."
Moss: Ali, vidite, imam Vaš oglas. Isprintao sam ga: "Želim da kuham s vama".

Johann: Ah, no, no. My English is not so good.
Johann: A, ne, ne. Moj engleski nije baš najbolji.

Moss: Um... Oh, right! You want to cook with me, using me, you mean.
Moss: Hmm… Aaaa, da! Želite da kuhate sa mnom, tako što ćete mene iskoristiti, to ste mislili.

Johann: Ah, yes! Yes! You see? Yes, yes.
Johann: Da! Vidite? Da, da!

Moss: I see where the confusion was. I thought this was a cookery course.
Moss: Vidim gdje je došlo do zabune. Mislio sam da je ovo kurs kuhanja.

This exchange takes place between Moss and Johann, a German cannibal who obviously has an issue with prepositions in the English language. The German equivalent of the sentence *I want to cook with you* is *Ich möchte mit dir kochen*, while the equivalent of *I want to cook you* is *Ich möchte dich kochen*. Hence, the (mis)use of the preposition gives rise to incongruity, which is resolved the moment Moss realizes what went wrong. Clearly, the English sentence in the advert was a literal translation from the German language, leading Moss to believe that Johann was a cooking instructor.

The translation into Bosnian is not problematic, since there is a clear correspondence between the two sentences: in the Bosnian language as well, the preposition *s* means company, companionship (Halilović, Palić, and Šehović 2010, 1164). Thus, we may say that this section of the exchange belongs to the framework of *language variation*, since we are dealing with a German who uses English as a foreign language.

Still, the mistake he makes is not part of a stereotype one may have about Germans, but certainly there is a sense of humour that arises from the fact that Johann is simply not a native speaker of English. The same sense is presented in the translation, which offers additional humorous value because the Bosnian language has maintained the formal *you*-form for second person singular. The reason why the honorific form increases the humorous value in the translation is because in the conversation the collocutors are highly observant of politeness (Brown and Levinson 1987), as well as of turn-taking (Sacks,

Schegloff, and Jefferson 1974), but they are discussing cannibalism so as to clarify a misunderstanding, and in fact one of the collocutors is not going to be a participant in a cooking class, but rather an ingredient. This absurdity is present in both languages, but it is stylistically amplified in the translation.

Another example of cultural (mis)understanding can be seen in the scene where Denholm Reynholm welcomes a delegation of Japanese businesspeople:

(2) Calamity Jen (S1 E2)

Denholm (holding a katana): It is a magnificent symbol of our new merger. I am sorry that my gift...a huge pair of Doc' Martens, is an extremely thick and heavy sort. It's so paltry in comparison. Please rest assured that my cultural advisor will be fired as soon as this meeting is over.
Denholm: Ovo je prekrasan simbol našeg udruživanja. Žao mi je što je moj poklon… Veliki par martinki, tako bijedan u usporedbi. Uvjeravam Vas da će moj savjetnik za kulturu biti otpušten odmah nakon ovog sastanka.

Yamamoto (wearing Doc' Martens, joyfully stomps, speaks in Japanese, translated into English by his interpreter): These are very heavy shoes. He feels like... Godzilla!
Yamamoto (preko prevodioca): Ovo su baš velike cipele. *Osjeća se kao… Godzilla!*

Denholm: Does he? Godzilla! Go on! Stamp your feet! Clap him man! Good! Oh yeah! The Jap loves it! Go on! Break something! Put your weight into it!
Denholm: A je li? Pa samo nastavi! Skoči svom snagom! Plješći mu! O, da! Godzilla! Japancu se sviđa! Ma slomi nešto! Svom težinom!

Jen: You f..... idiot!! You stupid old f... You f…. J…. and your big m.... shoes! Oh you're not! You're nothing! But I f... ....
Jen: J…. idiote!! To glupi stari pr… Ti j…. Jap… i tvoje velike j….. cipele! E, nećeš! Ti si ništa! Ali sam j……..

(Japanese interpreter translates, the delegation leaves, angry)
(Japanski prevodilac prevodi, Japanci odlaze, uzrujani)

Jen: I am... so... sorry, Denholm.
Jen: Tako mi je žao, Denholme.

Denholm: That was quite a tarring, Jen.
Douglas: Ovo je baš bilo loše, Jen.

Although the differences between the Japanese and the Anglophone/Slavic culture are familiar to the majority of ordinary people these days, it is necessary to again reflect upon Japanese etiquette, including business etiquette and the related hierarchy, in which both hosts and guests have certain rules of behaviour to follow, in addition to the very high importance placed on gifts (Trevor 2001).

In this particular example, humour arises because of the sharp contrast between the Japanese business delegation and the English hosts. Denholm is aware of the importance of hierarchy and is trying to address the situation caused by an inappropriate gift, in which simple footwear is semantically opposed to the Japanese katana, a sword that stands as a cultural symbol.

The second point of humorous contrast occurs when the leading Japanese businessman stomps with all his weight on Jen's feet. In pain, she reacts by swearing.

In that sense, the translation process is not as challenging, since the Bosnian audience is by and large aware of the fine differences between the cultures, as well as the notion of highly developed Japanese etiquette. Moreover, Doc Martens shoes have been present and very popular in Bosnia for generations. To that end, the term commonly used in the Bosnian language is *martinke*, which is present in the translation, making this is an example of a substitution in the target language.

However, the section where Jen is swearing is challenging, to a certain extent, for the translator. The reason for this is because the swearing is "concealed" by interpunction in the source text, while the scene in the audio-visual presentation shows Jen screaming at the shocked Japanese in anguish, swearing, but most of the words are concealed by a beep. Although it is clear that swearing is in progress, which may lead some translators to leave the beginnings of the swear words as provided in the source text, the preferred option in this case was adjustment in the target language. It is, in a way, a *path generator* (Wang

et al. 2020), a semantic process where the text recipient will use the schemata in their own language to recreate the concealed content. The reason for such a solution is that the source text conceals some implicatures that should also be present in the translation. That primarily concerns the section where she says *You f…. J…. and your big m…. shoes/ Ti j…. Jap… i tvoje velike j….. cipele!* The implicature which may be read here is that Jen is aware of the Japanese man's strengths (economic, cultural, etc.) and that, in a moment of despair, she is uttering something very racist. That makes the situation even more difficult, but this is also humorous content, as transferred in the Bosnian language, especially if the entire swearing section is translated. That translation result would fall within the category of replacement with an idiomatic expression in the target language, since the swear words in Bosnian and English do have a similar, but not substitutive correspondence. On a final note here, it is worth mentioning that Reynholm himself, thrilled to see Mr. Yamamoto's satisfaction with the gift, utters *The Jap loves it!* This stands in opposition to the formal title of Yamamoto-san, but the Bosnian translation does not contain an expression that could be considered an equivalent to the English *Jap*.

Although not as important for the humorous content, it is interesting that the noun Denholm uses, *tarring*, does not have an adequate equivalent in the Bosnian language, since the intended meaning is that of damaging someone's reputation. Stylistically, word-to-word correspondence was not achieved and here we can say that replacement with another expression occurred.

The following is an example of humour mainly generated by *language variation* in the source text, as well as in translation:

(3) Are We Not Men? (S3 E2)

Moss: Awright, ‚arry? See that ludicrous display last night?
Moss: Š'ima, Eri? Jes' vidio onaj kretenski nastup sinoć?

Harry: What was Wenger thinking, sending Walcott on that early?
Harry: Š'a je Wenger mislio kad je uveo Walcotta onako rano?

Moss: Fing about Arsenal is, they always try an‘ walk it in.
Moss: Caka s Arsenalom je što uvijek pokušavaju da ušetaju s loptom u gol.

Harry: True. See you later, Moss.
Harry: Vala baš. Vidimo se, Moss.

Moss: Mind ,ow you go.
Moss: Čuvaj se, jarane.

The main reason this scene is considered humorous in both English and Bosnian is the shift in Moss's speech. Moss, a geeky, highly intelligent character is known to *The IT Crowd*'s audience as someone who is not able to function well in everyday social interactions, especially when it comes to football. His normal manner of expression is marked by an IT-related register and his own daily routine, where his interactions are limited to very few people. In that sense, chatting about football while using a Cockney accent is what stands in opposition to the audience's expectations regarding this character. Not only do we notice a change in language variation, but he also uses expressions that are part of the football register.

To an extent, one could consider that Moss shifts to what is known as *mockney* speech, where the speakers of standard English, frequently middle and upper-middle class, adopt Cockney pronunciation but not its other grammatical forms (Rogaliński 2011).

The translation process is interesting because it is possible to achieve a language variation equivalent in the Bosnian language. The preferred option in this case is a non-standard form of the Sarajevo speech, the argot highly present in everyday communication, frequently among educated people who consciously change their register (Halilović, Tanović, and Šehović 2009).[4] The typical examples found in this translation are *š'ima, kretenski nastup, caka, čuvaj se*, and especially the expression *jarane*, a noun meaning a good friend. In that sense, these expressions can be considered to reflect a full correspondence in the translation.

Moreover, the name *Harry* is rendered as *Eri* in this translation, notwithstanding the fact that the name can also be pronounced in full in the Bosnian language, since pronunciation sequences in the Sarajevo argot are frequently

4 I find it highly important to mention here the work by academician Senahid Halilović, professors Ilijas Tanović and Amela Šehović entitled *Govor grada Sarajeva i razgovorni bosanski jezik* [Speech of the City of Sarajevo and the Spoken Bosnian Language].

characterized by elision (Halilović, Tanović, and Šehović 2009, 115). Generally speaking, the entire section represents replacement by an argot of the target language.

The phrase *to walk in* in football register is somewhat challenging to translate. The meaning is achieved by the extended expression *da ušetaju s loptom u go*, but it is clear that this translation contains additional information, since the Bosnian language does not have a phrase denoting this specific situation. An inadequate use of the instrumental case in Bosnian *s loptom* should also be emphasized, since it would literally mean that the ball was a conscious object, walking together with the players. That, to an extent, also contributes to the intensity of Moss's use of argot.

Whereas the previous three examples did carry certain challenges in the translation process, examples (4) and (5) are semantically marked to an extent that it is almost impossible to find an adequate correspondence:

(4) The Speech (S3 E4)

Douglas: Oh, poppet... to think when we met, you were so worried that you came from Iran.
Douglas: Lutkice moja… Kad se samo sjetim kad smo se upoznali koliko si bila zabrinuta što si mješanac.

April: ...what?
April: Šta?

Douglas: When we met, as if I'd be worried about something like that! I don't care where you're from; Iran, France, doesn't bother me. I'm very modern.
Douglas: Kad smo se upoznali, kao da bi me bilo briga za takvo što! Baš me briga ko si; crnac, bjelac, nije mi bitno. Vrlo sam moderan.

April: I'm not from Iran!
April: Nisam mješanac!

Douglas: Well, you said something along those lines.
Douglas: Pa, rekla si nešto u tom smislu.

April: No, not Iran, a man! I said I used to be a man!
April: Ne, ne mješanac! Rekla sam da sam nekad bila muškarac!

Douglas: You used to be a man...?
Douglas: Bila si muškarac?

April: Yes!
April: Da!

Douglas (holds her tightly): Oh, God!
Douglas (čvrsto je zagrli): O, Bože!

In the episode, Douglas expresses joy over having met April, a woman he grows to truly love. The audience knows that Douglas's character and intellectual abilities are subpar in many respects. In this example, humour arises because he failed to properly hear (and, maybe even comprehend) that April told him she used to be a man. This is thus an example of homonymy, where the similar sounding words *Iran* and *man* give rise to incongruity that is resolved when April (again) clarifies what she had said.

The translation into Bosnian uses replacement by the compensatory VEH. Since Bosnian is a gender-sensitive language, finding suitable replacements in countries/cities/villages that would (a) sound similar to the noun *muškarac* (man) and that would (b) resist the feminine declension proved highly demanding. That is why the choice was complete substitution, aiming for racial characteristics, which adds to the humorous content in translation because the expressions used are considered derogatory, especially *mješanac*, which means a person of mixed race. In that sense, in the Bosnian language, humorous content arises from the opposition of Douglas's "modernity" and ability to accept being in a relationship with a person of mixed race, but not with a woman who used to be a man, just as the case in English is that he is able to accept the possibility of being with someone from Iran, but not with a woman who used to be a man. The translation procedure entails the second of the three categories, *word play*, and the pair in opposition *mješanac/muškarac* can be considered homophonic.

A similar situation is seen in example (6), where again the second category, *wordplay*, appears as the source of humorous content.

(5) The Dinner Party (S2 E4)

Roy: Oh, Peter, I got that link for the Firefox extension you were asking about. What's your email address?
Roy: Ej, Petre, nabavio sam ti link za onu ekstenziju za Firefox što si tražio. Koja ti je mail adresa?

Peter: Do you have a pen and paper?
Peter: Imaš li olovku i papir?

Roy: No, I'm recording.
Roy: Ma ne, snimam.

Peter: It's aaa… filepeter@hotmail.com
Peter: Pa… filkopero@hotmail.com

Roy: Filepeter? Why filepeter?
Roy: Filkopero? Što filkopero?

Peter: Well, File is my second name.
Peter: Pa, Filko mi je prezime.

Roy: Oh, right. I see. Peter File.
Roy: Aaaa, shvatam. Pero Filko.

Moss: Who's a paedophile?
Moss: Ko je to pedofilko?

In this scene, the translator is faced with two options: one is to change the second element of incongruity, *paedophile*, or the first, i.e. the name of the character. The second option is *simpler* in the sense that changing/adjusting the name of the character does not entail changing the other element in the incongruous opposition, but adjusting to it. The noun *paedophile* is pronounced very similarly in many languages, hence the Bosnian audiences' exposure to the English pronunciation will sound familiar, meaning that they will look for the

complete correspondence of the noun in translation. Still, the noun itself was not translated into Bosnian in its standard nominative form, but the preferred equivalent was *pedofilko*, a diminutive form that stands in sharp contrast to the meaning of the word *pedofil*. Since this is a very extreme example, it should be emphasized that this scene is an instance of *dark humour*, which "relies on the deviation from values and the transgression of social norms and moral systems and as such relates closely to both sick and aggressive/hostile humor" (Aillaud and Piolat 2012, 212).

Clearly, the true challenge was to find a name that would resonate similarly to the focal noun. This proved a challenge in the Bosnian language, since the option of preserving the original name in English was a possibility, but would require phonetic transliteration, and we hold that translating in the target language should always be encouraged, when possible. In that sense, the last name Filko was used, present in Bosnia and Croatia, as well as the typical nickname for Peter in Bosnian – Pero. The resulting homophonic combination proved satisfactory in the target language, especially when contrasted to the diminutive form, and the process can be categorized as substitution in the TL (*pedofilko*) and compensatory VEH replacement (*Pero Filko*).

The following three examples will be jointly introduced, since they were the most challenging parts of the humour translation process. These are instances where the translation was a) partly omitted (example 6), b) conducted but most likely inaccurate (example 7), and c) not performed at all (example 8):

(6) Men Without Women (S2 E6)

Douglas: I like you, Jen. You don't ask questions. A lot of people would be confused as to why I invited them up here then asked them to leave, not you. A person's got to have a lot of backbone to allow herself to be ordered around like that. You've got spunk and balls, and I like that in a woman.

Douglas: Sviđaš mi se, Jen. Ne postavljaš pitanja. Mnogi bi bili zbunjeni kad bi ih pozvao ovdje i onda im rekao da odu, ali ne ti. Takva osoba mora da ima dosta kičme da joj se naređuje tek tako. Ti imaš muda, a to mi se sviđa kod žene.

The key opposition of scripts (Raskin, 1984; Attardo, 1994) in this example is in the sexual vs. non-sexual parameter, which entails biological traits of men that are in this case applied to a woman. As far as the categorization in

translation is concerned, this is another example of category 2: *wordplay*. The focal points are the nouns *spunk* and *balls*.

The noun phrase *balls* is used in both English and Bosnian to denote a courageous, determined person, hence it can be said that the translation was the result of substitution in the TL. Although characteristic of predominantly male persons, sometimes it can also be jokingly attributed to women. In that sense, it can be said that humorous equivalence was fully achieved in the Bosnian language.

However, the polysemic nature of the English noun *spunk* which is used informally to denote a) determination and courage and b) sperm makes it possible for the humour to be even more prominent. That is not the case with the translation, where the noun was omitted. Tomaszkiewicz (1993) writes about omission in translation and subtitling of films, emphasizing that some culture-specific terms are omitted. However, we are of the opinion that omission in this instance occurs at the semantic level, because of the polysemy that exists in the English but not in Bosnian. Still, the humorous effect was achieved in the translation because of the correspondence with the usage of one of the words Douglas uses in this scene.

In example (7), we are dealing with the register characteristic of the IT *community*. As is the case with the legal, medical and other professional registers, they can be fully understood by people who are professionals in the field. Here, however, that content is presented to a wide audience (in the case of this scene, to an unknown interlocutor Moss is talking to over the phone):

(7) Yesterday's Jam (S1 E1)

Moss (speaks on the phone): See, the driver hooks the function by patching the system call table, so it's not safe to unload it unless another thread's about to jump in and do its stuff, and you don't want to end up in the middle of invalid memory. Hello?
Moss (u slušalicu): Vidite, upravljački program povezuje funkcije tako što poziva funkcije u kernel, te ga nije sigurno ukloniti osim ako neka druga poveznica nije spremna uskočiti i obaviti posao, a ne želite završiti usred neispravne memorije. Halo?

Classification of the translation process in this instance would fall into category 3, *language variation*. Moss's mode of expression is incredibly technical and stands in sharp contrast to example (3), where he spoke Cockney. The translation process can entail looking for assistance online. Explanations can be found for all the phrases that occur in Moss's speech, but since there is a possibility that the translator does not truly understand the register, the fallacy of the translated text may occur. This is one of the reasons why it is important to insist that the translator is as acquainted with the register appearing in the text as possible. This is also a sign that CAT (computer-assisted translation) tools can be used in a support role only, not as a means to replace human translators.

Still, the humorous effect has been achieved in the translation as well, since the inability to understand what Moss is saying is actually what gives rise to the humour in this scene. The translation process would ideally contain substitution in TL (since the register is highly technical, so the presupposition is that correspondence in the TL would be high), but, in this case, it is difficult for the translator to categorize it as such. The most logical conclusion in this instance would be that it is a case of compensatory VEH replacement.

Finally, the last scene in the analysis is also the most difficult to translate and this example concerns the first category, *cultural references*:

(8) The Red Door (S1 E4)

Roy (singing): We don›t need no education.
Roy (pjevuši): We don't need no education.

Moss: Yes, you do. You›ve just used a double negative.
Moss: Treba ti. Upravo si upotrijebio dvostruku negaciju.

The position presented to students is that everything can be translated, including the song *Another Brick in the Wall* by Pink Floyd (1979), but in this case the preferred option was not to translate. One of the main reasons for this decision is that the song is culturally marked, in the sense that it is highly popular even today, and so replacing the lyrics would prove to be misguided. Moreover, translation would have to entail adjustments that would move the resulting text away from the English lyrics. The reason for this is that the

translator would have to find some item in the grammar of the Bosnian language that is frequently misunderstood/misused, and that would prove adequate in the translated lyrics. Such a process would mean translation using compensatory VEH replacement.

Moss's response (which is the humorous place, since he notices the grammar mistake in the English language and assigns it to Roy) has been translated, but the humorous effect in the Bosnian translation has not been achieved.

5 Conclusion

The goal of this paper was to present some challenges in the translation of humorous content from the British TV series *The IT Crowd* into Bosnian. The two main issues emphasized in relation to the process of translating humour were that students of translation studies should be familiar with the basic trends in humour research in linguistic and cultural studies, and that the translation of humorous content can be highly challenging even for more experienced translators, despite the seemingly superficial and familiar plot of the audio-visual material (this is one of the reasons why *The IT Crowd* was chosen as the corpus).

Regarding the first issue, experience has shown that although the majority of students at the Sarajevo English Department possess an adequate command of the English language and are acquainted with basic translation practices and different registers, they face considerable obstacles when translating humour. However, from the moment they are introduced to the basic humour theories in linguistics, their approach to the humorous text improves in the sense that they are able to detect not only the basic (and often, also, most difficult characteristic of humour translation) script opposition, but also other hidden humorous layers in the text that stem from implicatures, emotional exclamations, self-praise and mockery, etc.

Second, the analysis conducted for the purposes of this paper showed that the amount of effort necessary to recognize and translate the nuances that appear in the humorous content is truly challenging even for more experienced translators. Of course, a good translation is always highly appreciated but rarely overtly emphasized, and thus translators often live and work in the shadows of their own creation. Still, there is always a sense of satisfaction when the audience reacts to the text, in this case the humour that appears in the subtitles, in the same manner as the English-speaking audience.

In conclusion, it is important to again reflect on the link between translation studies and contrastive analysis. Although a solid translation analysis encompasses elements that go beyond the comparison of structures, from morphological to syntactic, contrastive analysis can be used for exploring certain aspects of translation. In that sense, this paper concerned the analysis of humour translatability, focusing primarily on the preservation of humorous content from the source language. Still, the analysis could have also included other aspects, such as adjusting the length of the sentence, translating onomatopoeic expressions, determining which elements could be omitted in the translation because of the subtitling constraints, etc. The same principles apply to translation studies programmes: contrastive analysis is a highly useful pedagogical tool if the instructor devotes attention to one or otherwise a very limited set of topics to be covered in class.

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The Role of Verbs and Adverbs in Structuring Fictive Motion in English and Slovene

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Abstract

Languages most naturally describe stationary scenes by means of constructions whose basic reference is motion (e.g., *High mountains plunge into glittering lakes*). The motion verb in a fictive motion (FM) sentence does not express actual motion but may refer to some physical property of the subject entity by virtue of its meaning. Similarly, an adverb of manner utilized by an FM sentence cannot express the manner of motion but necessarily refers to some correlated property of the subject entity. The paper studies the role of vertical and irregular motion verbs and manner adverbials in English and Slovene FM expressions. Their FM uses are examined and compared on the basis of sentences extracted from corpora. The results show that the two languages differ slightly in the mapping potential of verbs, which is due to the fact that Slovene verbs display less specific meanings than English ones. As for adverbs, the correlations between their manner-related meanings and the properties of stationary entities are equally represented in both languages.

Key words: fictive motion, manner of motion, manner adverbs, motion verbs, English-Slovene analysis

1 Introduction

When observing a visual scene, the observer may construe their thoughts in different ways. One such construal is perceiving immobile objects as if they were in motion. For example, when one looks out of the window of a moving train, the mountains in the distance appear to be travelling. The effect is observer-based and depends on what has been chosen as the frame of reference: relative to the observer, it is the outside objects that appear to be moving rather than the observer and the train. An even more interesting phenomenon is situations where no moving object is involved. For example, uttering the sentence *High mountains plunge into glittering lakes* does not depend on the mobility of the observer or any other object. However, the motion verb in the sentence signals that the scene has been construed in terms of motion. The verb is often accompanied by a manner-of-motion adverbial, a combination further supporting the type of construal known as "fictive motion".

The paper presents a corpus-based study on the use of motion verbs and manner adverbs in fictive motion expressions in English and Slovene. The study begins in section 3. Sections 1 and 2 focus on the theoretical aspects of fictive motion and its linguistic manifestation.

The sentences in (1) below express actual motion (AM): each describes a dynamic scene with a moving object that travels along its path in order to get from one point in space to another.

(1)[1]

a. The roller coaster climbs 91 feet and reaches speeds of 45 miles an hour.
b. The coach driver weaves his way through washed-out bits of road.

The verb *climb* encodes upward vertical motion and the verb *weave* irregular[2] motion, i.e., motion that involves many turns and changes of direction. The following example employs the same pair of motion verbs; nevertheless, no actual motion is involved: neither the path nor the highway moves in space-time.

(2)

a. The path climbs high into the hills.
b. The old highway weaved its way through Tucson.

1 Unless stated otherwise, the example sentences in sections 1 and 2 are taken from the following dictionaries: CALD (3a, 4a, 4c, 6a), LDCE (1a, 1b, 2a, 2b, 4b), MED (3c, 6b, 9a, 9b, 10a), OALD (3b, 5, 7a, 8a).

2 Following Waliński (2018), who speaks of "verbs of irregular motion".

The path and the highway above are likely to be occupied by actual travellers, but the verbs *climb* and *weave* do not apply to those either. Despite featuring a motion verb in the predicator, this type of sentence focuses largely on stationariness and the motion-independent properties of the subject entity. It *does* evoke an image of something in motion, but that motion is purely fictive.

The sentences in (2) are linguistic manifestations of fictive motion (FM) – a construal of a stationary scene in terms of motion. Talmy (2000, 100f) speaks of discrepancy between a "more veridical", "factive" representation involving stationariness and a "less veridical", "fictive" representation involving motion. An elegant explanation for the possibility of conveying stationariness and motion at the same time is offered by conceptual blending (cf. Fauconnier 1994, 1997; Fauconnier and Turner 2002): the immobility space and the motion space get conceptually integrated into a new space, with the stationary entity from the immobility space and the path from the motion space projected onto a single element in the blended space (e.g., the highway in (2b) emerges as the path of some fictively moving entity). Fictive motion is also interpreted as involving conceptual metaphor, whereby the stationary entity from a fictive motion event, the (more abstract) target domain, is conceptualized as the moving entity in an actual motion event, the (more concrete) source domain (cf. Jiménez Martínez–Losa 2007).

Fictive motion is experienced subjectively and involves "mentally simulated motion" (Matlock 2004a, 2004b). The conceptualizer mentally simulates travelling along the path or scans through the scene, tracing a "mental path" (Langacker 2000, 6) over the extent of the depicted object. Mental scanning is similar to visual scanning in this respect: in either case, some abstract entity (i.e., one's gaze or focus of attention) travels along the object's extent. A conceptualization in terms of travel along a path is essential not only to actual motion but also to fictive motion. Compare:

(3)

a. The balloon rose gently up into the air.
b. She rose to her feet.
c. The dark tower of the church rose above the bare trees.

In (3a), the conceptualizer (the same for the observer) traces the path travelled by the balloon moving from a lower to a higher position in the air. In (3b), the conceptualizer traces the path travelled by some point on the person's body

that moves from a lower to a higher position when the person rises. In FM sentence (3c), the conceptualizer traces the path of an imaginary entity moving from a lower to a higher position along the tower's extent. The conceptualization of the path in (3c) is in fact similar to that in (3b), in that the path runs along the extent of the subject entity itself.

Psycholinguistic experiments have shown that FM sentences activate the motor regions in the brain (Cacciari et al. 2011) and that the processing of fictive motion takes more time than that of actual motion, which serves as evidence for additional mental simulation (e.g., Matlock 2004a; Matlock and Richardson 2004; Tomczak and Ewert 2015). Such mental simulation may involve an imaginary traveller, sequential scanning or movement of the depicted entity itself. Which type is actually involved in the processing of a given sentence depends on several factors, for example on whether the entity representing (or coextending with) the mental path is travelable by humans or not (Rojo and Valenzuela 2010).

Blomberg and Zlatev (2014, 2015) reinterpret mentally simulated fictive motion as "non-actual" motion. They argue for experiential motivations for the use of non-actual motion constructions, namely enactive perception, visual scanning and imagination of motion. It is exactly such experiential motivations that account for the universality of FM expressions (cf. Stošić et al. (2015)).

The final observation to be made in this section is that mental simulation of motion does not necessarily depend on an actual motion verb. As pointed out by Ruppenhofer (2006, 310), not all FM expressions employ motion verbs; moreover, there are non-motion verbs that occur specifically in FM expressions (e.g., *jut*, *taper*). The sentences below each invite a conceptualization in terms of an abstract entity travelling along an imaginary path. The subject of the sentence represents the path itself in (4a), its starting point in (4b) and its endpoint in (4c):

(4)

a. The cave tapered to a narrow passageway.
b. The path led down to a small lake.
c. The library is just across the road.

2 The structure of FM sentences

A typical FM expression represents a "coextension path", which is defined by Talmy (2000, 138) as a "depiction of form, orientation, or location of a spatially extended object in terms of a path over the object's extent".[3] The depicted entity is not necessarily linear or long, but must be at least conceptually extendable (Matlock 2004b, 7). It can be conceptualized in terms of linear and horizontal extension (e.g., roads) or vertical extension (e.g., mountains). As pointed out by Egorova et al. (2018, 14), there are also objects (e.g., mountain ridges) that allow both conceptualizations.

Syntactically, the spatially extended entity appears as the subject of the sentence. The predicator contains a motion verb and is usually followed by (an) adverbial adjunct(s) of direction or manner. For example:

(5) The path climbed steeply upwards.

The linguistic pattern of (5) equals that of an AM sentence, and it is exactly the pattern of a motion verb accompanied by manner and directional adverbials that is largely responsible for the construal in terms of motion. This accords with Bloomberg and Zlatev's (2015, 156) observation that the motivations for fictive motion interact with "language-specific conventions for expressing actual motion".

Nevertheless, the fictive representation supported by the AM pattern is inconsistent with the physical facts. As the verb in (5) does not (factively) express motion, the two adverbials cannot (factively) express the direction or manner of motion. The upward-motion components of *climb* and *upwards* apply to the path's orientation, and *steeply* expresses the manner in which the path is positioned on the slope, ultimately referring to its gradient. It follows that each component is mapped onto a motion-independent property of the subject entity.

If the role of directional adverbials is very straightforward (with direction and orientation representing dynamic–static counterparts), the role of manner adverbials in fictive motion is much more interesting to investigate. In fictive representations, they are *felt like* manner-of-motion adverbials although,

3 Talmy classifies FM expressions into "paths", a manifestation of the fact that the subject entity represents the path or a segment/point on the path undergoing mental scanning. For example, in an "access path" exemplified by sentence (4c) in section 1, the subject entity is identified as the path's endpoint.

paradoxically, many of them cannot express the manner of actual motion. Compare:

(6)

a. The path descends *slowly* to the valley below.
b. They began *slowly* ascending the rock face.

(7)

a. The path climbed *steeply* upwards. (= 5)
b. ??? The hikers climbed *steeply* upwards.[4]

(8)

a. The road twists *tortuously* through the scenic coastal mountain range.
b. ??? The car wound its way *tortuously* through the scenic coastal mountain range.

Moreover, these adverbials also do not relate to the process of mental tracing on the part of the conceptualizer. If it is, perhaps, possible to establish a connection between *slowly* in (6a) and the speed with which some imaginary entity travels along the path in a mentally simulated motion, no such explanation is applicable to (7a) and (8a): an imaginary traveller or one's focus of attention cannot move "steeply" or "tortuously".

Similarly, the motion verb utilized by an FM sentence may not be acceptable in an AM sentence whose subject refers to a concrete traveller. If (9b) below is perfectly fine in this respect, (10b) sounds weird because it yields a different interpretation: it creates the image of hikers "twisting and turning" in the way people twist and turn in their sleep, for example. Last but not least, an imaginary traveller or one's focus of attention cannot "twist and turn" up their path either.

(9)

a. The path *wound* along the riverside.
b. We *wound* through the narrow streets of the village.

(10)

a. The path *twists and turns* up the mountainside.
b. ??? The hikers *twisted and turned* up the hill.

4 (7b), (8b) and (10b) are the author's adaptations of the sentences under (a) for the sake of illustration.

A common denominator of motion verbs and manner adverbials in FM expressions is that their meanings contain components that are mappable onto the properties of stationary subject entities. Such mappings are perceived as metonymic: some aspect of the manner of motion *stands for* some aspect of the subject entity (cf. Matlock 2004b, 11ff.).

This is perfectly in line with the definition of coextension paths provided at the beginning of this section, as well as with the following two conditions proposed by Matsumoto (1996):

a. *The path condition:* Some property of the path of motion must be expressed.
b. *The manner condition:* No property of the manner of motion can be expressed unless it is used to represent some correlated property of the path.

(Matsumoto 1996, 194)

Waliński (2015, 98) proposes a third condition, which precludes any instrument-of-motion component unless it correlates with some property of the path. Nevertheless, Waliński's instrument condition is already contained in Matsumoto's manner condition as it is possible to perceive instrument-of-motion as a dimension of manner.

The conditions are illustrated by (11) and (12) below (adapted from Matsumoto 1996, 194; Waliński 2015, 90). The verb *ascend* in (11a) relates to the road's vertical orientation and the verb *weave* in (12a) to its numerous curves and bends. Sentence (11b) is unacceptable since *run* does not relate to any property of the road whereas (11c) is saved by the adverbial *straight* relating to the road's shape. Both sentences represented by (12b) are unacceptable, since neither the manner-of-motion component of *walk* nor the instrument-of-motion component of *drive* is mappable onto a property of the road.

(11)

a. The road began to *ascend*.
b. *The road began to *run*.
c. The road began to *run straight*.

(12)

a. The road *wanders* through the park.
b. *The road *walks/drives* through the park.

It follows from the discussion that the conflation of motion and manner observed in FM sentences produces a twofold effect: it triggers a construal of a stationary scene in terms of motion and at the same time foregrounds some motion-independent property of the fictively moving entity.

Matsumoto's (1996) study on English and Japanese FM expressions shows that the path and manner conditions are equally applicable to both languages. The findings also present two major differences (Matsumoto 1996, 204–17). The first one precludes stative uses of motion verbs in Japanese FM expressions, although it is pointed out in the paper that the restriction is part of the general difference between the two languages and holds for actual motion as well. The second difference pertains to the types of subjects that can appear in FM sentences. In Japanese, in contrast to English, non-travelable entities like fences, wires, etc. do not readily appear in fictive motion. Those that can be found are used with much fewer verbs than travelable entities. It follows that structuring fictive motion in Japanese is largely restricted to subject entities that are compatible with "concreteness of motion".

Drawing upon Matsumoto's work, Rojo and Valenzuela (2003, 2010) analyse FM expressions in Spanish and identify the same similarities and differences between English and Spanish. They gather data on the basis of experimental tasks (2003, 2010) and translations from English into Spanish (2003). As for the latter, they report informational differences between translating actual motion and fictive motion. The question of translational equivalence is also addressed by Stošić and Sarda (2009), who argue that translating fictive motion changes the conceptualization of the scene.

Experimental crosslinguistic studies on fictive motion include Blomberg and Zlatev's (2015) study dealing with Swedish, Thai and French speakers, and Stošić et al.'s (2015) study on expressing static configurations in French, Italian, German and Serbian. Part of this study is corpus-based and includes English and Polish. It shows low frequencies of FM expressions across languages, but a higher frequency in translation for some types. A study by Tomczak and Ewert (2015) deals with representing fictive motion by Polish L2 users of English.

Based on the above observations, in particular those pertaining to the role of manner in fictive motion, a short contrastive study has been conducted on the FM uses of verbs and adverbs in English and Slovene. A conceptualization of stationariness in terms of motion is a universal phenomenon. Nevertheless, languages differ in the extent to which individual types of stationary scenes

invite this kind of conceptualization. Moreover, the linguistic realization of fictive motion varies across languages with regard to the forms and structures utilized by FM expressions.

3 The aim of the study and methodology

The aim of the study was to examine the use of motion verbs and manner adverbials in English and Slovene FM expressions from the point of view of their role in structuring fictive motion. The study was based on a qualitative analysis of FM expressions extracted from the British Web (ukWaC) and the Slovenian Reference Corpus (Gigafida 2.0) with the help of the Sketch Engine corpus tool. It was restricted to (i) verbs encoding vertical motion and irregular motion, and (ii) manner adverbials (i.e., adjuncts of manner) realized by adverbs (adverbial phrases). Vertical motion verbs were selected in order to be able to include entities of vertical extension in the study. It should be pointed out that the function of a single manner adverbial in FM may depend on whether the motion is horizontal or vertical, so it was vital to include both extensions. Irregular motion verbs were selected because their meanings largely refer to the geometric properties of subject entities in FM, so they were expected to combine with different types of manner adverbials in order to further describe these properties. As for the manner adverbials, adverbs were selected as the most straightforward carriers of manner-related meanings.

The first part of the analysis focused on verbs. The procedure was as follows:

1. As a starting point, the following land-feature terms were selected that are commonly found as subjects of FM sentences: *mountain/gora*, *hill/hrib*, *slope/pobočje* (conceptualized in terms of vertical extension), *road/cesta*, *path/pot*, *trail/steza* (conceptualized in terms of horizontal extension), and *ridge/greben* (allowing both conceptualizations).
2. The corpora were queried for verb collocates of the selected nouns.
3. The lists of collocates were examined manually in order to extract any verbs encoding vertical or irregular motion.
4. The extracted verbs were classified according to the type of motion they encode. The data are presented in the Results section.

The second part of the analysis focused on adverbs. The procedure was as follows:

1. The corpora were first queried for subject collocates of the vertical motion and irregular motion verbs generated above.
2. The lists of collocates were examined manually in order to extract any potential subjects of FM sentences. (This expanded the inventory of subject nouns from the first part.)
3. All corresponding FM sentences were searched manually for adverbs in the function of manner adverbials.
4. The extracted adverbs were classified according to the type of motion (vertical, irregular) and meaning. The data are presented in the Results section.

The obtained data were analysed with regard to the following question: Are there any differences in the ways verbs and adverbs in English and Slovene FM expressions contribute to the conceptualization of stationary entities?

4 Results

The data obtained from the corpora are presented in the tables below. The analysis and discussion follow in the next section.

Table 1. Vertical motion verbs and irregular motion verbs in fictive motion.

	ENGLISH	**SLOVENE**
UP	ascend, rise soar, climb	dvigati/dvigovati/dvigniti se vzpenjati/vzpeti se povzpeti se
DOWN	descend, fall dip, drop plunge, sink, tumble	spuščati/spustiti se padati
UP-DOWN	undulate	valoviti
Irregular Motion	meander, wind, weave snake, twist, zigzag	viti se, vijugati (se) cikcakati

Table 2. Adverbs in fictive motion occurring with vertical motion verbs.

	ENGLISH	**SLOVENE**
Speed and duration		
High speed	briskly, quickly, rapidly, smartly, swiftly	naglo, hitro
Low speed	slowly	počasi
Duration and frequency	briefly, continuously, repeatedly, once more, yet again	večinoma, nenehno, neprestano, ponovno, vseskozi
Suddenness	abruptly, immediately, instantly, precipitately, suddenly, unexpectedly	nenadoma, nepričakovano
Degree and intensity		
High	considerably, drastically, noticeably, significantly, relentlessly, resolutely	pretirano, preveč, vztrajno
Low	easily, gently, gradually, steadily, slightly, a little, a bit more, a little more	malo, malce, nekoliko, minimalno, polagoma, postopno, postopoma, zmerno, neopazno, rahlo, zlagoma, blago, enakomerno
Geometry		
Altitude	high, higher and higher, even higher, up and up	visoko
Gradient	sharply, steeply	strmo, položno
Shape	spirally, uniformly	stopničasto, polžasto, rogato, vijugasto, odrezano
Direction	diagonally, vertically	diagonalno, navpično, vodoravno, prečno, navpik
Style	dramatically, grandly, majestically, menacingly, aggressively	veličastno, ponosno, dramatično, mogočno, neizrazito, zlovešče, prelepo, izzivalno, divje

Table 3. Adverbs in fictive motion occurring with irregular motion verbs.

	ENGLISH	SLOVENE
Speed and duration		
High speed	--	--
Low speed	languidly, lazily, slowly	počasi
Duration and frequency	endlessly	večinoma, neprestano, nenehno
Degree and intensity		
High	increasingly, relentlessly, so much	pretirano, preveč, vztrajno
Low	slightly, gently, steadily, a bit, a little, somewhat	rahlo, blago, nežno, zlagoma, zložno
Geometry		
Shape	intricately, tightly, tortuously, widely	ovinkasto, vijugasto, zavito, cikcakasto, kačasto, drobno
Direction	up and down, up and up and up	vodoravno, navzgor in navzdol
Gradient	steeply	strmo, položno, pokončno
Style	delightfully, entertainingly, erratically, invitingly, pleasantly, seductively; aimlessly, endlessly, helplessly, uncertainly; precariously, remorselessly, viciously, wildly	zasanjano, atraktivno, prijetno, lagodno, drzno, spretno, lahkotno

5 Analysis and discussion

5.1 Verbs

The data show some differences in the number of verbs utilized by FM expressions in the two languages. The Slovene inventory is notably smaller for downward and irregular motion. This is largely due to the fact that many English verbs simply do not find distinct counterparts in Slovene and share an equivalent with a relatively general meaning. As for the upward motion, the Slovene inventory seems larger due to lexical aspectual variants of verbs.

When used as actual motion verbs, all these verbs express the direction of motion: up, down, alternately up and down (while at the same time moving forward), or in an "irregular" pattern that involves constant changes of direction. In fictive motion, the direction-of-motion component gets mapped onto a property of a stationary entity: the vertical-motion component correlates with its vertical orientation, height or elevation, and the irregular motion component with its shape.

Of more interest are those verbs whose lexical meanings contain an additional component pertaining to the manner of motion. The analysis has identified six verbs whose directional meanings are complemented by speed components. The vertical motion verbs *soar*, *plunge* and *tumble* display high speed components that can be mapped onto properties such as steepness, height and elevation. The irregular motion verb *weave*, together with its Slovene counterpart *vijugati*, also displays a high-speed component, but this component is now mapped onto the numerous sharp bends characterizing the shape of a linear feature such as a road, for example. Conversely, *meander* displays a low speed component correlating with wide bends.

A comparison between English and Slovene shows that Slovene FM sentences utilize verbs with more general meanings, largely lacking additional components that could play a role in the conceptualization of stationary scenes. It follows that properties correlating with speed must be expressed by other means in Slovene, in particular by adverbials.

A point that deserves some attention is the role of aspect in fictive motion. Only five occurrences of the progressive form were identified in the English FM sentences, which is perfectly in line with the fact that FM expressions, their fictive effect notwithstanding, depict stationary objects:

(13)[5]

a. We were picked up from the airport by the taxi sent by the school and in the darkness we began to realize the road *was ascending* steeply.
b. The path *is climbing* significantly now. The brooding north face of Great End looms at the head of the valley.
c. Highclere castle is on the horizon to your right and your road *is descending aggressively to the left.*
d. More boardwalk follows, then the path *is weaving and undulating* pleasantly close to the river itself.

5 All examples in section 5 are taken from the British Web and the Slovenian Reference Corpus.

The progressive forms above can be explained on the basis of a "local path/frame" characterized by a moving observer with a local scope of attention (cf. Matsumoto 1996; Talmy 2000). Talmy identifies a set of conceptual features whose values determine the type of FM construal, the principal ones being the following: +/- factiveness of the fictively moving entity, +/- obligatoriness of factive motion and +/- observer-based fictive effect (Talmy 2000, 105). The fictive effect in (13) is likely to depend on the last-mentioned feature: it is possible to argue for a factively moving observer (a traveller) whose immediate field of view constantly changes. This triggers the observer's perception of the road/path as an object in motion, which accords with the use of the progressive form.

The analysis of the sentences extracted from the Slovene corpus has shown that besides the imperfective aspect as the default variant for expressing stationariness, the perfective aspect is found in fictive motion as well: perfective verbs of vertical motion are used to express a change in gradient or elevation at a specific point, which is further indicated in the sentence by a space or time adverbial (14a–c), a manner adverbial expressing suddenness (14d–e), or a superlative (14f).

(14)

a. Od tam *se* pot precej *spusti*.
'From there, the path descends quite a bit.' (English translation)

b. Mestoma *se* cesta *spusti* vse do reke.
'In places, the road descends all the way to the river.'

c. Zdaj *se* pot strmo *vzpne*.
'Now the road climbs steeply.'

d. Cesta *se* je nenadoma *vzpela*.
'The road suddenly climbed up the hill.'

e. Pokrajina *se* v tem delu nepričakovano *dvigne*.
'The landscape rises unexpectedly in this part.'

f. Najvišje se to gorsko sleme *dvigne* na vrhu Storžiča.
'This mountain ridge rises highest at the top of Storžič.'

5.2 Adverbs

The adverbs extracted from the corpora were classified into four categories: (i) speed and duration (comprising speed, duration, repetition and suddenness), (ii) degree and intensity, (iii) geometry (comprising gradient, shape, direction and elevation) and (iv) style.

The data presented in section 4 point at a few differences in the number of adverbs per category (degree and intensity adverbs with vertical motion, style adverbs, shape adverbs). The only one that is relevant to the discussion – in terms of affecting the category's potential of expressing certain properties – is style adverbs. With verbs encoding irregular motion, the English list of style adverbs is notably longer since it includes adverbs with rather negative meanings (e.g., *aimlessly*, *viciously*) whereas no such adverb can be found among the Slovene ones.

No high speed adverbs occur in the analysed sentences with verbs encoding irregular motion, so the correlated property of the path shape must be expressed by other means, most likely by prepositional phrases with complement noun phrases referring to the details of the shape (e.g., *in sharp curves*). As for shape adverbs, Slovene uses several adverbs derived from adjectives that are derived from nouns denoting shapes (e.g., *vijuga* 'curve', *polž* 'snail'), which explains the difference in number mentioned above. With adverbs pertaining to elevation, a few expressive coordination structures (cf. Quirk et al. 1985, 980f.) were found in the English FM sentences (e.g., *higher and higher*). They convey the idea of continuation and "endlessness", in which respect they are similar to degree and intensity adverbs.

The analysis of the data shows that English and Slovene rely on the same types of mappings when structuring fictive motion. The following correlations have been identified for the first three categories: speed → gradient, shape (e.g., the land rises *rapidly;* the road winds *slowly*); duration and repetition → endlessness (e.g., the road climbs *continuously*); suddenness → change in elevation, contrast in size or gradient (e.g., the track descends *suddenly*; the peaks rise *abruptly* from the water's edge); degree and intensity → gradient, shape, endlessness (e.g., the ground drops away *noticeably*; the path meanders *gently*; the road climbs *relentlessly*); geometry → gradient, shape, orientation (e.g., the hills rise *steeply*; the track zigzagged *tightly*; the path drops *diagonally*).

The above correlations are very straightforward and require no detailed discussion. Much more interesting in this respect are style adverbs, whose

interpretation in fictive motion is based on more complex correlations. This category represents the most varied group, with a number of adverbs extracted from the corpora, however only four were identified as English-Slovene counterparts: *dramatically/dramatično, grandly/mogočno, majestically/veličastno, pleasantly/prijetno*. The meanings of a few adverbs presented a problem for classification. Examples of such borderline cases are *gently/nežno*, *relentlessly*, *resolutely, vztrajno* ('persistently') and *blago* ('mildly'), which were put in the degree and intensity category.

Style adverbs in FM expressions vary from those whose meanings refer to the subject entity directly (e.g., the mountain peaks rise *majestically*) to those whose interpretation relies on less transparent correlations (e.g., the road winds *helplessly*). The following correlations have been identified as typical:

(i) Style → impressiveness, importance → size/height

(15)

a. V daljavi se *veličastno* dvigajo vrhovi Alp.
'In the distance, the Alpine peaks rise majestically.'

b. Med vsemi vrhovi se je *ponosno* dvigal najvišji slovenski vrh Triglav.
'Slovenia's highest peak Triglav rose proudly above the mountains.'

The adverb *grandly* evokes the image of impressiveness – a property that is typically associated with great size. *Proudly* in (b) evokes the idea of an achievement, which in turn evokes the idea of importance – a property that is easily associated with great size/height.

(ii) Style → violence, danger → size/height, gradient, shape

(16)

a. Rumena stena se *zlovešče* dviga v podeče megle.
The yellow wall rises ominously into the drifting mist.'
b. Your road is descending *aggressively* to the left.
c. The path zigzagged *viciously* up and down through some of the most dramatic and beautiful scenery I've seen for ages.

The meanings of the above adverbs evoke the idea of violence or danger – properties that are easily associated with great size/height, a sudden change in elevation or shape.

(iii) Style → general appearance → shape

(17)

a. The lanes meandered *delightfully* between fields and hedgerows.

b. Olimpijska kolesarska stezav Riu se *atraktivno* vije ob atlantski obali.
'Rio's Olympic cycling track winds attractively along the Atlantic coast.'

Both adverbs refer to the attractive appearance of the lanes/the route. Because of the irregular motion verb in the predicator, the attractiveness has to be related to shape although the context suggests that the location also plays a role.

(iv) Style → difficulty of travel, orientation → shape, terrain

(18)

a. Pot se večinoma *lagodno* vije prek odprtih travnatih planot.
'The route meanders leisurely across open grassy plateaus.'

b. The route meanders *aimlessly* for hours.

The adverb in (18a) evokes the idea of a leisurely hike and the adverb in (18b) lack of orientation. The path in (18a) is accordingly conceptualized in terms of easy terrain and wide bends, and the route in (18b) in terms of a fairly irregular shape with no general direction.

The list of above correspondences is far from exhaustive because many adverbs are used with metaphorical meanings, or personification is involved. For example:

(19)

a. Smaller, picturesque roads also meander *invitingly* inland to extinct volcanoes.

d. Majhna cesta se *zasanjano* vije skozi gozd.
'A small road winds dreamily through the forest.'

c. Ozka pot se *spretno* vije naprej.
'A narrow path meanders deftly forward.'

A detailed analysis of such correlations is beyond the scope of this study. The common denominator of all these sentences is that the adverb's meaning evokes an idea that can *in some way* be mapped onto a property of the subject. The connection is made by contingency or mere association, which is typical

of metonymy (cf. Barcelona 2011, Langacker 2000, Panther and Thornburg 2005, Radden and Kövecses 1999).

6 Conclusion

English and Slovene display similar behaviours in the use of verbs and adverbs in FM expressions. The few differences that have been identified are due to the lexicon or some other differences between the two language systems, and do not depend on fictive motion. With regard to the verbs, the languages differ in that the Slovene verbs, in particular those encoding vertical motion, lack more specific manner components that could correlate with some property of the subject entity. As for the adverbs, no such differences have been identified. The same types of adverbs are used in both languages, and their role in structuring fictive motion is the same. The correlations between the individual aspects of manner and the individual properties of stationary entities are systematic and are equally represented in both languages. The study has some implications for future research, which could examine the role of aspect in fictive motion and the metonymic potential of style adverbs.

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Negated Biased Questions in English and Their Equivalents in Macedonian

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Abstract

In this paper we present the results of our analysis of English biased questions with negation (*Isn't Ivan at home?*) and their Macedonian equivalents. English negated questions have different readings depending on their discourse goals: (a) the "outer" questions verify the truth of the proposition encoded in the question, (b) the "inner" express speaker disbelief and reluctance to accept the contextual counter evidence. The two readings are disambiguated by several Macedonian translational equivalents: negated questions with the negation particle *ne* 'not' (*Ne e Ivan doma*?), questions introduced with the interrogative particles *neli* (*Neli e Ivan doma?*) and *zar/em* (*Zar Ivan ne e doma*?). *Neli*-questions assert the truth of the propositional content, while *zar*-questions challenge the truth of *p*. The analysis shows that the choice of an appropriate translation equivalent is determined by the discourse function of the biased question and the interplay of prior speaker belief and current contextual evidence.

Key words: polar questions, epistemic bias, negation, context, speech acts, English-Macedonian analysis

1 Introduction

In this paper we compare English polar questions that contain negation with their translational equivalents in Macedonian, a south Slavic language. We consider both negated polar questions in which the negation is attached to the fronted operator (*Isn't Bob at home*?) and those in which the negation is not fronted (*Is Bob not at home?*).

Polar questions (PQs) ask the interlocutor to confirm the truth of the proposition encoded in the question by providing either a positive or a negative response. There is a difference between positive and negated polar questions (Quirk et al. 1985; Büring and Gunlogson 2000; Huddleston and Pullum 2002; AnderBois 2019, among others). It is generally accepted that positive polar questions (PPQs) are neutral as to what answer is expected (1). Therefore, they are simple speech acts functioning as requests.

(1) Has Peter arrived?

Cross-linguistically, polar questions may be realized by prosodic and grammatical means. English makes use of marked intonation (High-Low) and specialized interrogative syntax involving obligatory subject-operator inversion. The operator is recruited from auxiliary verbs (*do, be, have*), modal verbs (*will, would, can, could, should, must etc*) and the copula *be*.

Polar questions in standard Macedonian are also marked by intonation, while other means such as word order changes and use of the focus particle *li* are not obligatory (2a).[1] The sentence-initial question particle *dali* (2b) can also be used in more formal registers (Lazarova-Nikovska 2003, 137).

(2) a. Dojde **li** Petar?
come-AOR.3SG Q Peter

b. **Dali** dojde Petar?
Q come-AOR.3SG Peter
'Has Peter arrived?'

Negated polar questions (NPQs) ask for confirmation of the speaker's belief in the truth of the proposition. The speaker holds a prior belief and has knowledge of the speech situation which allows her to presuppose the answer to the posed question, so "the speaker is predisposed to accept one particular answer as the right one" (Huddleston and Pullum 2002, 828). This creates

1 Examples 2 – 8 are provided by the authors.

bias towards one of the poles on the epistemic scale, reflected in the form and prosody of the question. The accepted view in the literature is that "[n]egative interrogatives are normally used to ask biased rather than neutral questions" (Quirk et al. 1985, 808), which means that they usually indicate "the questioner's predisposition to think that one or other answer is the right one" (Huddleston and Pullum 2002, 879). Thus, NPQs have different conversational goals from PPQs. The main communicative goal of such "biased" questions is to get confirmation of the expected answer so that this information becomes part of common ground. In (3), relying on knowledge shared with the interlocutor(s) (e.g., speaker comes home and does not see Peter whom she expected to be there), the speaker believes that a negative answer is more likely, though her prior belief was most probably positive.

(3) **Hasn't** Peter arrived?

Depending on the position of the negation marker, English formally distinguishes two types of negated polar questions: high and low. The former type (3) contains the preposed contracted negation fused with an operator "into one grammatical word" (Quirk et al. 1985, 809) in the presubject position. In low negation questions (4) the negation marker remains in the postsubject position, detached from the inverted operator. The negation scopes over the predicate.

(4) Has Peter **not** arrived?

It has been suggested in the literature on English NPQs that these two types of questions differ semantically and pragmatically (e.g., Vavassori 2001; Romero and Han 2004; AnderBois 2019). However, Quirk et al. (1985, 809) point out register considerations in their distribution: the high negation type is preferred in spoken English, while low negation questions are considered rather formal.

In Macedonian, both types of negated polar questions may be rendered by a negated question with the focused preverbal marker of negation (5). Strong bias is conveyed with negative questions headed by the question particle *neli* or *zar*[2] depending on the speaker's communicative intent and contextual factors. They will be referred to as *ne*-, *neli*- and *zar*-questions. The examples below indicate that they have different communicative functions: the *neli*-question, similar to tag-questions, is used to elicit addressee's agreement about the truth of the proposition, while the *zar*-question expresses failed expectation and surprise. The accent falls on the negation marker *ne*.

2 This particle is also encountered in the longer form *zarem*, but the difference between the two seems to be of stylistic nature, which is beyond the topic of this paper.

(5)	**Ne**	dojde	(li)	Petar?
	NEG	come-AOR.3SG	Q	Peter
(6)	Neli	dojde	Petar?	
	Q	come-AOR.3SG	Peter	
(7)	Zar	**ne**	dojde	Petar?
	Q	NEG	come-AOR.3SG	Peter
	'**Hasn't** Peter arrived?'			

Bias is also expressed in so-called declarative questions (8) without interrogative syntax, both in English and Macedonian. These intonationally marked questions are excluded from the analysis.

(8)	Peter	has	already	arrived?
	Petar	veḱe	došol?	
	Peter	already	come-PRF.3SG	

In the following constructed dialogue the same biased question (as a reaction to the prejacent statement) has several Macedonian translational equivalents (stressed words are bolded). Depending on the context, the structures foreground different discourse goals: *neli* in (9) highlights speaker's prior knowledge of the interlocutor's affection for cats, while *ne* and *zar* stress that speaker belief is contradicted.

(9)	A:	These stray cats get on my nerves.				
		'Me nerviraat uličnite mački.'				
	B1:	Don't you	**like**	cats?	You've	said many times you do.
		'Neli	**sakaš**	mački,	samata	kažuvaše.'
		Q	like-PRS.2SG	cats	yourself	say-IMPRF.2SG
		'Gi	sakaš,	neli?'		
		3PL.ACC.CL	like-PRS.2SG	Q		
		'You like them, don't you?'				
	B2:	Don't you	**like**	cats?	/	Do you **not** like cats?
		'Zar/Ne	sakaš	**mački**?'[3]		
		Q/NEG	like-PRS.2SG	cats		
		'Tolku	se	ubavi.'		
		so	be-PRS.3PL	cute.PL		
		'They are so pretty.'				

3 The symbol / in the glosses indicates that the translator provided both options.

The asymmetric form-function correlation of English NPQs poses difficulties for Macedonian translators in rendering this type of question into Macedonian. It can also be a problem for English-speaking learners of Macedonian as the choice of an appropriate structure depends on a situational context. In order to offer some practical solutions we decided to investigate the Macedonian translation equivalents of English NPQs used in different conversation contexts in some transcripts of a TV serial (*All My Children*). Our goal is to determine the factors that influence the interpretations of English NPQs and examine how they constrain the possible Macedonian translation equivalents in various situations. This will help to capture the similarities and differences between English NPQs and their Macedonian equivalent structures. We hope this analysis will shed light on the use of English negated polar questions in discourse with a special focus on the variety of pragmatic functions they perform. The results should contribute to a better understanding of English NPQs from a typological perspective and fill the void in the contrastive studies of this phenomenon.

The paper is structured as follows: the next two sections introduce the basic theoretical prerequisites used in our analysis and the methodology of investigation. Section 4 presents the distribution of translation equivalent choices which are further analysed in section 5. A brief conclusion then summarizes the relevant theoretical insights.

2 Theoretical considerations

2.1 Studies on English NPQ

English NPQs have been extensively discussed in view of their distinction from PPQs and their inherent ambiguity. It has been claimed that the distinctions between them are basically of a semantic nature (e.g., Romero and Han 2004; AnderBois 2019). However, there is a general consensus among researchers that the different polar question forms are not equally felicitous in all situations, which necessitates a contextually based approach to these questions (e.g., Quirk et al. 1984; Vavassori 2001; Huddleston and Pullum 2002; Hartung 2006; Reese 2007; Roelofsen, Venhuizen and Sassoon 2013; Domaneschi, Romero and Braun 2017, among others). As mentioned above, NPQs, like all biased questions, have a complex pragmatic structure. Reese (2007) argues that English negated polar questions, tag questions and questions with a strong polarity item represent complex speech act type ASSERTION

+ QUESTION. The double illocutionary force of such questions contributes to their various discourse functions as indirect speech acts.

The concept of *bias* in polar questions simply denotes "a belief or expectation that a particular answer to the question is the true one" (Reese 2007, 2). However, this notion is more complex. First, there are different types of bias (e.g., Huddleston and Pullum 2002, 880; Reese 2007, 83) depending on what the expected answer stems from: epistemic bias (the speaker's personal beliefs), deontic bias (social norms) and desiderative or bouletic bias (speaker's wishes). Second, it is not always simple to determine what produces the bias that characterizes the question and makes it appropriate for a particular situation: is it related to the structure of the clause (structural factors) or to the immediate and wider context (pragmatic factors)? Though we accept the fact that prosodic and syntactic structure influence the bias in NPQs, we believe that the appropriateness of their use in certain contexts depends on pragmatic factors. Following Reese (2007), along with Huddleston and Pullum (2002), we analyse NPQs in our sample as indirect speech acts.[4]

Furthermore, various factors can be involved in the creation of the bias that characterizes the question as a particular speech act. These factors have been identified and defined differently in the literature on NPQs. In our analysis we consider the following: the speaker's prior belief, contextual evidence and general knowledge the speaker believes is shared among the interlocutors (typical of rhetorical questions).

Bias in polar questions is often identified with the speaker's previous belief or expectations (presuppositions, according to Huddleston and Pullum 2002) regarding the truth of the proposition *p* expressed in the question. Romero and Han (2004) claim that the epistemic implicature in NPQs, that the speaker had a prior belief in the truth of *p*, functions as a logical operator VERUM. Previous beliefs and expectations can be combined with speaker's goals and desires, playing an important role in the pragmatic function of the question (AnderBois 2019, 7). It has been suggested that NPQs presuppose a positive speaker's belief (e.g., Hartung 2001, 10; Reese 2007, 80). However, the source of a speaker's prior belief has not been considered

4 Defined by Huddleston and Pullum (2002, 862) as questions in which "the propositional content actually expressed differs from that which the speaker intends to convey or questions in which the illocutionary force is different from that normally conveyed by the clause type concerned".

more extensively. Hartung (2007, 84) notes in a footnote that "Büring and Gunlogson (2000) differentiate between the belief of the speaker, which is based on general knowledge about the world and a belief, which is based on recently acquired knowledge".

The implied prior beliefs have to be compared to new information arising in the current discourse situation (contained in a prejacent or otherwise in the situational context), which may provide *compelling evidence* for or against *p*, or be neutral in that respect.[5] It has been shown that different combinations of original speaker bias and contextual evidence bias are linked to specific types of PQs (e.g., Vavassori 2001; Roelofsen, Venhuizen and Sassoon 2013; Domaneschi, Romero and Braun 2017). Regarding the English NPQs, the two formal types with a preposed *n't* and those with uninverted *not*, called high and low NPQs, respectively, have been claimed to reflect underlying semantic and pragmatic distinctions. High NPQs are considered to always express prior speaker bias, while low NPQs can also be used in a neutral context without such bias (Romero and Han 2004).

Romero and Han (2004) suggest that high negated questions are ambiguous between two interpretations, labelled as outer and inner negation. The distinction is conditioned on the interpretation of the scope of negation and contextual factors. In inner negation polar questions (INPQ) negation scopes over the proposition it encodes, while in outer negation polar questions (ONPQ) it scopes over the modal operator. The discussion focuses on the felicity conditions appropriate for each of the readings.

On the INPQ reading, the speaker requires confirmation for the new, contextual evidence for *not p* signalled by the presence of positive polarity items (10a), while ONPQs seek confirmation for *p* admitting negative polarity items (10b).[6]

(10) a. A: We have to go to the centre for lunch.
B: Isn't there *any* good restaurant around here? (INPQ, double-check *not p*)

b. A: I'm starving. Let's have lunch.
B: Yeah. Isn't there *some* good restaurant around here? (ONPQ, double-check *p*)

5 The concept of *compelling evidence* was suggested by Büring and Gunlogson (2000) and applied in Vavassori (2001), Reese (2007), AnderBois (2019), and others.

6 See Büring and Gunlogson (2000) and Domaneschi, Romero and Braun (2017), among others, for similar conclusions.

INPQs are felicitous in *contradiction scenarios* (a term from Romero and Han 2004, 36), in which contextual evidence contradicts speaker's presuppositions (Vavassory 2001; Büring and Gunlogson 2000; Roelofsen, Venhuizen and Sassoon 2013; Domaneschi, Romero and Braun 2017). Such questions have a complex bias source because the speaker's hope for a positive response is countered by new evidence causing emotional effects. In that respect, Quirk et al. (1984, 809) note: "Because the old expectation tends to be identified with the speaker's hopes or wishes, negatively orientated questions often express disappointment or annoyance."

ONPQs prefer contexts in which the conflict between the speaker's prior belief and contextual evidence is not highlighted, especially in so called *suggestion scenarios* (Romero and Han 2004, 36). In (10b) speaker B indirectly agrees with the previous statement via a suggestion that is based on an epistemic-deontic belief that there must be restaurants nearby. The examples above also show that the two question types depending on the context may have different conversational goals: apart from verifications, ONPQs are generally employed for suggestions and reminders, whereas INPQs often render reproaches and criticisms. The speaker's reluctance to accept the available compelling evidence that contradicts her prior belief manifests in disbelief, surprise, disapproval and indignation. In some contexts, these questions represent complex expressive speech acts conveying surprise-disapproval or admiration-approval depending on their propositional content. Therefore, the context[7] and speaker's conversational goals should be taken into account when interpreting the pragmatics of negated questions (cf. Van Rooij and Šafářová 2003).

2.2 NPQs in Macedonian

Macedonian polar questions, especially those with negation, have been severely understudied. Several studies of yes/no-questions that have come to our attention focus on form, word order in general or the placement of the question particle *li* and/or *dali* (Englund 1977; Rudin et al. 1999; Lazarova-Nikovska 2003), saying very little about the use of the interrogative variants. A more recent study by Jordanoska and Meertens (2018) examines the pragmatic effects of *li* in one type of PPQs. As explained in section 1, apart from the simple inverted question with the negative particle preceding the verb (*ne*-question)

7 Understood as a combination of speaker belief and contextual evidence (Venhuizen 2010, 19).

and the optional focusing particle *li*,[8] negated polar questions in Macedonian are also realized with question particles, similar to the neighbouring South Slavic languages, especially to Bulgarian and Serbian.[9] We have not found any relevant study on *neli*- and *zar*-questions, apart from some general remarks in grammar books. Topolinjska (2009, 52–53) notes their presuppositional nature, while Minova-Gjurkova (2000, 163–64) delineates their function: *zar* can be used to express wonder and disapproval, and *neli* seeks an affirmative response.

Ne-questions have a broad range of uses. They imply some speaker's prior belief about *p* ranging from very weak to quite strong; moreover, they occur both in neutral and contradiction contexts (11).

(11)	Ne	ti	studi	po kratki rakavi?
	NEG	2SG.DAT.CL	feel cold-PRS.3SG	in short sleeves
	'Aren't you cold in a sleeveless top?'			

Questions with the particles *zar* and *neli* are particularly marked – epistemically and/or emotionally.[10] Both can be used in positive and negative polar questions but with opposite functions. While *neli* asserts the truth of *p*, *zar* challenges it by reversing the polarity of bias: in positive polar questions it implies a belief that *p* is not true but in negated questions *zar* intensifies speaker's belief in the truth of *p*. *Zar* strongly implies a conflict between the presupposition that *p* (or *not p*) and compelling contextual evidence against this presupposition, generating speaker's surprise that the previous belief has been cancelled. In posing a *zar*-question the speaker wants to make sure whether it is really the case that *p* (or *not p* in negated questions), which gives rise to some additional meaning, such as disbelief, astonishment and dissatisfaction (12), often accompanied with some deontic or bouletic implications. In addition, *zar* is used in tag questions (usually with *ne*) to ask for agreement (*Ama toa e sepak premnogu, zar ne*? 'But it's still too much, isn't it?') or in rhetorical questions (*Zar sakaš da se razboliš*? 'Do you want to get sick?'). In all these situations it can be replaced with a negation-stressed *ne*-question, which has a decreased affective meaning.

8 The focus particle *li* does not seem to have an effect on the felicity conditions for these questions, although its pragmatic contribution still needs to be investigated.

9 See Dukova-Zheleva (2010) and Rakić (1984).

10 The particle *zar* comes from the Turkish adverb *zahir* 'obviously, of course', 'apparently, possibly' (cf. Vlajić-Popović 2016).

(12) [B enters the library with her child and is told that children are not allowed.]

A:	Ova	e	biblioteka	
	this	be-PRS.3SG	library	
	'This is a library.'			
B:	I?	Zarem	nemate	detski knigi? (RB)
	and	Q	not have-PRS.2PL	children's books
	'So what? Don't you have children's books?'			

The particle *neli* is a blend of the negation *ne* and the focusing particle *li*, resulting from the univerbization of the phrase *ne e li?* 'isn't it' (cf. Popov, Georgieva and Penchev 1994, 54).[11] *Neli*-questions are also biased, implying a positive prior belief. By asking the question the speaker foregrounds this belief (Is it not the case that *p*?), irrespective of the polarity and the strength of the contextual evidence. It seems that with *neli* the speaker "coerces" agreement from the interlocutor(s), appealing to their interpersonal knowledge, be it related to shared background, common experience or previous communication.

The *neli*-question often functions as an assertion and can be used for fulfilling various communication goals, e.g., reproach (13). The use of a *ne*-question instead of *neli* would considerably change the meaning of the utterance.

(13) Što si barala da odiš do supemarketot?
'Why did you go to the supermarket?

Neli	te	boli	kolkot?[12] (RB)
Q	2.SG.ACC.CL	hurt-PRS.3SG	hip-DEF

'Don't you have a hip pain?'

The particle *neli* with rising tone can occur in sentence-final position functioning as a tag-question which requests verification of the assertion (14).[13] In declarative sentences, *neli* is often used as a pragmatic marker in medial position. It entices solidarity by implying that the information in (15) is part of the common ground with the interlocutors.

11 It has similar functions as the Bulgarian particle *nali.*

12 The examples marked RB were taken from the stories by Rumena Bužarovska.

13 As Quirk et al. (1985, 811) note, tag-questions express "maximum conduciveness towards positive or negative orientation".

(14) Petre dojde, neli?
Peter come-AOR.3SG Q
'Peter has arrived, hasn't he?'

(15) Petre neli dojde.
Peter Q come-AOR.3SG
'Peter y'know has arrived.'

3 Research questions and methodological procedure

Since *zar-* and *neli*-questions perform opposite conversational goals, they may not be equally appropriate in some situations. However, they can often be used felicitously in the same context, because each highlights different aspects and consequently expresses different speaker intents. For instance, in a negated variant of (13) *zar* can replace *neli* conveying reproach. It seems that the outer negation reading is rendered with *neli*-questions, while inside negation interpretation overlaps with *ne*-questions and *zar*-questions. Our analysis of possible translation equivalents of the English NPQs aims to test this assumption by providing answers to the following research questions:

(a) Are *ne-*, *neli-* and *zar*-questions the most frequent Macedonian translation equivalents for the English NPQs?

(b) What contexts do *ne-*, *neli-* and *zar*-questions prefer?

(c) In which contexts are *zar*-questions and *neli*-questions mutually replaceable?

To answer these questions, we examined the uses of negated questions in the transcript of the American soap opera *All My Children* from 2001. This text of around 300,000 words consists of short dialogues on various subjects that concern the protagonists of the show. The familiarity relations reflected in the language use come from the speakers' similar social backgrounds, kinship and friendship ties.

The sample was compiled from all negated questions found in the above text. The bulk (109) are the high negation type, while low negation questions are underrepresented (only four examples). The 16 declarative negated questions were not analysed because they lack interrogative syntax. All examples were translated into Macedonian by two highly-skilled professional translators. The original questions and their translations were stored in a database for the next

step of the analysis, in which the translation variants were classified according to the translational strategy applied. In some cases, the translators offered several choices of these strategies.

In the first stage of the analysis we counted the different types of translation equivalents the translators suggested for the English NPQs. In some cases, the translators offered several choices of these strategies, which complicated the classification. We counted the combinations of translational equivalents to see which Macedonian forms and combinations of forms were chosen and in what ratio. In the second stage, we looked at the pragmatic functions of the negated questions in context in order to identify the factors that determined the choice of a particular combination of translational equivalents for each English original negated question.

4 Results

In this section we present the translation equivalent option for the 114 English NPQs as offered by the two translators. Their number exceeds the total number of examples in the sample because in some cases the translators offered more than one translation. As pointed out above, an NPQ in English can be variously interpreted depending on the speaker's intent, while Macedonian tends to pattern specific structures with particular communicative goals. Table 1 shows the number of options chosen by each translator. The total score provides data that answers the first research question: the most frequent Macedonian translation equivalents for the English NPQs are *ne-*, *zar-* and *neli-*questions.[14] It is, however, obvious that the translators differ in their preferences: the first translator opted more often for *zar-*, while the second favoured *ne-*questions. Since *ne-*questions have a broad range of use, as noted in section 2.2, they may be adjusted to many situations. Given that the translators had only the text at their disposal (i.e., without sound and video recording), some speech situations in which the examples occurred may have been interpreted differently. Furthermore, different interpretations of the same NPQs may well be attributed to their ambiguity or vagueness, as they simultaneously accomplish several conversational goals.

14 In some examples these particles were used as tags. Though tag-questions are in some respects different, we do not discuss them separately here due to a lack of space.

Table 1. Translation options used by translators.

Translation option[15]	*ne*	*zar*	*neli*	*posQ*	*daQ*	*da ne*	*excl*	*contQ*
Translator 1	44	63	40	7	0	1	4	0
Translator 2	73	5	21	9	5	3	3	3
Total	117	68	61	16	5	4	7	3

The other types of translation equivalents suggested by the translators are more distinct and suitable for specific contexts. PosQs are mainly used when the translator chooses opposite polarity (16), or the negation occurs in the complement clause (17).

(16) Isn't that right, Greenlee?
'Taka li e Grinli?'
so Q be-PRS.3SG Greenlee

(17) Don't you think I know that?
'Misliš ne znam?'
think-PRS.2SG NEG know-PRS.1SG

Questions with the modal particles *da* and *da ne* are multifunctional (Mitkovska, Bužarovska and Ivanova 2017, 60–61). Polar questions combine modality and positive bias to accomplish hedging functions. *Da*-questions are translations of the negated questions with a modal verb (18).[16] All five uses of *da*-questions have the force of suggestions, whereas *da ne*-questions (19) are mild reprimands.

(18) Joe, can't you just tell Josh that you were mistaken?
'Džo, a da mu kažeše na Džoš
Joe but SBJ 3DAT.M.CL say-IMPRF.2SG to Josh
deka si zgrešil?'
COMP err-PRF.2SG

(19) Isn't that a little harsh?
'Da ne si malku ostar?'
SBJ NEG be-PRS.2SG little harsh

15 Abbreviations: *ne* – *ne*-questions, *zar* – *zar*-questions, *neli* – *neli*-questions, *posQ*- positive polar questions, *daQ* – *da*-questions, *da ne* – *da ne* questions, *excl* – exclamatory sentences, *cont*Q – content questions.

16 The translation is preceded by the discourse particle *a* which blends the meaning of 'but' and 'and' conveying 'how about'.

Exclamatory sentences feature as translation equivalents for the NPQs expressing admiration (20). They do not contain a negation marker, but degree (intensifying) particles (*baš* 'so', *kolku* 'how'). The three negated content questions (21) are rhetorical.

(20) Well, aren't they pretty.
'Baš se ubavi.'
so be-PRS.3PL pretty.PL

(21) Don't you get it?
'Kako ne razbiraš?'
how NEG understand-PRS.2SG

The combinations of structures chosen for an English NPQ by the two translators are presented in Table 2. They indicate which translation equivalents may be adequate for certain uses of these questions. The fact that *zar*- and *ne*-questions were by far the most frequently suggested as alternative options (35%) corroborates their semantic proximity: both imply a prior speaker belief contradicted by situational evidence (section 2.2). *Ne*-questions achieve a similar interpretation as *zar*-questions via intonation and emphatic stress on negation. Given that our sample is based on a written text this issue cannot be addressed in the present paper.[17] However, since *ne*-questions do not necessarily require contradicting evidence, they can overlap with *neli*-questions, which occurred as the second most frequent combination in our sample (about 10%).

Table 2. Distribution of translation equivalent combinations (TECom) in the sample.

TE-Com	*zar/ ne*	*ne/ ne*	*ne / neli*	*zar/ neli*	*zar/ ne/ neli*	*neli/ neli*	*neli/ excl*	*daQ/ ne or zar*	*ne/ da ne*	*posQ/ neli*	*posQ/ posQ*	*other*	Total
Nr.	42	9	12	5	10	8	7	5	3	3	2	13	119
%	35	7.6	10	4	9	6.7	6	4	2.5	2.5	1.7	11	100

17 More on the role of intonation in the derivation of bias see Asher and Reese (2007).

The nine cases where both translators chose *ne*-questions do not come as a surprise, but the translation options of *zar* and *neli* for the same example need to be further explained. In eight cases both translators opted for a *neli*-question, but a tag-question was used six times by the second translator and once by the first one. This indicates that the particle *neli* functions similarly when placed at the beginning and at the end of the question. In all seven occurrences exclamations were combined with *neli*-questions (three of which are tags) expressing some kind of positive feeling, which the speaker wants to share with the interlocutor by an appeal for agreement (see 20). The use of *zar*-questions by both translators was marginal (only one occurrence). *Zar*, as an emotionally charged particle, is more subject to personal choice, which is reflected in its asymmetrical use by the two translators (see Table 1). In the next section, we examine the pragmatic functions of the English NPQs in relation to the suggested translation equivalents in the sample.

5 Discussion of translation equivalent choices

Biased questions do not function as typical inquiries for information since the speaker's intent is to assert something rather than elicit a response.[18] For that reason they can be considered indirect speech acts with varying degrees of indirectness (cf. Huddleston and Pullum 2002, 862). In fact, the bulk of the NPQs in our sample (57/114) are used as rhetorical questions for reinforcement of the speaker's claim, with hardly any expectation for a response. Only in forty examples is the interrogative component highlighted because the speaker requires further explanation, but not all of them receive a response. The borderline between rhetorical and proper (interrogative) NPQs is rather blurred. In seventeen situations both the rhetorical and the interrogative aspect of the question were equally felt. Such cases are categorized here as transitory NPQs.

5.1 Rhetorical questions

Rhetorical questions (RQs) are treated in the literature as "disguised statements" intended to convince readers/listeners to change or reinforce their beliefs, values and behaviour. The mismatch between their interrogative syntax

18 See Reese (2007) for the view that a biased question instantiates a complex speech act made up of assertion and question.

and assertive discourse function contributes to their stylistic expressivity (Reimer 2018).

We found 57 rhetorical questions out of a total of 114. About 40% (23 uses) were translated with the combination *zar/ne*-questions, five were translated with *neli*-questions and exclamatives, in eight cases a positive question combined with another positive, a *neli*- or *zar/ne*-questions or all of them. The remaining examples feature *neli*-questions in combination with *neli*-tags or with *zar*-questions and other less frequent options.

The contextual analysis of these questions reveals that the most common combination with *zar/ne*-questions was used in contradiction contexts in which the speaker's prior belief is challenged by new compelling evidence. The negated question in (22) displays epistemic and deontic bias, triggered by a conflict between a common belief (people understand sound arguments) and the addressee's reaction (reluctance to accept speaker's argumentation). Our sample contains a considerable number of questions similar to (22) of the type *Don't you trust me*, *Don't you see*, etc. Such questions intensify the speaker's previous assertion by appealing to the addressee for understanding. Emotionally loaded, they serve as effective persuasion strategies, especially pronounced in *zar*.

(22) Babe: And you're sure? You're sure this is the right thing for you?
Jamie: Hey, I don't have a choice.
Don't you get that?
T1: 'Zar ne sfaќaš?'
Q NEG understand-PRS.2SG
T2: 'Ne sfaќaš?'
NEG understand-PRS.2SG

Deontic bias is more pronounced in RQs with the illocutionary force of criticism or reproach. In (23) the speaker criticizes the interlocutor's refusal of help, which contrasts the common belief that family members should help each other.

(23) Jesse: It's not safe with me being here – it's not safe for your family.
Tad: You are my family. Why don't you let me do something for you?
Don't you think you owe me a couple of answers at this point?
T1: 'Zar ne/ Ne misliš deka treba da odgovoriš
Q NEG/NEG think-PRS.2SG COMP should SBJ answer-PRS.2SG
na nekolku prašanja?'
to some questions
T2: 'Zar ne mi dolžiš nekolku odgovori?'
Q NEG 1SG.DAT.CL owe-PRS.2SG some answers

Bouletic bias is typically expressed in negated questions with the preposed *can*. In (24), the speaker emphasizes disagreement with the interlocutor with two consecutive appeals directed at his emotional indifference, manifested in his behaviour. Since interlocutor's ability to comprehend speaker's feelings is challenged, these quasi-questions are meant as emphatic criticism.

(24) Greenlee: Mr. Right? Mr. Right? It's you I want.
Can't you tell? Don't you see?
T1: 'Zar ne gledaš? Ne se gleda?'
Q NEG see-PRS.2SG NEG REFL see-PRS.3SG
T2: 'Zar ne razbiraš? Ne gledaš?'
Q NEG understand-PRS.2SG NEG see-PRS.2SG
Ryan: I don't see it.

Critical reminders bordering on reproach are rendered in Macedonian by the combination of *neli*- and *zar*-questions. *Neli* may occur independently, separated from the previous sentence, but still functioning as a tag. In the following verbal exchange (25), the speaker, relying on general knowledge, reminds the interlocutor of her legal obligation which is in contrast with her present behaviour. The *zar*-question conveys a certain degree of irritation which is absent in a more neutral *neli*-tag.

(25) J.R.: Aunt Phoebe has offered you a second chance… Go for the loot.
Brooke: You know, you… have a legal and moral obligation to follow all instructions on this will.
Isn't that right?
T1: 'Zar ne e taka?'
Q neg be-prs.3sg so
T2: 'Neli?'
Q

Neli-tags were suggested as translational equivalents of RQs in non-contradiction contexts, when the proposition expressing speaker belief is in the previous affirmative clause. The certainty of the speaker's expectation is communicated in the tag (26), which does not require a response.

(26) Kendall: Greenlee, I know what I need.
Erica: Exactly. Kendall's a Kane, and we triumph over stress.
Don't we, sweetheart?
T1: 'Neli, draga?'
Q dear
T1: 'Neli, dušo?'
Q sweetheart

Rhetorical questions are not restricted to contradiction contexts. They may occur in contexts in which prior beliefs are confirmed by situational evidence. We found seven instances in which English negated questions express a strong emotional reaction to an entity. The speaker establishes common ground with the interlocutor by an appeal to share her admiration, e.g., for the baby's voice in (27). Macedonian translation equivalents realize these expressive speech acts by a *neli*-question in combination with an exclamative sentence or a declarative polar question. The optional use of a *zar*-question reinforces the emotional force of the question.

(27) Erica: Open your eyes and see your beautiful baby. Can you hear her?
Isn't it the sweetest sound you've ever heard?

T1:	'Neli	e	ova	najslatkiot	zvuk	na	svetot?'
	Q	be-PRS.3SG	this	sweetest	sound	in	world-DEF
	'Zar ne/Ne	e	ova	najslatkiot	glas	na	svetot?'
	Q NEG / NEG	be-PRS.2SG	this	sweetest	voice	in	world-DEF
T2:	'Si čul	posladok	zvuk!?'				
	hear-PRF.2SG	sweeter	sound				

5.2 Interrogative NPQs

The majority of the English negated questions requiring an explanation were found in contradiction contexts (26/40), but ten were in neutral context and in three cases there was contextual evidence for *p*. In contradiction contexts, there is a conflict between speaker's prior belief and contextual evidence. This evidence may be obtained from the interlocutor's previous statement or inferred from contextual clues (e.g., interlocutor's behaviour). The strength of this evidence influences the degree of epistemic conflict. Such questions are considered to have "a so-called inner negation reading in which the speaker wants to double-check *not p*" (Domaneschi, Romero and Braun 2017, 3; Büring and Gunlogson 2000, 3). They represent various speech acts disguised as requests for confirmation of negative assumptions, conveying an affective meaning as they reveal speaker attitude and emotional stance to the current speech situation. In our sample, the translators mostly used *zar*- and *ne*-questions in such contexts, but in eight cases a *neli* option was suggested in combination with both or only with a *ne*-question.

In (28) the conflict is between the speaker's prior belief (about the baby's future name) and strong contextual evidence against it: the speaker's mistaken assumption is overridden by the interlocutor's reaction. The surprised speaker requires confirmation of this contextual implication via a negated question. Both translation equivalents render the speaker's intent properly, with *zar* bringing out the emotional tone (astonishment, disappointment, disapproval) more explicitly.

(28) Maggie: I will turn my life back around after little Myrtle is born.
Bianca: "Little Myrtle"?
Maggie: Well, yeah.
Aren't you going to name the baby after Mrs. Fargate?

T1:	'Zar nema/ Nema	da	go	krstiš	bebeto
	Q NEG / NEG	SBJ	3SG.N.ACC.CL	name-PRS.2SG	baby-DEF
	po g-ǵata Fargejt?				
	after Mrs. Fargate				

Bianca: No, I'm not.

In (29) the speaker's assumption based on shared knowledge is in conflict with the contextual evidence. The assumption is realized in a negated question as a reminder laced with concern for the interlocutor.

(29) Greenlee: Don't you have a plane to catch?

T1:	'Zar	ne	treba	da	stigneš	na	avion?'
	Q	NEG	should	SBJ	get-PRS.2SG	on	plane
T2:	'Ne	treba	da	fatiš'		avion?	
	NEG	should	SBJ	catch-PRS.2SG		plane	

Jackson: I'm not going anywhere.
Greenlee: You need to get back to your clients.

This type of NPQ is often used for challenge and indirect criticism or reproach, but also for reassurance and motivation (combined with bouletic bias). The following dialogue (30) exemplifies the use of a negated question for encouragement to action. The speaker foregrounds her contextual assumption in a negative question relying on conflict between the situational evidence (getting a message) and common practice (checking messages), prompting the interlocutor to action. Here, too, *zar* sounds more insistent, while the PPQ suggested by T2 is the least persuasive.

(30)	Kendall:	There's a message.				
		Aren't you going to check it?				
	T1:	'Zar nema/ Nema		da	ja	pročitaš?'
		Q NEG	/ NEG	SBJ	3SG.F.ACC.CL	read-PRS.2SG
	T2:	'Ќe	proveriš?'			
		will	check-PRS.2SG			
	Zach:	Go ahead.				
	Kendall:	No, I don't want to pry, in case it's something personal.				

The use of *neli* in contradiction scenarios implies a reminder, ranging from suggestion to persuasion or reproach. The following example (translated with *zar-ne-* and *neli*-questions) involves the use of the deontic *should*. The speaker's knowledge about the interlocutor's obligations is countered by compelling evidence (his presence in the speech situation) yielding an unpleasant surprise. All three translational equivalents have slightly different conversational goals. The *ne*-question is the most neutral as it merely seeks verification of speaker's assumption of the new evidence. The *neli*-question (functioning as a reminder and highlighting the interpersonal knowledge) intends to elicit positive answer, while the *zar*-question (expressing a surprise and disapproval) requires an explanation.

(31)	Angie:	Shouldn't you be on rounds?				
	T1:	'Neli	treba	da	si	na vizita?'
		Q	should	SBJ	be-PRS.2SG	on rounds
	T2:	'Ne	si	na vizita?'		
		NEG	be-PRS.2SG	on rounds		
	Jake:	Oh, I switched with Henderson. Someone's got to give you a ride to the doctor.				

In a neutral context, the interrogative NPQs in our sample were most often translated either with *ne*-questions in combination with *neli* (32), or *ne*-questions only. They sound like indirect assertions and mainly express a request for confirmation or agreement with speaker's presupposition, but in some there is a tone of criticism or suggestion. *Neli* adds an implication that the interlocutors share prior knowledge, while in *ne*-questions this remains backgrounded.

(32) Greenlee: Isn't he in Europe somewhere?
T1: 'Neli e nekade vo Evropa?'
Q be-prs.3sg somewhere in Europe
T2: 'Ne beše nekade vo Evropa?'
neg be-impf.3sg somewhere in Europe

There are only three questions that occur in contexts containing evidence for *p*, all of which express different intent and the translation equivalents are of disparate types. However, they all seek agreement or support for the proposition.

5.3 Transitory NPQs

In seventeen cases the interrogative and the assertive component had equal values so it was difficult to determine which prevailed. Conflicting contexts dominate, and – similar to RQs – transitory NPQs underline the speaker's claim, launching a criticism, reproach or persuasion. For most of these questions the *zar/ne* combination was suggested by the translators. In (33) Erin is about to leave, and Zarf tries to persuade her to stay by drawing on conventional wisdom, but she takes it as a genuine question and defies him with a RQ. The difference between *zar* and *ne* is in the strength of the assertion encoded in the question.

(33) Zarf: Don't you yearn for a home that's only light, no more pain?
T1: 'Zar ne kopneeš po dom kade što ќe ima samo svetlina
Q neg yearn-prs.2sg after home where will be only light
i ќe nema bolka?'
and no pain
T2: 'Ne kopneeš za dom koj e svetol, bez bolka?'
neg yearn-prs.2sg after home comp be-prs.3sg bright no pain
Erin: Don't we all?

Contradiction contexts may admit *neli*-questions (in combination with *ne*-questions) when they present compelling evidence that is hard to refute, thus seemingly "extorting" agreement from the addressee. In (34) the question is meant as a critical reminder that shades into a warning. Another possible situation is when strong bouletic bias is expressed. In (35) the speaker reacts to the interlocutor's rejection and *neli* strengthens the plea, compelling agreement. Some irritation is conveyed in the interpersonal discourse marker *pa*.

(34) David: Isn't it illegal to misrepresent yourself as someone's legal counsel?

T1:	'Neli	e	nezakonski	da	se	pretstavuvaš
T2:	'Ne	e	nezakonski	da	se	pretstavuvaš
	Q/NEG	be-PRS.3SG	illegal	SBJ	REFL	represent-PRS.2SG
	kako nečij praven zastapnik?'					
	kako nečij advokat?'					
	as someone's legal counsel					

(35) Tad: Well, couldn't you at least lie a little, for my sake?

T1:	'Pa	neli	možeš	barem edna mala laga	da	kažeš,	za mene?'
	well	Q	can-PRS.2SG	at least one little lie	SBJ	say-PRS.2SG	for me
T2:	'Pa	ne	možeš	barem edna mala laga	da	kažeš,	za mene?'
	well	NEG	can-PRS.2SG	at least one little lie	SBJ	say-PRS.2SG	for me

Translations with *neli* prevail in transitory NPQs in neutral contexts, where they combine with *ne-* or *zar*-questions. In (36) the speaker comforts the addressee, whose close friend is in a coma, by suggesting she should persist in her belief. The translation with *neli* intensifies the emphatic tone.

(36) Ethan: OK. You need to keep praying and keep believing.
Isn't that what Bianca would have you do?

T1:	'Neli	e	toa	što	Bjanka bi sakala	da	napraviš?'
	Q	be-PRS.3SG	this	COMP	Bianca would like	SBJ	do-PRS.2SG
T1:	'Ne	e	toa	ona	što	Bjanka bi sakala	da	napraviš?'
	NEG	be-PRS.3SG	it	that	COMP	Bianca would like	SBJ	do-PRS.2SG

6 Concluding remarks

In this paper we showed that English questions with inverted negation are translated in Macedonian predominantly with three forms that express bias: *ne-*, *zar-* and *neli*-questions. The analysis confirmed the initial assumption that they tend to pattern with the two readings of these questions: outer and inner negation. *Neli*-questions mainly render outer negation questions, *zar*-questions express inner negation questions, while *ne*-questions are rather ambiguous and their interpretation may depend on prosodic features. The interplay of two pragmatic factors decides the choice of the translational equivalent: the context and the conversational goal of the question.

As regards the second research question addressing the contextual preferences of these questions, the findings suggest the following conclusions. It was found that *zar*-questions occur predominantly in contradiction contexts often conveying disbelief, indignation and reproach. Therefore, they were used as effective rhetorical strategies in persuasive communication to convince or call for interlocutor's action (examples 22–25). *Neli*-questions, on the other hand, were offered as translational equivalents predominantly in a neutral context, especially in interrogative and transitory NPQs. They possess higher assertiveness as they foreground the speaker's prior belief, which is expected to be confirmed by the hearer. In many cases this expectation results from the implication of some interpersonal knowledge which facilitates building rapport between the interlocutors. In the *ne*-question option of the translation equivalents (as in examples 32–35) there is no such implication, though common knowledge is not excluded.

Concerning the mutual replaceability of Macedonian translational equivalents (the third research question) our results indicate certain tendencies. In several instances we found an overlap of a *zar*- and a *neli*-question as translational options of the same English negated question, which can be accounted for by the translators' foregrounding different conversational goals (see examples 25 and 31). *Ne*-questions seem to be most neutral regarding context preferences as well as emotional effects. They group either with *zar*- or *neli*-questions depending on the type of context they occur in, as well as with both for the same example (e.g., 27, 31), each implying a different speaker intent.

This investigation was conducted on a rather small sample of examples (114), but these examples are not void of authenticity as they reproduce various situations of real life in a dialogic discourse. The research results yielded noteworthy insights not only regarding translational practices but also contribute to theoretical issues. Specifically, the distribution of translational options in Macedonian supports the claims in the literature that English high negation questions have two interpretations. However, these findings should be taken as indications of tendencies in patterning NPQs with certain translational equivalents in standard Macedonian, as they need to be verified using data from a larger number of translators and/or by examining native speakers' judgments. Furthermore, given that prosody and body language play an important role in the interpretation of NPQs, the conclusions require further investigation with an application of contextual clarifications by sound and image.

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Personal-Name Blends as Instances of Morphological Creativity in English and Their Equivalents in Serbian: A Constructionist View

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Abstract

There are numerous restrictions on the word-formation processes that are applied to proper nouns, and yet proper nouns may act as components of complex words. In recent years there has been a growing number of personal names that have been used in nonce and neological formations as *ad hoc* humorous, playful and stylistically marked and therefore highly context-dependent portmanteau words. The aim of this paper is to show that despite being instances of morphological creativity, English personal-name blends represent form-meaning correspondences, which proves them to be generated by constructional schemas rather than arbitrary coinages. Following Booij's framework of Construction Morphology, we analyse personal-name blends in English on a corpus compiled from popular American sitcoms, TV dramas and films and their possible translational equivalents in Serbian, which offers an insight into available morphological mechanisms of creating (morpho)semantically equivalent personal-name portmanteaus in Serbian. The results suggest that most examined blends follow a regular pattern and are extracted from constructional schemas which can be helpful when translating portmanteaus.

Keywords: nonce formations, blends, proper nouns, morphological creativity, constructional schemas, translation equivalents, English-Serbian analysis

1 Introduction[1]

When speakers use marginal and less productive morphological processes and mechanisms to consciously produce new coinages which are "clearly deliberate and independent of the system" (Bauer 2005, 329), we can speak of morphological creativity. Morphological creativity is the domain of unproductive or marginal lexeme formation processes such as blending or backformation (Lieber 2016, 78). Though not all morphologists make a distinction between creativity and productivity, all agree that it is quite often impossible to draw a clear boundary between the two (Bauer 2001). Typically, creativity is not rule-governed, but rather a rule-changing innovation; therefore, quite often, new coinages are used by individuals in isolation and on a single occasion only (Bauer 2001, 64). Such new lexical items, which are intended to catch the reader's/interlocutor's attention are the outputs of morphological creativity and are referred to as nonce formations. Much as there may be a consensus over their use, whether these formations are indeed not rule-governed has been quite a debated issue. For Katamba (1993), nonce formations are formed using standard rules since creativity is mostly rule-governed. Similarly, Štekauer (2002, 97) sees nonce formations as "regular coinages generated by productive word-formation rules". Taking into consideration the arguments for previous stances, we argue that nonce formations are only partially regular. If they were entirely rule-governed, regular and canonical, the addressees/readers would accept them as they accept other productively formed new words, not noting them as new words (Lieber 2016, 78). Thus, they would not be classified as nonce formations. On the other hand, if they were completely irregular, the speakers would not be able to decompose them.

Thus, we propose that the matter of regularity of word-formation patterns be seen as a continuum on which the nonce formations (blends in particular) would stand somewhere in the middle as partially regular since they typically bend productive word-formation rule(s) to a certain extent, thus initializing the establishment of new patterns which, by processes of lexicalization and conventionalization, become productive themselves (e.g. blending patterns, acronyms, etc.). Despite their partial grammaticality, they are completely acceptable as they are supported by the speakers' ability to interpret and decompose them. Therefore, when decomposing nonce formations, the unification

1 The authors express their gratitude to the anonymous reviewers for their valuable comments and suggestions which greatly contributed to the improvement of the draft version of the paper.

mechanism gets activated and operates despite the conflict that typically exists in relevant information output (Vujić 2016). Their extra-grammaticality is what makes Construction Grammar (CxG) a particularly suitable theoretical frame to treat nonce formations (Vujić 2016).[2] All this said, we can refer to nonce formations as non-canonical word-forms.

This paper presents a study of a selected corpus of personal name blends in spoken English (SL) and their possible equivalents in Serbian (TL).[3] The statistical analysis of a wider corpus of English novel coinages (Vujić and Rabrenović 2019) shows that for proper-noun nonce formations in English, the processes that are usually perceived as more productive, such as suffixation, prefixation and compounding, have generated fewer examples (10≤) as opposed to conversion and blending.[4]

We aim to investigate the mechanisms that govern the creation of personal-name blends and, if possible, identify their structural, semantic (and possibly pragmatic/functional) properties for the purpose of establishing their constructional schema(s). We believe that nonce formation blends can be treated as constructs presenting individual concrete instantiations of abstract form-meaning-usage correspondences and patterns, i.e. constructions (Booij 2010, 2013). Their complex structure together with the seemingly marginal status is what makes them ideal for the constructionist approach (Fried & Östman 2004, 15; Vujić 2016, 21). As noted above, the analysis will be based on a small-scale corpus containing 24 personal-name blends in English compiled from popular American sitcoms, TV dramas and films.

We aim to demonstrate that for (de)composing and translating blends it is not only the pragmato-semantic component (their usage) of each construction that is crucial, but also some more or less identifiable prosodic and morpho-syntactic constraints (their form). All such factors supported by the fact that they are both highly context-dependent and culture-dependent make them quite challenging for translation, which leads us to explore their translational potential as well as the structure of possible Serbian equivalents.

2 More on constructionist approach to devious and rule-bending structures see Vujić (2016, 42).

3 SL (source language); TL (target language).

4 The paper will be dealing with the selection of 24 blends that are a part of the larger corpus containing over 70 English proper-noun nonce formations. For a constructionist view on proper-name nonce formations that are created by grammatical processes (prefixation, suffixation, compounding and conversion) see Vujić and Rabrenović (2019).

2 Blends as nonce formations – form and meaning

In English, lexical blending is one of the most powerful and most frequent sources of nonce formations (and neologisms). According to Hohenhaus (2005, 364), nonce formations are "somewhat 'in between' actual and possible words" since they are "'new' in a psychological sense" and not retrieved from the speaker's storage of already existing listemes in the lexicon. Therefore, the basic feature of nonce formations is that they never get listed or become part of speakers' long-term vocabulary, because they are too dependent on the context (Hohenhaus 2007). This is somewhat contradictory to Štekauer (2002, 97), because if his notion is to be accepted then from the point of view of Construction Morphology (CxM) their schemas exist in the speaker's mental lexicon and can be analogically and productively used for new formations in adequate communicative situations. In addition, if a constructionist approach to (blend) nonce formations is applied, we can see that they can be often formalized by constructions (abstract formation patterns), which facilitates and explains their decomposability. Blending indeed started as a nonce-formation process only to grow into a frequent and productive (though not quite consistent) word-formation process with often transparently predictable outcomes. The context-dependence of blends (and nonce formations in general) is a characteristic of speech (parole), and not that of the system (langue) while their interpretation may vary within different speech-communities (Štekauer 2002). For that reason, (blend) nonce formations can be traced in "the interplay between the language, on the one hand, and the extra-linguistic reality and the speech community, on the other" (Štekauer 2002, 97). Given their particular function to amuse, shock, draw the interlocutor(s)' attention, they are frequently described as being "queerious" (Kelly 1998), "clever, trendy, eye-and-ear-catching […] cute and amusing words" (Lehrer 2003, 2007), "cool" and "creative" (Beliaeva 2019a, 2019b; Fandrych 2008).

The form of nonce formations may range from being "regular", when they are formed by productive, rule-based grammatical morphological processes such as in (1a) (Katamba 1993, 296), to completely "deviant" such as (1b) (Hohenhaus 2005, 363) or (1c) (Štekauer 2002, 106).

(1)

a. Prime ministerable
b. oidy
c. isms

As for their meaning, they are easily interpreted once the speakers are familiar with the (extra)linguistic context. However, in some cases their meaning is not fully decipherable for "outsiders", because they can be related to a situation known only to one speech community (Hohenhaus 2007, 21) as is often the case with personal-name nonce formations. In other words, nonce formations may have a number of discourse or communicative functions (also see Hohenhaus 2007). Some of them arise as deliberate ways of expanding the vocabulary while others are results of unconscious linguistic computing. The examples studied in this paper mainly fall into the former category.

Much as there may be numerous restrictions on the word-formation processes that are applied to proper nouns, proper nouns act as components of complex words. However, they do not usually act as derivational bases, as it is the case with common nouns. While *mountainless* is a possible derivative, **Alpless* is not (Lehmann and Moravcsik 2000, 748). Nevertheless, Marchand (1969) and Bauer, Lieber and Plag (2013) list affixes and other elements that create complex words in English together with proper nouns as word-formation elements. As we will see from our corpus, due to the specific, context dependent nature of nonce words, personal names appear quite commonly as formation bases in nonce formation processes.

By applying a construction-based approach to analysing personal-name blends, we will show that the formation of such neologisms is not governed by rules, but rather formulated on the basis of constructional schemas. Moreover, it will be illustrated how these coinages can be interpreted even without knowing the context of the situation, although their meaning is context-dependent because their meaning is already embedded in the constructional schemas on which such novel formations rely.

3 Theoretical background

Construction Morphology, the 21st century approach to morphological analysis proposed by Geert Booij (2010; 2013), was developed from cognitive-approach-based Construction Grammar (CxG). This theoretical framework seems to be particularly suitable for the study of complex words which linger on the borderline between morphology and syntax. Just like syntactic structures in CxG, the form (1a) is formed according to the productive derivational pattern that is presented in schema I except that the compound noun *Prime Minister* was used as a derivational base instead of a verbal base. The meaning

of the entire novel form is 'having the qualities good enough to / able to become a Prime Minister'.

Complex words are constructs which instantiate morphological constructions (Booij 2010). Constructions of all complexity are abstract representations of words, whereas constructs are their realizations in speech (Fried and Östman 2004; Fried 2015). Each construction represents a systematic form-meaning-function correspondence which serves as the basis on which speakers can form an abstract (constructional) schema that expresses a generalization about the form, meaning and function of the construction (Booij 2010). For all complex words, schemas necessarily give information about the formal representation of the complex word including the base word [X] together with the semantic representation of the complex word.

For example, deverbal adjectives ending in the suffix –able such as *acceptable* and *approachable* are generated by schema I (Booij 2013, 255):

$$\text{I}\quad [[x]_{\text{Vtr}}\ \text{able}]_{\text{Aj}} \leftrightarrow [[\text{CAN BE X-ed}]\text{PROPERTY}]_{\text{Aj}}$$

Apart from giving the information about the complex word(s), schemas also represent the first step in formulating new coinages since "schemas express the generative power of the grammar" (Booij 2013, 258). Rules are always source or input-oriented, which means that there is a base word (with all its morpho-semantic and phonological properties) used as a base for morphological operations. Unlike rules, schemas can be product- or output-oriented (Booij 2010, 4). This has proved to be crucial in analysing complex words without input, and Booij (2010, 29–32) shows that this is the case of baseless complex words with a recognizable affix whose meaning is not fully predictable because of their lack of the base-word (e.g. nouns ending in suffixes –ism or –ist of the type c*ommunist* or *communism*). In such cases, despite the lack of a base-word, it is possible, for example, to concur that all "-isms" are nouns expressing one of the semantic categories based on schema II.

$$\text{II}\quad [x\text{-ism}]_{\text{Ni}} \leftrightarrow [\text{PHENOMENON, IDEOLOGY, DISPOSITION...}]_{\text{Ni}}$$

The fact that in such cases there is no base-word to serve as an input element proves that they cannot be formulated as rules (which are always source/input-oriented) but are indeed output-oriented schemas. The property of schemas to be output-oriented is crucial for both composition and decomposition of nonce formations, where often one recognizable part is vital for the interpretation of such novel formations.

3.1 Schemas vs. analogy

One of the most debated issues in word-formation is whether new coinages are a result of analogy or abstract schemas (Becker 1990, 1993; Pinker 1999; Booij 2010; Matiello 2016, 2017). An analogical formation (also known as target T) is clearly modelled on an already existing word (model M) due to the existence of partial resemblance between a target and a model, be it a phonological, morphotactic or semantic feature that they share – what is necessary is that there is a clear association between a model and a target (Mattiello 2016). On the other hand, a schema represents an abstract pattern according to which the word is formed, which means that there is no precise model to be selected for the target word. CxM bridges the gap between these two seemingly opposite phenomena seeing that analogy may prompt the development of a new schema; a well-known example is a set of words ending in *-holic* (*chocoholic*, *workaholic*) which have been modelled on the word *alcoholic.* Mattiello (2016, 108) discusses such formations with combining forms as the outputs of analogy via schema, and separates them from those formations which are the outputs of surface analogy. Surface analogy is based on "concrete models of precise similar forms". For example, *white market* is modelled on *black market* (Mattiello 2016, 105). Analogy via schema is said to operate in "transitional phenomena between derivation and compounding" (e.g. combining forms -gate, -holic), whereas surface analogy is applied when forming new words by means of regular processes (derivation, conversion and compounding) and extra-grammatical morphological processes (blending, clipping, acronym formation and related phenomena) (Mattiello 2016, 131). However, the schema-based and usage-based analysis of lexical blends shows that particular blend(s) can form the nucleus of a new, analogical word formation process that can generate a whole family of words, and ultimately, a newly entrenched bound morpheme (Kemmer 2003).

4 Blends as instances of language creativity

Even though mainstream morphologists (Plag 2003; Lieber 2016; Bauer 2005; Lieber and Štekauer 2014; Fabregas and Scalise 2012; Mattiello 2013) classify blending as a minor and extra-grammatical morphological process due to a highly unpredictable outcome, it represents a rather potent, frequent and vital mechanism to form new lexemes in English, and there have been

studies which suggest that in contemporary language blending is becoming one of the most productive lexeme formation processes (Bauer 2013; Renner, Maniez and Arnaud 2013; Mattiello 2019). It is especially active in product-naming, advertising, playful and humorous language (Lieber 2016, 59). In modern English word-formation blending is a signature mark of language creativity, which is supported by the significant number of blends that are listed on the Word Spy website.[5]

The term blending refers to a word-formation process which does not include listed affixes, but instead parts of the existing words, which are not morphemes themselves, are combined to coin a new word. In some cases, one of blend components may be an entire base or an affix (e.g. *bridezilla*). Marchand (1969, 451) defines blending as "compounding by means of curtailed words", a process which has no grammatical status but rather a stylistic one, due to the use of non-existent 'morphemes'. It is superficially similar to the existing canonical WF processes (and indeed often combines them) such as compounding, clipping abbreviating, etc. Traditionally, a blending pattern is formulated bases on the following rule: AB+CD→AD (Plag 2003, 123). This pattern and its reading can be represented as schema III:

III $[\text{segment 1 of } [X]_{Ni} \text{ segment 2 of } [Y]_{Nj}]_{Nk.} \leftrightarrow [\text{AN ENTITY Z WHICH SHARES PROPERTIES OF X AND Y}]_{Nk.}$

Despite their unpredictability and "irregularity", the fact that blends resemble compounds in the arrangement of their constituents and the relation(s) they stand in, makes some syntactic features in blends recognizable, stipulating their classification into coordinate and determinative blends (Bauer 2012, 12), exocentric and endocentric blends (Bat-El 2006) or paradigmatic and syntagmatic blends (Dressler 2000). As for their semantics, according to Renner (2006) nonce formation blends can project the following semantic interpretations: A) hybrid meaning (e.g. *staycation*, *guesstimate*, *skort*) B) addition, which is found in coordinative blends (e.g. *Brangelina*, *Oxbridge*) C) tautologous (e.g. *posilutely*, *fantabulous*).

The given classifications clearly add to the compound-like structure of blends, implying a schematic aspect of their nature.

Blends usually have the status of nonce words and/or neologisms because they are formed in order to refer to (unique) novel concepts (Mattiello 2016).

5 See *Word Spy*, *The Word Lover's Guide to New Words* (www.wordspy.com).

Moreover, blends always include the interplay and integration of diverse information that is not always central to their linguistic study, such as the interplay of orthography and pronunciation (Gries 2012, 145). In order to fulfil the speakers' communicative intention, which in spoken language involves objectives such as reaching a humorous effect or expressing endearment, they must be recognizable by the interlocutors. Therefore, one of the prerequisites for blend-formation is that both the material taken from lexeme A and the material taken from lexeme B remain (formally and structurally) recognizable in blends (Bauer 2011, 13) so that their meaning can be adequately (de)composed and interpreted. This implies that however spurious, unsystematic and context-specific blends may seem, there is a lot of systematicity in both their form and meaning.

Findings from a psychological and cognitive perspective, which were based on case studies and research conducted by Gries (2004, 2006, 2012), show that composition and decomposition of blends is far from being chaotic and random. They suggest that from the speaker's position this intentional and to a large degree regular-WF-pattern-governed process involves the following three stages (Gries 2012, 164), which all speak in favour of blends having a schematic nature:

1) Choosing two source words which can communicate what the new formation is supposed to express and are similar to each other in terms of phonemic and/or graphemic length, stress pattern as well as semantics;
2) Ordering of the elements in a new coinage, which is governed either by their syntax so that they remain in the modifier-head[6] or head-head[7] order, or the frequency and length of the constituents with the shorter and more frequent one being fronted;
3) The blending of the constituents which is done by first cutting them up at a syllable boundary close to the uniqueness/selection point and, fusing them with more of source-word 2 (SW2) being used.

With all this in mind, blending cannot be seen as a single-instance nonce formation process but as intentionally creative and productive computation in which different WF potentials are deployed and fused creating new WF schemas, which may be analogical or productive in their nature.

6 In determinative blends.

7 In coordinate blends.

5 Corpus analysis

The analysis presented in this paper is based on the personal-name portmanteau words in the 21st century popular American sitcoms and drama series: *2 Broke Girls*, *Grey's Anatomy*, *Hart of Dixie*, *How I Met Your Mother*, *New Girl*, *Riverdale*, *This Is Us*, *Young & Hungry* and *Younger.* Our corpus, which intends to be illustrative of the morphological potential of personal names, includes 24 personal name blends in English and their potential equivalents in Serbian.

Table 1. Personal names serving as the splinters in blend formation: first and second splinters in both full and clipped forms

Nonce formations in context	*Blend formation*
1) Yo, Swiss miss, you wanna have a conversation about cold climes with *Snowleg* over there?	Snowleg ← Snow + (O)leg
2) Hey, *Magpie* why don't you go to bed?	Magpie ← Mag(nolia) + pie
3) You can put a little sign right at the edge of the town that says "now entering *Ruby-Jeffries-Bell*. Population: You", uh!	Ruby-Jeffries-Bell ← Ruby Jeffries + Bell
4) What's up, Mount *Keverest*?	Keverest ← K(evin) + Everest
5) Oh man you know I love me a good *Kevent*.	Kevent ← Kev(in) + (ev)ent
6) Well, first of all, it's a *Sophievent.*	Sophievent ← Sophie + (e)vent
7) My last name rhymes with gay and the best thing you can think of is *Jerksica*?	Jerksica ← jerk + (Jes)sica
8) After he saw the movie Titanic, he started the Billy Zane fan club… They are called the *Zaniacs*.	Zaniacs ← Za(ne) + (ma)niacs
9) Oh, well if it isn't Schmidt. Or should I call you *Scmidttata* because you have so much egg on your face?	Smidttata ← Scmidt + (frit)tata

10) It's called *Marshgammon*. It combines all best features of all the best games… Candy Land, I never, Pictionary. – Backgammon, obviously. – No. Backgammon sucks. I took the only good part of backgammon, the "gammon", and I left the rest of it in the trash where it belongs.	Marshgammon ← Marsh(all) + (back) gammon
11) Max, Caroline, I'd like you to meet my gamer crew. Basically, *Hantourage*.	Hantourage ← Han + (en)tourage
12) Halle Berry? More like Frankenberry.	Frankenberry← Franken(stein) + Berry
13) We're just looking out for your best interests. *Quinnterest*.	Quinnterest ← Quinn + (in)terest
14) My friends think you're wrong for me, so they're having an intervention. -A *Quinntervention*.	Quinntervention ← Quinn + (in)tervention
15) I'm telling all y'all… it's *Zabkatage*.	Zabkatage ← Zabka + (sabo)tage

The examples listed in Table 1 show that personal names serving as the splinters in blend formation can be used as both first and second splinters. Moreover, they can be used in both full and clipped forms giving rise to the following schemas:

1) A whole personal name in the initial position of the blend is followed by a part of a common or abstract noun as the second splinter (A6), (A9), (A11), (A13), (A14) and (A15):

   1 $[[X]_{Niprop}$ [segment of Y$]_{Njcomm/abstr}] \leftrightarrow$ Z [AN ENTITY/OBJECT Y HAVING THE CHARACTERISTICS OF/LINK WITH THE PERSON X $]_{Nk}$

Following the scheme given in 1, the blend *Sophievent* (A6) can be segmented into *Sophie* and *event*, while its meaning can be interpreted as 'the event organized/run BY Sophie'. Other nonce formations that fit the scheme, *Quinntervention* (A14) and *Zabkatage* (A15) can be segmented accordingly leading the speaker(s) towards the agentive interpretations '*intervention performed by Quinn*' and '*sabotage performed/undertaken by Zabka*', respectively. Therefore, the syntactico-semantic link between the proper noun and the common/abstract noun as the second splinter is of agentive nature. Thus, the general structural construction schema 1 for this type of blends could be specified into the following subschema 1_a with the specific meaning

1_a [[X]$_{\text{Niprop.anim.hum.}}$ [segment of Y[8]]$_{\text{Njabstr .naming action}}$]$_{\text{Nk}}$ ↔ Z [AN ACTION Y PERFORMED BY X]$_{\text{Nkabstr.}}$

Other examples belonging to this structural type *Hantourage* (A11) and *Quinnterest* (A14) can be segmented into *Han* + *entourage* and *Quinn* + *interest*, respectively triggering the following possessive, defining, classifying interpretations '*Han's entourage/ the entourage of Han*' and '*Quinn's interest / the interest of Quinn*' with the specific constructional subschema (1_b)

1_b [[X]$_{\text{Niprop.anim.hum.}}$ [segment of Y]$_{\text{Njabstr/comm}}$]$_{\text{Nk}}$ ↔ Z [AN ENTITY Y POSSESSED/CLASSIFIED BY X]$_{\text{Nkabstr/comm.}}$

Finally, schema 1 allows segmenting of the example *Smidttata* (A9) into '*Smidt* and *frittata*'. However, the meaning of this example is much more dependent on the situational context and could trigger qualitative, descriptive (or even locative) meaning '*frittata on Smidt*' or '*frittata with Scmidt*'.

1_c [[X]$_{\text{prop.}}$] $_{\text{Niprop.anim.hum}}$ [segment of Y]$_{\text{Njcomm/abstr}}$] ↔ Z [AN ENTITY Y ON/WITH X]$_{\text{Nkabstr/comm..}}$

2) A segment of a proper noun is the first splinter and the segment of a common or abstract noun is the second splinter (A10), (A8), (A5):

2 [[segment of X]$_{\text{Niprop.anim.hum.}}$ [segment of Y]$_{\text{Njcomm/abstr}}$]$_{\text{Nk}}$ ↔ Z [AN ENTITY/OBJECT Y HAVING THE CHARACTERISTICS OF/LINK WITH Y]$_{\text{Nk}}$

As for schema 2, the examples (A5) and (A10) trigger the agentive interpretations of '*an event organized by Kevin*' and '*a special kind of backgammon-like game created by Marshall*'. Therefore, the appropriate subschema would be

2_a [[segment of X]$_{\text{Niprop.anim.hum.}}$ [segment of Y]$_{\text{Njcomm/abstr}}$]$_{\text{Nk}}$ ↔ Z [AN ACTIVITY Y DONE BY X]$_{\text{Nk.}}$

The example (A8) presents a combination of the personal family name and the plural of the common [+ animate, + human] noun and is segmented into '*Zane* + *maniacs*'. The given context provides enough information for its appropriate possessive classifying interpretation as '*a group of (Billy) Zane's hardcore fans*' thus the subschema is

8 For more on the restrictions governing the phonological make-up of blends and guiding the position of cuts within base words, see Plag (2003).

2_b [[segment of X]$_{Nprop.anim.hum.}$]$_{Ni}$ [segment of Y]$_{Njcomm.}$]$_{Nkcomm}$ ↔ Z [AN ENTITY/PERSON Y POSSESSED/CLASSIFIED BY THE PERSON X NAMED BY N_i]$_{Nkcomm..}$

3) A segment of a proper noun is the first splinter and the whole of a common or abstract noun is the second splinter (A2), and (A5):

3 [[segment of X]$_{Niprop.anim.hum.}$ [Y]$_{Njcomm/abstr}$]$_{Nk}$ ↔ Z [AN ENTITY Y HAVING THE CHARACTERISTICS OF/LINK WITH THE PERSON X]$_{Nk}$

Relying on the (extra)linguistic context provided in the TV show, the example (A2) is easily segmented into the clipped personal name of one of the main characters and a common noun. Given the conditions in which the utterance occurs, such a combination renders the hypocoristic reading based on the analogy with the term of endearment '*cutie pie*'. Therefore, the adequate subschema projecting such reading will be

3_a [[segment of X]$_{Niprop.anim.hum.}$[Y]$_{Njcomm/abstr}$]$_{Nkcomm./abstr.}$ ↔ Z [A PARTICULARLY DEAR PERSON X]$_{Nkanim.hum.}$

The example (A5) is morphosemantically segmented into '*Kevin+event*' with the agentive semantic interpretation '*an event organized by Kevin*'.

3_b [[segment of X]$_{Niprop.anim.hum.}$] [Y]$_{Njcomm/abstr}$]$_{Nkabstr.}$ ↔ Z [AN ACTION Y PERFORMED BY X]$_{Nk}$

4) A whole common or abstract noun in the initial position is followed by a segment of the personal name as the second splinter (A1), (A7):

4 [[X]$_{Nicom/absstr.}$ [segment of Y]$_{Njprop}$] $_{Nkprop.anim.hum}$ ↔ Z [A PERSON Y HAVING THE CHARACTERISTICS OF THE ENTITY X NAMED BY N_i]$_{Nk}$

Obviously, both examples allow for transparent segmentations. As for their semantic interpretation, it is largely taken from the (extra)linguistic context and both would fall under the same constructional schema 4 with the descriptive reading. *Snowleg* can be understood as '*Oleg*, *who is fond of snow*' while *Jerkssica* is '*Jessica*, *who is a jerk*'.

5) A segment of a proper noun (personal name) as the first splinter is combined with the segment of another proper noun as the second splinter (A12):

5 [[segment of $[X]_{Niprop.}$ $[Y]_{Njprop}]_{Nkprop.anim.hum.}$ ↔ Z [A PERSON Z HAVING BOTH THE CHARACTERISTICS OF X AND Y]$_{Nk}$

Frankenberry (A12) is structurally quite transparent and easily broken into '*Franken(stein) + (Halle) Berry*' triggering coordinative meaning as given in schema 5.

6) A segment of a proper noun (personal name) as the first splinter is followed by a segment of a proper noun in the position of the second splinter (A4).

6 [[segment of $[X]_{Niprop.anim.hum.}$ $[Y]_{Njprop}]_{Nkprop.anim.hum.}$ ↔ Z [A PERSON X HAVING THE CHARACTERSITICS OF THE ENTITY/ PERSON Y]$_{Nk}$

Just like the previous type, the example (A4) *Keverest* is highly transparent and easily broken into source words, which, with the help from the extralinguistic context, guides us into the modifying, metaphorical semantic interpretation '*Kevin*, *who is very tall / who is as tall as (Mount) Everest*'.

The examples listed above, and the schemas provided indicate that personal names as blend splinters (either as a whole or in part) tend to combine with both other proper nouns or common/abstract nouns (or their parts). No adjectives or verbs have been found to interact with proper nouns in blend-formation in this small-scale corpus, which is in accordance with their lesser general tendency to serve as blend splinters.

A special kind of personal-name blends are those indicating a love relationship between two people, who, by being romantically involved, form a bipolar entity generally perceived as a single abstract item/phenomenon. Such blends are productively formed following the blend *Be$_{(n)(Je)}$nnifer* (referring to the romantic relationship between Ben Affleck and Jennifer Lopez). The form *Bra$_{(d)(A)}$ngelina* (referring to the affair between Brad Pitt and Angelina Jolie) was first created by analogy with *Bennifer* and even though neither of the two are officially listed in OED, they are not perceived as nonce formations because of their now recognized status in spoken English and journalism (Mattiello 2013, 120). Other blends of this kind are usually formed by merging the given names of two people who are romantically involved with each other, and the pattern allows for either the parts of their first names or the whole names to be merged with one another. Irrespective of the type of splinters (personal names used as wholes or in part) involved, all examples have a coordinative structure triggering a hybrid meaning.

The most general schema fitting this pattern would be

$$7\ [[X]_{\text{Niprop.anim.hum.}}\ [Y]_{\text{Njprop.anim.hum.}}]_{\text{Nkcoll.}} \leftrightarrow Z\ [\text{ROMANTIC RELATIONSHIP BETWEEN X AND Y}]_{\text{Nk.}}$$

The examples of this type of blend given in Table 2 were found in our English corpus, proving the pattern to be quite established and institutionalized.

Table 2. Splinters (personal names used as wholes or in part) with a coordinative structure triggering hybrid meaning.

Nonce formations in context	*Blend formation*
16) Cause that's how *Katoby* roll.	Katoby ←Kat(e) + (T)oby
17) Attention Blawkerites, *Zudson* is over.	Zudson ← Z(oe) + (J)udson
18) Well, will y'all be going by *Lavonabeth* or the shorter *Annabon*?	a) Lavonabeth ←Lavon + (Ann)abeth b) Annabon ← Annab(eth) + (Lav)on
19) *Zeorge*. ("Geo" with a "G" was just too confusing.)	Zeorge ← Z(oe) + (G)eorge
20) Well, does this mean that there's still hope for *Zade* fans out there?	Zade ← Z(oe) + (W)ade
21) Well, Blawkers, it's official *Lemonade* lives!	Lemonade ← Lemon + (W)ade
22) Dash is covering *Joelabeth* 24/7. + Hashtag *Bughead* is no more?	a) Joelabeth ← Joel + (Ann)abeth b) Bughead ← B(etty) + (J)ughead

Given the structure of the examples (B16–22), schema 7 could be further formally specified into the following:

$$7_{a}\ [\text{segment of } [X]_{\text{Niprop.anim.hum}}\ \text{segment of } [Y]_{\text{Njprop.anim.hum}}]_{\text{Nkcoll.}} \leftrightarrow Z\ [\text{ROMANTIC RELATIONSHIP BETWEEN X AND Y}]_{\text{Nk.}}$$

$$7_{b}\ [[X]_{\text{Niprop.anim.hum}}\ \text{segment of } [Y]_{\text{Njprop.anim.hum}}]_{\text{Nkcoll}} \leftrightarrow Z\ [\text{ROMANTIC RELATIONSHIP BETWEEN X}_{\text{(THE PERSON Ni)}}\ \text{AND Y}_{\text{(THE PERSON Nj)}}]_{\text{Nk.}}$$

Examples (B16, B17, B18a, B19, B20 and B22) fit both formally and semantically the schema provided in $7_{a,}$ while (A18a) and (21) correspond to $7_{b.}$ This indicates that personal-name blends with coordinative structure and reading show a higher tendency to be partial with both splinters being parts of personal names (schema 7a) rather than using constituent proper nouns in their entirety (as in B18a and B21).

Semantically speaking, these blends project a hybrid meaning, a sort of personalized semantic amalgam(s) fusing the meanings associated with two specific people, both individually and as a romantic couple. Such a meaning is composed based on certain extra-linguistic, encyclopaedic knowledge regarding the unique, individual, context-dependent relation between the two constituting persons.

This results in the fact that such nouns can be perceived as inherently marked for dual (plural) number since they refer to an entity composed of precisely two persons despite their lack of formal number markedness. In that respect they resemble collective nouns since they can be treated as either singular (as in B22, B21, B17) or plural (B16, B18).

Obviously, all personal-name blends studied here follow either

a) the "prototypical" blending pattern $X_{(AB)}+ Y_{(CD)} \rightarrow Z_{(AD)}$ (e.g. *Bughead*, *Zade*, *Zeorge*, *Annabon*, *Zudson*, *Kevent*, *Sophievent*), or

b) the pattern $X+ Y_{(CD)} \rightarrow Z_{(XD)}$ (e.g. *Lavonabeth*, *Lemonade*, *Quinnterest*, *Jerkssica*, *Snowleg*, *Smidttata*, *Hantourage*, *Zabkatage*)

The former have splinters with no morphological status, which proves them to be true blends (blends proper) and not truncated-form compounds of the type *Interpol*, *agitprop* or *satnav*. The latter, with a noun as a whole as the first splinter followed by a second segment of the second noun, prove to belong to a more dominant structural pattern in personal-name English blends, which is in accordance with the psycholinguistic findings that the beginning of a word is more recognizable than its end (Gries, 2004, 2012). Such a tendency to preserve as much as possible of the first constituent's orthographic and phonological content is found in examples (A6), (A9), (A11), (A13), (A14), (A15), (B18a), (B21), and (B22a). For that reason, the monosyllabic and disyllabic names as first constituents tend to appear in their uncurtailed forms, such as *Sophie*, *Han*, *Quinn*, *Zabka*, *Zane*, *Smidt*, *Joel*, *Lemon*, *Kate* versus *Kev(in)*, *Marsh(all)*, *Mag(nolia)*, *Franken(stein)*, and *(Anna)beth*. The former mostly form *telescope blends* where the final segment of the personal name as the first source word overlaps with the beginning of the second base word which is the semantic core of the entire blend. The structure of the preserved segment may vary from a single grapheme/phoneme (e.g. *Ka**t**oby* /keɪˈ**t**əʊbi/, *Sophi**e**vent* /ˈsɒfi**e**vent/, *Ha**n**tourage* /h**ʌ***n***t**uˈraːʒ/) to a string of graphemes/phonemes (e.g. *Quinntrest* /ˈkwɪ**n**trest/, *Quinnterevention* /kwɪ**n**ˈtərvenʃən/[9]*).*

9 In the IPA transcriptions of the given blends, the stress-marking is based on their pronunciation in TV shows.

In addition, the given examples reflect the tendency of at least one of the stressed syllables from the two elements to be preserved at the same time showing preference for the (primary) stress of the right-hand word to be retained.[10] Given that the transparency and recognizability of blends are among key conditions for their interpretation (Bauer 2012, 13), this preservation of phono-graphemic material adds to the transparency and recognizability of the coined blends contributing to their easier processing and interpretation.

Finally, the presented English personal-name blends follow the tendency of English blends that the base words are of (nearly) the same size regarding the number of syllables (Plag 2003, 125).

6 Translatability and adaptability of English personal-name blends in Serbian

Since in the globally Americanized world such English nonce formations and novel coinages are widely available to English and non-English speaking audiences alike, we were intrigued to look into how such highly context-motivated English (SL) portmanteau words can be translated and/or adapted into Serbian (TL).

Blends are known to be structurally restricted by a host of semantic, syntactic and prosodic restrictions, which makes them particularly tricky and demanding for translation and/or adaptation (into Serbian as TL).

According to Newmark ([1988] 2003, 144), before deciding whether to recreate them in the TL or to translate the complete components of the blends, the translator has to be aware of their function, neatness and phonaesthetic quality in both SL and TL.

Blending is generally perceived among Serbian linguists to be a relatively new formation phenomenon which is believed to have entered Serbian via language contact with English, with the early Serbian blends dating back to the 1990s (Halupka-Rešetar and Lalić-Krstin 2009; Bugarski 2019; Tomić 2019). However, the mechanism has been around in Serbian literature (Milanović 2022) much longer, and well before any Serbian-English language contacts could be traced (Milanović and Vujić 2019). Examples such as (2) (Milanović 2022) show that blending as a mechanism of coining highly descriptive and

10 For more on stress position in blends, see Bauer (2012).

stylistically charged coinages in Serbian literary language, though rare, can be detected decades (and even centuries) before the various contemporary corpora (Bugarski 2019, Tomić 2019, Halupka-Rešetar and Lalić-Krstin 2009, Jovanović 2019), compiled in the past two decades, might suggest.

(2)

a. romor(i) + Anka→ romoranka (1862)
E *sough-PRES.3.PER.SG* + *Anka*

b. štal(a) + (br)log→ štalog (1939)
E *barn* + *den*

c. opan(ak) + (ota)džbina → opandžbina (1972)
E *opanak*[11] + *fatherland*

Typically hapaxes, such portmanteau creations tend to be the results of lexical/morphological creativity.

Few would disagree that blending is an elastic and quite dynamic process in Serbian nonce-formation creation, and some scholars even consider blends to be the most original and humorous lexical formations in present-day Serbian (Prćić 2018). But blending is still far less productive than typologically canonical, grammatical formation processes (derivation and composite derivation), which only adds to the challenge of translating English blends into Serbian. The problem so far has been tackled in three serious and more in-depth studies (Subašić 2014; Prćić 2018; Jovanović 2019). While Subašić's study focuses only on translation, covering the techniques of direct and structural translation and functional approximation, Jovanović's contrastive approach explores the mechanisms of incorporation and adaptation of English blends as loanwords into the lexicon of Serbian. He deals mainly with instances of lexical borrowing through language-contacts and provides only a few examples of (mainly) direct translation (e.g. lobs$_{(ter)(mons)}$trosity > jastog$_{(čud)}$ovište) and formal adaptation (e.g. skull$_{(mull)}$et > nularica sa repovima).

What all of the previous studies have in common is that corpora mainly consist of blend nouns that are predominantly common or abstract and rarely (if ever) contain proper-noun and personal-name blends[12] or blends with proper-noun splinter(s).

11 A type of traditional Serbian footwear typically worn in rural environments.

12 Jovanović (2021, 121) mentions the example Patricia-gator > Patriša-gator, but the example may be seen as a compound given that the truncated form *gator* is highly lexicalized and institutionalized in AE.

Given that proper nouns tend to be semantically highly specific and definite with monodimensional semantics aimed solely at naming persons, it is rare that they get translated into TL, and instead usually undergo phonological and/or orthographic adaptation (e.g. E Quinn> S Kvin; E Wade> S Vejd; E George> S Džordž). This may falsely suggest that personal-name portmanteau words are easy to translate and incorporate into Serbian.

The meaning of blends tends to be interpreted according to the "typical or context-dependent relation between the two constituents" (Plag 2003). However, when personal names are used as English blend source-words, their semantics is somewhat changed. It becomes highly personalized and individualized since it refers to the particular person(s) with all the associative meaning they may carry, triggering a distinct conceptualization and processing of a proper noun which, in nonce formations, implies and signifies much more than just a name. It gets a rather definite, narrow metaphorical reference and the speakers absolutely need to be familiar with what the particular personal name symbolizes in order to semantically decompose personal-name nonce formations in both languages.

The main challenge during translation is to preserve as much as possible the novelty of the orthographic/phonological appearance of the English source word in Serbian translation equivalent, while at the same time maintaining its transparency and decomposability. On top of this, the humorous and playful effect is also expected to be preserved in the TL. All this can be quite a task bearing in mind the different nonce formation tendencies of both languages.

Incorporation of coordinate blends containing personal names as both source words projecting hybrid 'having the features of both X and Y' meaning into Serbian would entail orthographic and phonological adaptation of blends (3) since their semantics is super-specific. For their interpretation, the speakers have to rely on extralinguistic knowledge and familiarity with the certain persons as participants of the certain fictional events depicted in the TV shows. This means that only the audience of the given sitcoms would possess enough linguistic and extralinguistic knowledge to properly decompose and understand the meaning of such blends.

(3)

a. Katoby > Kejtobi
b. Zudson > Zadson
c. Zeorge > Zordž

d. Lavonabet > Lavonabet
e. Joelabeth > Džoelabet
f. Keverest > Keverest
g. Frankenberry > Frankenberi

When one of the source words belongs to any other class of nouns with more elaborate and open semantics, the translation or any other sort of domestication/naturalization of English blends into a Serbian (con)text becomes definitely more complicated. This is the case with all examples (A1–15) except for 3), 4), 12). Such forms cannot be simply adapted and naturalized, but require finding adequate structural and semantic equivalents in Serbian. Looking at the corpora and examples offered in the previous studies as well as investigating translatability of English blends which classify as common, abstract or mass nouns, we have noticed that the blends containing loanwords or internationalisms as a second source word tend to show a higher translational potential allowing for preservation of prosodic, structural, semantic and pragmatic features (4).

(4)

a. E tree+(sy)nergy → treenergy
   S jel(ka) + (sin)ergija → jelergija

b. E bro(ther) + (ro)mance → bromance
   S br(at/aća) + (r)omansa → bromansa

c. E lob(ster) + (mon)strosity → lobstrosity
   S jastog + (čud)ovište → jastogovište

d. E bride + (God)zilla→ bridezilla
   S mlad(a) + (God)zila → mladzila

e. E glam(or)+(cam)ping→glamping
   S glam(ur) + (kam)povanje → glampovanje

f. E info(rmation)+(epi)demia→infodemia
   S info(rmacije) + (epi)demija →infodemija

All examples (4a–f) adhere to the prototypical blend scheme III conforming to prosodic constraints typical of blends with the constituents of syllables left intact (Plag 2003, 123). This may explain why (4b), (4e–f) are not treated as proper loanwords from English (borrowed as whole lexemes) but rather as blends formed from Serbian lexemes (domestic or fully domesticated loanwords) based on the productive schema which is almost identical in SL and TL.

With all this in mind, we believe that the following translations (5) of English personal-name blends from popular sitcoms would be adequate Serbian equivalents that stay true to the complex linguistic features of the original nonce formations:[13]

(5)

a. Snowleg > Snoleg ← sn(eg) + Oleg
   OR Snowleg > Snegleg ← sneg + (O)leg

b. Magpie > magmed ← Mag(nolija) + med

c. Kevent > kivent/kevent

d. Sophievent > sofivent

e. Jerksica > Drksika ← drk(oš) + (Dže)sika

f. Hantourage > hanmarila ← Han + (ka)marila

g. Zaniacs > zejnijaci ← Zej(n) + (ma)nijaci

h. Smidttata > šmitata ← Šmi(t) + (frit)tata

i. Marshgammon > Maršgemon ← Marš(al) + (bek)gemon

j. Quinnterest > kvinteres ← Kvin + (in)teres

k. Quinntervention > kvintervencija ← Kvin + (in)tervencija

l. Zabkatage > zabkataža ← Zabka + (sabo)taža

The proposed translations (5 g–l) confirm the previous finding that the blends containing an established and fully domesticated loanword (or loanwords), display a high translational potential. In our examples, Serbian semantic equivalents for English lexemes *maniacs*, *frittata*, *backgammon*, *interest*, *intervention* and *sabotage* are fully domesticated lexemes *manijaci*, *fritata*, *bekgemon*, *interes*, *intervencija*, *sabotaža* with just sightly modified prosody in the TL. This means that in the proposed translations there occurs very little shifting of prosodic, syntactic and semantic balance of the English blends in the TL. Therefore,

13 Since translation is a creative activity which produces different outputs depending on the creativity, knowledge and inspiration of individual translators, the Serbian examples offered in (5) are to be seen just as illustrative instances of possible solutions proposed by the authors whose efforts to find the suitable formal and semantic equivalents were aided by theoretical work.

their original phonoaesthetic and morpho-semantic stability remains rather intact, preserving their (pragmatic) function in the TL, too. As such, they are equally effective in both languages.

In examples (5a) (5e–f), Serbian semantic equivalents for base words *snow*, *jerk*, and *entourage* are domestic Serbian words *sneg*, *drkoš* and the domesticated loanword *kamarila*, respectively. A similar prosodic structure of two semantic equivalents *snow* and *sneg* in (5a) offers possibilities for two elegant translation solutions offered under (5a).[14] The first one, *Snoleg* preserves the structure and prosody of splinters in the original portmanteau word with the first splinter being a part of the mass noun while the second is the whole personal name *Oleg*. The second proposed translation *Snegleg* would also qualify as an acceptable translation with a shifted structure in which the first source word is used as a whole *sneg* while the initial syllable is dropped from the second base word *(O)leg*.

Quite similar is the situation with (5e) *Jerkssica/ Drksika*,[15] where we encounter likeness in prosody between English *jerk /*ˈdʒɜ:(r)k*/* and Serbian *drkoš*. The high prosodic overlapping is present between the phonological realization of the English monosyllabic word and the initial syllable of the Serbian semantic equivalent. Therefore, it is quite easy to preserve the prosody of the English blend. The Serbian translation has a somewhat changed structure since the first splinter is just a segment of the source word *drk(oš)* while in English it is the whole of the word *jerk*, which does not interfere with the effectiveness of the original. In addition, the English original preserves most of the phonetic (and orthographic) material from the personal name *Jessica* (/ˈ**dʒesika/** → / ˈ**dʒə**(r) **ksika/**, making it quite recognizable, while in the proposed Serbian equivalent the meaning of the personal name is anchored in the second, stressed part *-sika*.

As for (5f), the fact that the chosen Serbian semantic equivalent for English *entourage* is *kamarila* which shares phonological material with neither the first splinter, the personal name Han, nor the second splinter *entourage*, made translating of *Hantourage* somewhat more challenging than the previously

14 The form *snegoleg* was proposed as an adequate translation here. While we agree that semantically, stylistically as well as prosodically this is the best solution, such a form is likely to be morphologically (structurally) treated as a compound with no linking vowel (the type of *bubašvaba*) in Serbian rather than a blend (Piper and Klajn 2014, 249). Therefore, we have not included it in our analysis. Similar is the case with the proposed solution for (5f) *hansvita* (Han + svita).

15 Other blend solutions that were offered here include *jebsika* or *masturbika*. However, as funny as they may sound, their meaning would not comply with the situational context in which the original was used. In addition, their structure would not comply with the proposed schema 4 as their first source words are verbs.

discussed cases. However, in finding the adequate translation we could rely on the structural side of the original as well as on the prosodic constraints that regulate cutting in blends. The prosodic features of the lexeme *kamarila* allowed it to be truncated into the splinter *-marila* which combines quite well with the personal name *Han*. The output is suggestive enough and in compliance with the phonological system of Serbian.

The appearance of examples (5c–d) may suggest that they have undergone the process of borrowing and orthographic adaptation in Serbian, like the lexemes *branč (brunch)*, *motel* and *smog*. However, this is not the case as contemporary Serbian slang has adopted the English word *event* denoting 'a special kind of organized celebration or social occasion'. It is realized in Serbian as *event / event/* or *ivent /ivent/*[16] which is why the translation (5c) has a twofold orthographic and phonological realization.

Finally, we based the translation of the example (5b) *Magpie* on the structural, semantic and functional (pragmatic) information contained in the constructional schema 3_a, in which its affective hypocoristic semantics is specified. The Serbian equivalent for the noun *pie* is *pita*, which is completely devoid of any affective or hypocoristic meaning. For that reason, by following the semantics of the English blend as well as its prosody and structure, we chose the lexeme *med* (E *honey*) which is not only prosodically close to the English *pie* (both being monosyllabic words) but also semantically since the lexeme *med* is in Serbian associated with hypocoristic pet names such as *medu moj* (E *my honey*) or *medena*$_N$ (E lit. *honey-like*$_N$).

The proposed translations suggest that the translational potential of English (personal-name) blends largely depends on the phonological make-up of the semantically equivalent Serbian lexeme(s) and their size. The closer the prosody of the Serbian equivalent(s) is to the components of the English original, the more likely the English blend will be successfully translated into Serbian, largely preserving the form, structure, semantics and pragmatics of the original. As for size, the examples show that lexemes with up to three syllables are most commonly used in English blend-formation. Thus, if the semantically equivalent Serbian lexemes comply with this tendency they are more likely to be structurally adequate for blend translation. In addition, both English examples and their Serbian equivalents show the tendency to front the shorter and more salient (or frequent) constituent.

16 Some recent combinations include *Event Industrija Srbije/Ивент индустрија Србије*, *event centar/ивент центар*, *event planer/ивент планер*, *event sala/ивент сала*.

The size of English blends tends to be determined by the second element (Plag 2003, 125). Moreover, in accordance with the prevailing right-hand rule, the second element defines their morpho-syntactic behaviour and grammatical class as well. Such grammatical information is contained in the schemas provided earlier. It is also a semantic core of the given portmanteau words. Since the Serbian translations offered in (5) have a high equivalence on several aspects with the English originals, the same schemas can be operable for Serbian translations, too.

As Serbian equivalent blends are common/abstract countable nouns (e.g. *magmed*, *kevent*, *sofivent*, *hanmarila*, *kvinteres*, *kvinternvencija*, *šmitata*, *zejnijaci*, *zabkataža)*, proper nouns used as source words are not capitalized in writing. According to the same "right-hand rule" the blends *Snoleg* and *Drksika* are defined by the grammatical class of the second splinter and remain proper nouns, which explains their capitalization in writing. As for (5i) which is the name of a boardgame, we suggest it remain capitalized in the Serbian translation given the specific personalized meaning and by analogy with the Serbian orthographic system which requires the proper nouns remain capitalized when used as names (or name-components) of different concepts, such as institutions, manifestations and so on (Pešikan et. al. 2020).

We acknowledge that the translation solutions proposed in (5) vary in their effectiveness and may well lag behind the English originals. This is understandable given the differences and restrictions that exist in the morpho-phonological systems of English and Serbian, which limit the blending capacity and possibilities for Serbian (proper) nouns. In addition, Serbian has a higher index of fusion than English (Lieber 2016; Vujić 2020), which restricts blending possibilities in the language. All this can result in more or less clumsy blending solutions in Serbian, mainly with regard to their phonaesthetic quality. With all that in mind, blends remain one of the greatest challenges for Serbian translators to tackle.

7 Concluding remarks

Our analysis shows that all the studied English portmanteaus are extracted from constructional schemas that could produce quite a few new expressions. We have demonstrated that a specific schema and/or sub-schema can be attributed to a number of blend formations rather than to single instances, which indicates that they are more rule-governed than may initially appear. This seems to be due to the fact that both productive processes and schemas are usually related to frequency and salience (Vujić 2016).

In the introduction, we identified some uncertainty as to whether morphological creativity is rule-governed or rule-changing. Based on the analysis presented in this paper, it could be said that most personal-name blends are instances of rule-governed creativity.

The second question raised is whether nonce formations are based on (constructional) schema or analogy. Our findings indicate that the outputs of blending may be regarded as extracted from schemas because of the lack of a specific model. This is in line with Tuggy's belief (2006, 102) that analogy-based and schema-based models are not "strict alternatives" because they may be "simultaneously active" since "the difference between them is one of degree".

As we have seen from the examples in B, they may be said to be instances of analogy via schema if we take *Bennifer* and *Brangleina* to be the model. Our examples show that the number of formations based on this model exceeds occasional random instances, suggesting that the analogy may have indeed slid along the scale and prompted a new schema. This again proves that there is a possibility of an analogy prompting a new schema (Booij 2010).

Furthermore, we have demonstrated how the identification and formulation of English blend construction schemas, which specify all vital information regarding prosodic, syntactic, semantic and pragmatic features of the novel formations, can be highly valuable to translators, helping them find and create suitable equivalents in the TL maximizing the preservation of the form-meaning-use correspondence of the original. Moreover, our study suggests that somewhat modified English schemas might actively operate in Serbian speakers' mental lexicon for nonce word creation. However, presently it is just an initial hypothesis based on the small-scale specific corpus studied in this research, and remains to be thoroughly investigated in our future work.

As playful and humorous expressions that are the results of morphological creativity, the personal-name blends are highly context-dependent and understood only by a close speech community. By applying a constructionist approach, we have shown that their meaning does not have to be completely unpredictable and indecipherable. Even though their form may seem 'deviant' at first, our study indicates that there is a regular pattern that they follow, i.e. there are constructional schemas which allow for the extraction of these nonce formations. Due to multiple examples of blends, these form-meaning correspondences are quite straightforward, confirming that constructional schemas are related to frequency and salience.

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Adjective + Noun Collocations in Tourism Discourse – A Contrastive Corpus-Based Study of English and Serbian

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Abstract

The main objective of the paper was to identify recurring *adjective + noun collocations* and to analyse their main morpho-syntactic, semantic and communicative features in the context of promotional tourism texts in English and Serbian on the Internet. Firstly, two comparable corpora in English and Serbian were compiled from the tourism-related websites of Great Britain and Serbia, and key *adjective + noun collocations* were extracted by means of two software tools. Based on their normalized frequencies per 10,000 words, the collocations were first analysed quantitatively. The subsequent qualitative analysis looked deeper into the specific use of *adjective + noun collocations* in the context of tourism texts as well as into the similarities and differences of these collocations in the two languages. The results of the study have implications for tourism discourse studies, language typology and lexicography as well as English for Tourism education.

Keywords: adjective + noun collocations, contrastive corpus analysis, tourism discourse, English-Serbian analysis

1 Introduction

Tourism discourse has been receiving increased attention in recent decades, particularly in terms of communication with the clients via the Internet and social media. This special type of discourse mainly features a combination of verbal and non-verbal elements used to promote destinations and services to a wider audience, following ethical principles of customer relations. The world has become a global village with increased mobility and accessibility, so the tourism discourse happening online is creating an image of global intercultural connectedness (Thurlow and Jaworski 2010, 4). Tourism professionals thus use language for the promotion of tourist destinations and tourism services in the way that they co-create value with the customers with the ultimate aim of selling tourism products to them. Promotional tourism discourse promotes tourism products as objects of desire, creating a sense of inequality and privilege (Thurlow and Jaworski 2010, 11).

The study focuses on the use and role of *adjective* + *noun* collocations in tourism promotion on the Internet.* It is expected that destination descriptions are rich in these collocations, whose main purpose is to create a positive, inspiring and intriguing description that will attract customers. Firstly, a brief overview of specific elements of tourism discourse relevant for this study is given. Secondly, the theoretical approach to collocations is explained, followed by the rationale behind the contrastive corpus-based method of analysis. The methodology comprises the extraction of *adjective* + *noun* collocations from two comparable corpora in English and Serbian compiled from the official promotional websites of tourism organizations of Great Britain and Serbia as well as two major travel agencies in these countries. The most frequent *adjective* + *noun* collocations in the two corpora are then analysed morpho-syntactically, semantically and pragmatically. This is followed by an overview of the similarities and differences, leading to an overall conclusion on the use of *adjective* + *noun* collocations in this type of discourse. The results can also be interpreted in view of the pedagogical implications they have for tourism language education at the university level.

* The results and findings presented here are based on a larger study that was conducted for a doctoral thesis.

2 Theoretical background

2.1 Tourism discourse

Jaworski and Pritchard (2005, 6–7) state that tourism discourse shapes our vision of reality, social identities and understanding of *the self* and *the other*. In addition, tourism discourse on the Internet is a specific form of advertising whose "ultimate goal […] is to inform and persuade" (Bhatia 2019, 438). Advertising strategies rely on the rational principle (informational function of the message) and emotional principle (positive, negative, and neutral) (Bhatia 2019, 435), which are both relevant for the promotional tourism discourse. More specifically, in addition to being informative, tourism-related promotion is sensitive to positive emotions (unlike, for example, health-related advertising) with the aim of creating a desire for travelling and ultimately embarking on a journey.

The embellished descriptions of the physical space turn it into an ideal image, giving it special, symbolic meaning. Maci (2018, 33) explains that the use of adjectives in tourism discourse evaluates and enriches the information given in promotional texts in order to create a positive, emotional appeal, as well as contribute to destination differentiation. There are numerous important features of tourism rhetoric that are used to attract tourists to visit various destinations. They range from *authenticity, novelty, uniqueness,* and *magic* to the concepts of *play, conflict* and *appropriation* as well as the specific use of the *notion of time* (Dann 1996), and they are often marked by specific adjectives used in the descriptions. For example, the aspect of authenticity is used to attribute specific semiotic significance to tourist attractions and destinations to create the sense of uniqueness. Historic buildings, landmarks, even culinary specialties are treated as symbols of a region or tourist resort. To create such an image, advertising specialists use descriptive adjectives such as *actual, authentic, original, pure, real* or *true* (Vuković Vojnović 2020, 452). Another element that motivates tourists is their desire to find places that are different from those where they live, to explore something that has never been seen before. The aspects of novelty, strangeness and even magic are observed in the use of specific descriptive adjectives such as *unspoilt (nature), pristine (beach), remote (island), picturesque, quaint (village),* and *Magical Kenya.*[1] The element of play is evident in the promotion of recreational activities (e.g., *fun-filled activities*), whereas the aspect of intercultural conflict is explored through a specific

1 See https://www.magicalkenya.com/mkse/.

romanticized approach to local history and culture and is presented to tourists in a way that is considered the most acceptable. For example, festivals are the most popular way to promote local diversity, as found in the introductory text on the Canadian website *Destination Indigenous*:[2] *Bask in the joyful reclamation of traditional dances and songs, and sense the palpable pride of Indigenous dancers, drummers and singers as they embody the power of Pow Wow.*

2.2 Collocations

Collocations are relatively stable elements in language, but in addition to the creation of new ones they can occasionally disappear from language over time. For example, in Serbian the collocation *teška žena* [*heavy woman*] with the meaning of *trudna žena* [*pregnant woman*] has been lost (Pervaz 1984–1985, 607).

With regard to vocabulary learning pedagogy, Nation (2007, 328) emphasizes that it is necessary to dedicate part of such studies to collocations. According to this author, in order to choose the collocations that should be paid attention to when learning a foreign language, it is necessary to gain knowledge about:

a) which collocations are very frequent
b) which collocations are unpredictable and composed of very frequent words
c) which common collocations deserve special attention
d) which collocations are less frequent and should be included in collocation dictionaries to facilitate their learning.

In terms of the definition of collocations, it can easily be observed that various authors apply different approaches and do not always agree on the matter. In the attempt to find the best definition, collocations are often compared to and distinguished from other word combinations, such as compounds, phrasal verbs, idioms, fixed phrases, etc. Compared to these, collocations represent a less strong but still a rather stable bond between two or more words, with different levels of connectedness of their constituents, i.e., the collocates. Most often, collocations are defined and classified either from the phraseological or frequency approach. The first authors who paved the path for the study of collocations were Palmer (1933) from the phraseological and pedagogical aspect and Firth ([1951] 1957a; 1957b) from the frequency aspect.

2 See https://canadianpowwows.ca/.

Cowie (1978, 127–39) defines collocations as co-occurrences of two or more lexical units that are realized within syntactic structures, and also in different grammatical constructions that can be transformationally connected (e.g., *a drastic fall, fall drastically*). Cowie (1978) further observes that the relationships between the words that make up a collocation are influenced by their relative freedom to combine with other words. The flexibility of these combinations is expressed through Cowie's continuum (1981) or a combining scale, at one end of which there are *strictly limited collocations* whose constituents cannot be replaced by their synonyms (e.g., *foot the bill* is an acceptable collocation in English, while *foot the account* is unacceptable), via *relatively limited collocations* where synonym replacement can be observed (e.g., *conduct research* or *carry out research*) to *open collocations*, where there is a large selection of combinations (e.g., *run a business, run a company, run a car*).

According to Crystal (1987, 105), collocations are characterized by a syntagmatic tendency of lexemes to connect in a predictable way, and they can be very different in different languages, so it is understandable that they are not easily acquired in a foreign language. On the other hand, Lakoff (1987, 148) suggests that the meaning of a collocation is motivated by the meaning of its components but cannot be predicted. Van Roey (1990, 46) offers the broadest definition of collocations by explaining that a word "chooses" to combine with a particular word and not its synonym based on their usage and not on their conceptual restrictions, i.e., their meaning or syntactic restrictions. Sinclair (1991, 170) defines a collocation as the occurrence of two or more words that are at a short distance from each other in the text and distinguishes between *statistically significant collocations* that have a high frequency of occurrence, and the so-called *casual collocations* that are not frequent.

The importance of the context and usage for understanding the meaning of lexemes was first emphasized within lexical semantics and its concept of dynamic construal approach, especially by Croft and Cruse (2004, 97–100) who said that "neither meanings nor structural relations are specified in the lexicon, but are construed 'on-line', in actual situations of use" and that "an isolated sign certainly has semantically relevant properties, [...] but they are to be distinguished from the interpretations themselves". This is further supported by the theory of a lexical field, which is a set of semantically related lexemes whose meanings are mutually dependent and represent a certain conceptual structure that reflects reality (Geeraerts 2010, 52). Dragičević (2010, 221) also noted the importance of the context for determining the meaning of a lexeme used in a collocation, and that context can be the collocation itself, where the

meaning of one element determines the meaning of another, or the wider context in which the collocation occurred.

According to Dražić (2013, 387), who investigated collocations in Serbian, collocations are word combinations where either both collocates are in their primary meaning or one is in its primary meaning and the other is in its secondary meaning, with a narrow collocational range, low replaceability and great stability. Regarding the connectedness of their constituents, there is the continuum which includes open, bound and restricted collocations (Dražić 2014, 72). Concerning the collocability and connectedness of the constituents in *adjective + noun collocations*, Dragičević (2011, 114–15) found that frequent adjectives collocated with a larger number of nouns and were not under a great influence of the meaning of the noun, whereas less frequent adjectives had a more restricted ability to collocate, so that the noun, i.e., the collocational context narrowed the meaning of such adjectives.

2.3 Contrastive approach

Contrastive analysis first developed within the context of foreign language teaching, and one of the first advocates for the importance of contrastive linguistics for teaching and learning foreign languages was Robert Lado (1957, 2, 215), who pointed out how a comparison of the target language with the native language, and a discussion about their similarities and differences, could be used to facilitate learning a foreign (target) language. The author further developed the model of contrastive linguistic analysis in his later work (Lado 1964).

Research regarding collocations in a second or foreign language often focuses on the difficulties non-native speakers experience when having to make the right choice of a lexeme. For example, Bahns and Eldaw (1993, 102) concluded, after investigating the knowledge of English *verb + noun collocations* among German speakers through translation and cloze tests, that even very advanced English language learners could not easily predict adequate and acceptable collocations. On the other hand, research shows that native speakers can easily make the right choice of lexemes to combine into collocations (Ackermann and Chen 2013, 236).

One of the first large-scale contrastive investigations of English and Serbian can be traced back to the *Yugoslav Serbo-Croatian English Contrastive Project* (1968–1980). Of particular interest for this research was Vladimir Ivir's paper

entitled *An Outline for the Contrastive Analysis of English and Serbo-Croatian Adjectives* (1969), in which the author dealt with adjectives in the narrowest sense of the word, excluding attributive and predicative nouns, participle forms, adverbs, demonstrative pronouns, possessive adjectives and pronouns, indefinite pronouns, articles and numbers (Ivir 1969, 31). The author gave a thorough analysis of the morphosyntactic characteristics of adjectives and concluded that there were certain similarities between adjectives in English and Serbo-Croatian (1969, 32). Namely, in both languages the majority of adjectives are attributive (prenominal position) descriptive adjectives, which is a trend observed in the current study as well. Đorđević (1989) went further in comparing and contrasting all words in the nominal group. In particular, the author dealt with the properties of adjectives, primarily in their attributive – descriptive or classificatory function, and their role in *adjective + noun collocations*. As seen in Table 1, Đorđević (1989, 570–72) also drew attention to the diverse possibilities of translation options in Serbo-Croatian for the English *adjective + noun collocations*, which has implications for the contrastive analysis of the two languages.

Table 1. Corresponding Serbian expressions for English *adjective + noun collocations* (Đorđević 1989).

ENGLISH	SERBIAN
adjective + noun *a Portuguese priest*	noun + noun *sveštenik Portugalac*
adjective + noun *happy tears*	noun + noun in Genitive case *suze sreće*
adjective + noun *African woman*	noun *Afrikanka*
noun *nursery*	adjective + noun *dečija soba*
adjective + noun *horrid thing*	indefinite pronoun + adjective *nešto loše*
adjective + noun *silent meeting*	noun + prepositional phrase *sastanak u tišini*
adjective + noun *hesitant dawn*	noun + relative clause *... u pravcu zore koja je oklevala*
adjective + noun *windless day*	adverbial clause *...kada nije bilo vetra...*

adjective + noun *haggard look*	deverbalized adjective + noun *iznuren pogled*
adjective + noun He demanded my *speedy entrance*. His mother gave him *a long and fervent kiss*.	adverb + verb Zahtevao je da *brzo uđem*. Majka ga *poljubi vatreno i dugo*.
determinator + noun He had *his wits about him*, we had not.	adjective On je bio *priseban*, a mi ne.

In English, the attributive function of adjectives is often performed by present and past participles as well as gerunds, which are all difficult to distinguish from adjectives with the same endings, so on the surface these phrases are often understood as *adjective + noun collocations*. In Serbian, the situation is similar regarding the participles. Furthermore, in most situations adjectives in Serbian also precede nouns, but in some instances they are not secondary collocates but primary collocates or nodes.[3] Dražić (2013, 393–94) classified *adjective + noun* collocations based on their surface structure and the meaning of adjectives into four major groups as follows:

1. Adj + N (*olakšavajuća okolnost [mitigating circumstance], retka prilika [rare occasion], vremenski uslovi [weather conditions]*);
2. Adj^{primary} + N (*dnevna politika [daily politics], klimatske promene [climate change], lična odgovornost [personal responsibility]);*
3. Adj$^{secondary.}$ + N (*vlažan vazduh [humid air], mutno sećanje [vague memory], stari prijatelj [old friend]*);
4. Adj^{incomplete} + N (*sklon praštanju [prone to forgive/forgiving], željan znanja [willing to learn], okovan ledom [bound by ice/ ice bound], svestan posledica [aware of the consequences]*).

The first group has an abstract noun as the node and the change on the paradigmatic level depends on the semantic range of the words (Dražić 2014, 138–40). The adjective can often be replaced by its antonym (e.g., *olakšavajuća/otežavajaću okolnost* [*mitigating/aggravating circumstance*]). The *adjective*^{primary} *+ noun collocations* where the adjective is in its primary meaning are the most stable ones and are very close to phrasemes or terms (e.g.,

3 In the theory of collocations, the main constituent that carries the meaning of a collocation is the primary collocate which is modified or further specified by the secondary collocate (Prćić 2008, 151). Primary and secondary collocates are referred to as the node and collocate respectively by Sinclair (1966, 415).

tekuća voda [*running water*]), whereas those with the adjective in its secondary meaning are less stable. The last group is structurally different from the previous ones because the primary collocate is actually the adjective with an incomplete meaning that needs to be followed by a noun that specifies it, and the connection between the collocates is not so strong as in the first and second groups.

3 Research design

Bearing in mind the importance of field-specific lexical collocations in the language of profession, the current study was designed with the aim of exploring lexical collocations in promotional tourism discourse, establishing similarities and differences of the two languages in this domain, and investigating possible further implications for English for Tourism, as a language for specific purposes.

Regarding methodology, the source language was English and the contrastive analysis was done with a comparable corpus in Serbian. The main focus of the study was to extract *adjective + noun collocations* that are specific for the institutional promotional tourism discourse and could be characterized as key collocations. More specifically, the study investigated the collocations in which the primary collocate was a noun and the secondary collocate was an adjective in the attributive function considering the surface syntactic structure. Semantically, the adjectives in question are descriptive or qualitative adjectives with the meaning *have a characteristic of* or classificatory adjectives with the meaning *be connected to* (Đorđević 1989, 504). In English, the present and past participles also perform an attributive function before the noun in the same way as adjectives, and as such were treated as *adjective + noun collocations* for the purpose of this study.

The study was aimed at establishing the following:

1. the most frequent *adjective + noun collocations* in the two comparable corpora,
2. the morpho-syntactic and semantic characteristics of these collocations,
3. the similarities and differences between the two comparable corpora,
4. the potential to implement the research results into ESP education at tertiary level.

3.1 Corpus

The total number of words in the English Tourism Corpus (ETC) was 98,567, and for the Serbian Tourism Corpus (STC) it was 87,489 words. For a more objective comparison, after extracting the absolute frequencies from the corpora (f), relative frequencies (nf) normalized to 10,000 words were calculated. The text input for the creation of corpora was a random selection of texts obtained from official website presentations of the national tourism boards of Great Britain and Serbia, along with the text input from official websites of two leading travel agencies from the respective countries. The texts were copied and converted into .docx files and inserted into software for the collocation extraction.

3.2 Procedure

Firstly, collocations from the ETC were compiled by means of the software tool *TermoStat Web 3.0* which automatically extracts *adjective + noun* and *noun + noun collocations* that are considered to be terminological for the specialized corpora. The software applies a log-likelihood test that compares the uploaded technical (i.e., specialized) corpus with the general corpus. Another criterion that is applied is the specificity score, which shows how specific the extracted collocations are for the analysed corpus when compared to a general corpus. These are the collocations that appeared four or more times, and they were considered as specific for the context of tourism. On the other hand, collocations in the STC could not be extracted by means of this software tool, so *AntConc* was used for a more manual-like extraction of collocations. After identifying key adjectives and nouns in the wordlist, collocate and concordance options in the software were used to identify collocations that appeared four or more times to keep it consistent with the principle that is automatically applied in *TermoStat Web 3.0*. As has already been mentioned, normalized frequencies (nf) per 10,000 were calculated for both corpora. Furthermore, the collocations whose normalized frequencies were 1 or above were considered as the most frequent key collocations for the context of promotional tourism texts on the Internet. Due to the different sizes of the two corpora, this meant that for the corpus of texts in English the minimum absolute frequency of the collocations was 10, and in the corpus of texts in Serbian these collocations occurred at least nine times and more.

Following the quantitative analysis, the qualitative analysis first included the lexical and semantic overview of the extracted collocations and their constituents. The communicative functions of the collocations were analysed based on the rhetorical features of tourism discourse introduced in the theoretical section. Next, dominant topics of the promotional tourism texts were also identified based on the most frequent key collocations in the two corpora. Finally, an overview of the similarities and differences of the analysed corpora was prepared.

4 Results and discussion

4.1 Adjective + noun collocations in the English tourism corpus

A total of 142 key terminological collocations were found in the English Tourism Corpus (ETC), and their subtypes are listed in Table 2.

Table 2. Total number of key Adj + N collocations in ETC.

SUBTYPE	f	nf (per 10,000)
Adj + N	119	12.07
Adj (hyphenated compound) + N	12	1.22
Adj + [Adj + N]	5	0.5
Adj + [N + N]	5	0.5
Adj + [Adj + [N + N]]	1	0.11
TOTAL	142	14.5

As shown in Table 2, the most frequent structure was the binary structure with 119 collocations, and 12 collocations that contained a hyphenated compound adjective. The normalized frequency for Adj + N collocations was 12.07, and 18 frequent key collocations (whose normalized frequency per 10,000 words was 1 and above) were identified in this group, including *live music* (nf 4.26), *sandy beach* (nf 3.96), *old town* (nf 2.64), *outdoor pool* (nf 2.4), *double room* (nf 2.23), *indoor pool* (nf 1.92), *twin room* (nf 1.92) *extra beds* (nf 1.83), *national park* (nf 1.72), and *private beach* (nf 1.72). The adjectives in these collocations tend to have referential, informative functions, so most of them are mono-referential, i.e., their meaning is obvious in the context of tourism discourse and does not need further clarification.

A closer look at the adjectives shows that 23 frequent key adjectives were found in the ETC, and that they were mostly referential, informative adjectives. In this group, only five of the adjectives expressed an emotional function or an opinion about the described nouns: *beautiful, great, perfect, spectacular, stunning*. In addition, examples of the semantic prosody of *age* were found, e.g., *ancient ruins, old village,* and *modern centre*, then examples for *importance* as *main restaurant, national park,* and *international cuisine*, and examples for *authenticity* as in *local dishes* and *local produce*. Other adjectives expressed specific features such as *extra beds, extra charge,* and *golden beaches*, or physical features such as *winding streets, sandy beach,* and *sandy cove*, or positioning in the physical sense – *indoor pool, outdoor pool, seaside resort, seaside village*. It is also interesting to observe that statistically significant superlative forms were not found in the ETC, which was unexpected based on the main features of tourism discourse, as explained in the introductory section.

There were 12 collocations in the second most frequent subtype. Such adjectives were used to create a more concise and effective description than would have been achieved with a longer phrase or clause, as in the following examples:

(1) It's *a five-minute walk* to the beach and Chaniotis town centre.

(2) There are *late-night bars* and shops down here, but the real star is the *white-sand beach*.

(3) ... thanks to its winding streets and *café-lined square* ...

In the subtypes with more than two collocates, there were only 11 different collocations that appeared four or more times in the corpus, but none of them had the normalized frequency of 1 or above. They can be further subdivided into two groups. In the first group, *adjective + noun collocation* can be considered as the primary collocate which was then further modified by an adjective, e.g., *historic old town*, *original winding streets*. The other subtype had the collocation *noun + noun* as the primary constituent, which was then further modified by an adjective, e.g., *tiny fishing villages*.

Considering the stability and connectedness of the collocates, it is evident that the nouns with a more general meaning were given a more specific meaning when modified by adjectives, and at the same time these collocations were more open, i.e., at the paradigmatic level it was easier to replace the adjective as in the examples *ideal place, perfect place, great place*. There was also a group of adjectives that described specific physical features of the noun, for example,

the material (e.g., *sandy beach, pebbled beach*), or gave a key characteristic that classified the noun (e.g., *private beach, secluded beach*), often creating a restricted set of collocations (e.g., *single room, double room, twin room, triple room*). Finally, there were collocations that denoted a unique term where secondary collocate replacement was not possible (e.g., *stately homes, mini bar, light bite, warm hospitality*).

As has been observed in the literature on tourism discourse as well as in the results of the current study, tourism texts aimed at attracting tourists perform a dual communicative function. On the one hand they are informative, referential and provide facts about a target destination, which was also evident in the *adjective + noun collocations* found in the corpora shown in sentence 4. On the other hand, they also use adjectives expressing emotion, value or opinion about the noun, thus creating a positive, embellished image of the destination (5) or emphasizing uniqueness and authenticity (6).

(4) Enjoy ***complimentary meals*** accompanied by your choice of wine.

(5) The ***quiet sandy beaches***, ***stunning scenery***, abundance of wildlife, ***fresh, quality cuisine*** and ***warm welcoming hospitality*** make these islands an ***ideal place*** for a ***relaxing visit*** or an ***action-packed*** holiday.

(6) Low-rise buildings and ***cobbled streets*** give the place an ***authentic flavour of Spain***

Another special feature of promotional tourism discourse is that certain adjectives when isolated from the context of the collocations and descriptive tourism texts would be considered as neutral and factual, but in the context of the image creation of a destination they represent a special quality and add to the authenticity and/or attractiveness of the place, such as *winding streets, cobbled café-lined square, white-sand beach, a short stroll*, *complimentary meals*, etc.

4.2 Adjective + noun collocations in the Serbian tourism corpus

In the Serbian Tourism Corpus (STC), 193 key terminological collocations were found with the overall normalized frequency of 22.05, so it can be concluded that the Serbian corpus was rich in *adjective + noun collocations*. More precise findings of the collocation subtypes are given in Table 3.

Table 3. Total number of key Adj + N collocations in STC.

SUBTYPE	f	nf
Adj + N	175	20
Adj (semi-compound) + N	2	0.22
Adj + [Adj + N]	7	0.8
Adj + [N + N]	9	1.03
TOTAL	193	22.05

As shown in Table 3, the most frequent structure was the binary structure, with 175 collocations and the normalized frequency of 20. The ten most frequent collocations in this subtype were *nadmorska visina* [*above sea level*] (nf 6.86), *fakultativni izlet* [*optional excursion*] (nf 5.94), *peščana plaža* [*sandy beach*] (nf 5.47), *slobodno vreme [free time]* (nf 5.47), *standardna soba* [*standard room*](nf 4.57), *švedski sto* [*buffet*][4](nf 4.46), *sopstveni prevoz* [*your own transportation*] (nf 4), *direktan čarter-let* [*direct charter flight*] (nf 3.66), *stari grad [old town]* (3.66) and *izabrani hotel* [*chosen hotel/ hotel of choice*] (nf 3.43).

In the STC, 53 adjectives were found whose normalized frequency was 1 or more than 1 per 10,000. They are among the collocations from the list of key terminological collocations, functioning as secondary collocates and having an attributive function. From this group, certain collocations are distinctly mono-referential and restricted with a narrow meaning within a specialized tourism context, such as *pomoćni ležaj, francuski ležaj, rani buking, fakultativni izlet, švedski sto, sopstveni prevoz* [*extra bed, double bed, early booking, optional excursion, buffet*]. The last example *sopstveni prevoz* is never used in English tourism texts in its literal translation [*your own transportation*]. Instead, the terms *accommodation only* or *hotel only* are used. Such tourism-related terms are particularly specific for the Serbian language, and their English translations do not reflect similar combinations apart from the obvious borrowings from English into Serbian (e.g., *rani buking* [*early booking*]).

As for the connectedness of the collocates, there were also collocations in the STC that could be grouped into limited sets of terms such as *standard-ni ležaj, pomoćni ležaj*, *francuski ležaj* [*standard bed, extra bed, double bed*] or *standardna soba, jednokrevetna soba, dvokrevetna soba* [*standard room, single room, twin/double room*]. At the other end of the collocation range there were collocations with adjectives that were very productive and modified a large

4 The collocation was often part of a larger phrase such as *večera na bazi švedskog stola*, which then translates into English as *buffet dinner*.

number of nouns, such as the adjective *tourist* which was found in the corpus 73 times in the extracted key collocations, such as *turistička agencija* [*travel agency*], *turistička destinacija* [*travel destination*], *turistička manifestacija* [*tourism event*], *turistička mesta* [*tourist resorts*], *turistička ponuda* [*tourist/tourism offer*], etc. This particular adjective was not productive in the ETC, which is also evident in the translations because it is often the case that the lexemes *travel* or *tourism* were used instead. Another adjective that was very productive in the STC was *hotelski* which was found 65 times in the most frequent collocations. Some of the examples include *hotelska pravila* [*hotel rules*], *hotelska soba* [*hotel room*], *hotelske usluge* [*hotel services*], *hotelski kompleks* [*hotel resort], hotelski obrok* [*hotel meal*], *hotelski sadržaji* [*hotel amenities*], *hotelski smeštaj* [*hotel accommodation*], etc. In English, such collocations are of a different type, namely, *noun + noun collocations* where the noun *hotel* is the secondary collocate in an attributive modifying function. The adjectives *individualni* [*individual*] and *prirodni* [*natural*] were also found in a larger number of less restricted collocations. The collocations with the adjective *individualni*, such as *individualna razgledanja* [*individual tours*], *individualne aktivnosti* [*individual activities*], *individualni transfer* [*individual transfer*], *individualni troškovi* [*individual expenses*] were connected to the explanation of legal matters to tourists and what was included in the holiday package. Such examples were not found in the ETC. Regarding the adjective *prirodni*, for example, *prirodno bogatstvo* [*natural wealth/resources*], *prirodne vrednosti* [*natural values*], *prirodne lepote* [*natural beauty*], *prirodne retkosti* [*natural rarities*], *prirodni fenomen* [*natural phenomenon*], it was found in the section where a lot of details were given regarding geographical characteristics of the area, which was rare in the ETC as this focused more on the amenities and activities a resort had to offer.

In the Serbian corpus, unlike the English one, the superlative forms were used to describe a destination more effectively and intensely. The most frequent adjective was *najlepši* (e.g., *najlepše plaže* [*the most beautiful beaches*], *najlepši grad* [*the most beautiful town*]) followed by the collocations *najbolja cena* [*the best price*] and *najbolji grad* [*the best town*]).

As in the English corpus, the adjectives in the STC were mostly informative, referential and when combined with nouns they provided accurate information about the destination and services. There were only three of the most frequent adjectives that had an emotional connotation, as in the examples *posebna atrakcija* [*special attraction*], *najlepše plaže* [*the most beautiful beaches*], *prelepe plaže* [*outstandingly beautiful beaches*]. Additionally, the adjective *čist* [*clean, clear*] described physical characteristics, but it actually created a strong

positive connotation regarding the described destination, for example *čist vazduh* [*clean air*], *čisto more* [*clear sea*], *čista voda* [*clean/clear water*]. A certain number of adjectives classified nouns into special categories, for example *arheološko nalazište* [*archeological site*], *sportski tereni* [*sport ground*], *mineralni izvori* [*mineral springs*], *lekovito bilje* [*medicinal plants*]. Furthermore, there were examples with the semantic prosody of *age – stari grad* [*old town*], *istorijski spomenik* [*historic monument*], then *importance – glavni grad* [*capital city*], *lokalni partner* [*local partner*], *nacionalna asocijacija* [*national association*], *specificity* or *special quality – posebna atrakcija* [*special attraction*], *privatna plaža* [*private beach*], *location* or *position – gradska zona* [*urban area*], *seosko domaćinstvo* [*rural homestead*], *centralni deo* [*central part*], *spoljašnji bazen* [*outdoor pool*].

As for the other subtypes, the second most frequent collocations were those where the primary collocate was *noun + noun collocation* that was further modified by an *adjective* which was actually crucial for the construal of the meaning of the collocations:

(7) ***Panoramsko razgledanje grada*** uz posetu Akropolju i slobodno vreme.
[***Panoramic tour of the city/ panoramic city tour*** including the Acropolis visit and free time.]

In the context of tourism, *a panoramic tour* means that you do not get off the bus for the duration of the tour.

The third subtype with normalized frequency of 0.8 included collocations where *adjective + noun* collocations were further modified by another adjective which added to a more effective, detailed description:

(8) Ono što Kasandru čini popularnom je: blizina Soluna, mnogobrojna ***živopisna turistička mesta*****,** tradicionalna sela, grčke taverne, barovi i diskoteke.
[What makes Cassandra popular is: proximity to Thessaloniki, numerous ***picturesque tourist resorts***, traditional villages, Greek taverns, bars and discotheques.]

Unlike the findings in the ETC, the Serbian corpus had only two different collocations containing a hyphenated compound adjective that were part of the most frequent list, which was due to specific features of the Serbian language. According to orthographic rules in Serbian (Pešikan, Jerković and Pižurica 2007, 53), two lexemes which otherwise represent separate concepts and usually stand alone should be hyphenated when they are combined into one concept:

(9) Hvar i njegova okolina bogati su ***kulturno-istorijskim spomenicima*** kao što su tvrđava...
[Hvar and its surroundings are rich in ***cultural and historic monuments*** such as the fortress ...]

4.3 Corpora comparison

Referring to Table 2 and Table 3 with the number of collocations in each corpus, it is evident that *adjective + noun collocations* were more frequent in the STC than in the ETC, which can be explained by the more frequent distribution of *noun + noun collocations* in the ETC, since these are more frequently used in English, and in Serbian they would be translated as *adjective + noun collocations*, and *vice versa* (Vuković Vojnović 2021, 63). For example, *gradska plaža* or *letnji meseci* would be translated into English as *city beach* or *summer months*.

There were only seven collocations that can be considered as genuine translation equivalents, and all were very frequent in both languages: *peščana plaža – sandy beach, stari grad – old town, pomoćni ležaj – extra bed, otvoreni bazen – outdoor pool, spoljašnji bazen – outdoor pool, zatvoreni bazen – indoor pool, privatna plaža – private beach*.

Furthermore, there were several examples where English *adjective + noun collocations* have translation equivalents in Serbian with the same adjective in superlative form or a similar adjective with a more distinctive meaning – *beautiful beach* vs. *najlepša plaža* or *prelepa plaža*. In the ETC, collocations with adjectives in superlative forms were not found to be significant for the quantitative analysis in this study.

It is interesting to observe that the adjectives *local* in English and *lokalni* in Serbian were both included in the list of the most frequent items but with a different semantic prosody and context. In the STC the adjective *lokalni* belongs to the category of hierarchy and importance and was mostly found in the collocations from the section of online texts where tourists can find information on the organization of the trip – *lokalna agencija, lokalni vodič, lokalni partner*. In contrast, in the ETC the adjective *local* was used in the meaning of authenticity in the section where resort amenities are discussed – *local dishes, local produce*.

As discussed previously in the section about collocations, in Serbian there are *adjective + noun collocations* where the adjective is the primary collocate

complemented by the noun that follows it, as noted by Dražić (2013, 393–94), but statistically significant examples were not found in the STC, and ultimately this subtype was beyond the scope of this research.

5 Conclusion

Considering the theoretical underpinnings and findings presented in this paper, several conclusions can be drawn regarding the topic of *adjective + noun collocations* in promotional tourism texts. Overall, the results obtained in this work have implications for the further study of lexical collocations in tourism discourse and tourism promotion, intercultural similarities and differences of the two languages, as well as for vocabulary learning within the context of English for Tourism as a language for specific purposes. Based on the studied literature and quantitative and qualitative research conducted on a specially collected corpus in English and Serbian, several more specific observations and recommendations for further research can be made.

Using software tools for corpus analysis makes it easier for researchers and foreign language teachers to identify key words and collocations in the corpus, and understand the specific lexical-semantic, syntactic and communicative features of the key vocabulary. However, software tools need to be accompanied by a critical approach towards the results they produce, and therefore certain manual analytic procedures are still needed.

Applying a contrastive approach to the analysis of lexical collocations, especially in a specialized language context, provides a new perspective and deepens knowledge about the morphosyntactic and lexical-semantic characteristics of the compared languages, revealing some universal features on the one hand, and on the other determining some of the similarities and differences between them. In this way the lexicon of one language is systematized, and a more detailed insight into the semantic relations between lexical units of the same language is provided.

In the context of the language of tourism, the use of a corpus-based contrastive approach helps in building up the lists and eventually glossaries of frequent collocations, which will help students to familiarize themselves more easily with the nature of the language of tourism in English and compare it with the same discourse in their mother tongue, thus consequently gaining insight into the effects these texts have on potential clients. Students can also gain access to expressions attested in the authentic corpus, and by adopting

them they may be able to achieve greater fluency in expressing themselves in a foreign language, extract key words and collocations, create their own glossaries, create a collocation network, semantic maps, and so on.

In further research, it is necessary to investigate the most effective ways of applying corpus analysis in foreign language teaching. We believe that this could contribute to a more systematic approach to the acquisition of collocations and specialized vocabulary in the language of the tourism profession, among others, as well as to the development of communicative competence in English among non-native speakers for whom tourism will be part of their future or current profession.

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