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ON THE IMPERSONAL STANCE IN SCIENTIFIC WRITING: A CROSS-DISCIPLINARY AND CROSS-CULTURAL STUDY[a]

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Abstract

Authorial absence – marked through passive voice and impersonal constructions – is one of the most salient characteristics of scientific writing, contributing to objective writing and implicit expression of authorial stance. This study investigates the quantitative and qualitative uses of impersonal stance markers across three academic and three linguistic communities, based on a corpus of 124 research articles, written by native speakers in the English, Serbian, and German languages, within the scope of articles in linguistics, economics, and technology. Quantitative results reveal remarkable differences in the cross-linguistic and cross-disciplinary use of these markers, as they are used most frequently by authors writing in German, and least in English. In addition, their highest overall number is identified in technology articles. These differences are elaborated in a qualitative analysis, highlighting cross-linguistic and cross-disciplinary similarities and differences in functional and formal categories of impersonal stance markers.

Key words: impersonal authorial stance, linguistic markers, scientific writing, authorial absence, impersonal and passive constructions.

О НЕЛИЧНОМ АУТОРСКОМ СТАВУ У НАУЧНОМ ПИСАЊУ: МЕЂУЈЕЗИЧКО И МЕЂУДИСЦИПЛИНАРНО ИСТРАЖИВАЊЕ

Апстракт

Одсуство аутора у тексту, изражено кроз пасивне и обезличене конструкције, једна је од најистакнутијих карактеристика научног писања, које доприноси објективном писању и имплицитном изражавању ауторског става. Ова студија истражује квантитативну и квалитативну употребу маркера неличног ауторског

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става у три академске и три лингвистичке заједнице на основу корпуса од 124 истраживачка рада, написана од стране изворних говорника на енглеском, српском и немачком језику, у области лингвистике, економије и технологије. Квантитативни резултати указују на изразите разлике у међујезичкој и међудисциплинарној употреби ових маркера, јер се најчешће користе у немачком, а најређе у енглеском језику. Поред тога, највише их је идентификовано у радовима из области технологије. Ове разлике су детаљније разматране у квалитативној анализи, која истиче међујезичке и међудисциплинарне сличности и разлике у функционалним и формалним карактеристикама маркера неличног става.

Кључне речи: нелични ауторски став, језички маркери, научно писање, одсуство аутора, неличне и пасивне конструкције.

INTRODUCTION

Scientific articles are traditionally seen as having to conform to linguistic conventions seen as characteristic to the "academic style" (Tepavčević, 2015, p. 182) of writing: objectivity and precision in conveying information, uniformity of language, lack of vagueness or ambiguity, precise and uniform terminology, logical sentences, and concise elaboration, employing an impersonal style, evidenced in the use of passive and impersonal constructions conveying objectivity and neutrality.

While these characteristics are indeed quite prominent in scientific writing, their function is not solely to convey research results in a detached, impersonal and impartial way. Rather, the language of scientific articles, despite abounding in impersonal constructions, is also meant to convey the authors' point of view, opinions and interpretations, along with potential uncertainties, shortcomings, conviction, and personal investment in the research process and derived conclusions. These notions, expressing the authors' role, position, evaluations and attitudes in the text are subsumed in this research under the notion of **stance**. While stance can be expressed in very overt manners, using first-person pronouns and possessive determiners (Hyland, 2001), it can also be expressed in more implicit ways, e.g. using impersonal constructions in which the subject is de-emphasised (Baratta, 2009, p. 1406). These constructions are herein denoted as passive stance (Baratta, 2009, p. 1411) or impersonal stance (Reilly et al., 2005, p. 189).

IMPERSONAL AUTHORIAL STANCE

The use of impersonal authorial stance markers can be seen as one of the prototypical features of scientific writing. Scientific writing is characterised by, i.a., complex morphosyntactic structures, relative clauses, nominalisations, participles, attributive adjectives, (prepositional) phrases, embedded clauses, and passive and cleft constructions (Meyer et al., 2002, p. 156), all of which can be said to belong to impersonal stance markers.

In scientific writing, through impersonal stance markers, writers tend to omit their direct involvement in the research process, in order to "highlight the phenomena under study, the replicability of research activities, and the generality of the findings" (Hyland, 2001, p. 216). The use of passive voice is crucial in this respect, as it denotes an "established or standard procedure" and logical deductions (Tarone et al., 1981, p. 135). Conversely, personal pronouns and possessive determiners in scientific writing are meant to "[reflect] an appropriate degree of confidence and authority" (Hyland, 2001, p. 216), leading to the conclusion that overt stance markers denote personal responsibility for the research procedure and findings, while the use of impersonal stance markers has the opposite rhetorical function, the avoidance of responsibility by the authors (Luukka & Markkanen, 1997, p. 168). Impersonal stance markers serve to distance the authors from the text (Reilly et al., 2005, p. 191), and therefore do not attach personal responsibility to the research findings. However, impersonality and objectivity in expression is believed to increase persuasion, authority and credibility of the author (Lachowicz, 1981, p. 111). Passive constructions, as well as other impersonal constructions denote procedures that are considered standard (Tarone et al. 1981, p. 135) and not subject to any degree of subjectivity, thereby putting the focus on the "recorded results" and not the "recorder" (Baratta, 2009, p. 1409), which means that "the authority of individual is secondary to the authority of the text and facts should be allowed to 'speak for themselves'" (Hyland, 2005, p. 147). With such expressions, used to avoid taking responsibility and express full commitment to a claim, the authors wish to avoid possible criticism, meaning that such impersonal statements lacking explicit authorial presence have a hedging effect (Luukka & Markkanen, 1997, p. 169).

The use of impersonal stance markers can also be related to the notion of evidentiality, as the claim is deictically removed from the author (i.e. the author is not the reference point for the claim, e.g. *study shows* vs. *we show in the study*) and attributed to a source different than the author via linguistic means. This can be done explicitly, through impersonal active constructions with non-human entities acting as a metonymic extension of agency (e.g. *research shows*) or non-explicitly, through agentless passive and impersonal constructions.

The nature of scientific writing, the structuring of arguments and reporting of knowledge is guided by "different ways of conducting research and persuading readers to accept their results" (Hyland, 2001, p. 215). Therefore, the rhetorical practices in scientific writing are impacted by different "research practices and the construction of knowledge" (Charles, 2003, p. 313). Writers of scientific articles present their claims "in a way that is appropriate and acceptable to the disciplinary community" (Charles, 2006, p. 493), and this is dictated by linguistic and disciplinary culture.

In the context of this research, it has long been noted that impersonality and objectivity of expression are more common in hard sciences and technology (Hyland 2005, pp. 144, 147; Lachowicz 1981, p. 108). Along the lines of Tarone et al.'s (1981) claims, procedures in hard sciences are considered as more uniform, meaning that there is less room for subjective interpretation, and the objectivity of expression contributes to persuasion. This corresponds to the widespread view that "academic research is purely empirical and objective, and therefore best presented as if human agency was not part of the process" (Hyland, 2001, p. 208). The nature of the research in hard sciences allows the procedures and numbers to speak for themselves, and the objectivity in research ensures replicability and verifiability (Lachowicz, 1981, p. 108). Therefore, opinions are "presented and generalized without overt attribution" (Reilly et al., 2005, p. 191) and seen as widely accepted (Tarone et al., 1981, p. 135), which boosts the scientists' authority and credibility. Moreover, the use of impersonal stance markers adds to "the economy of expression that is most valued by technologists" (Lachowicz, 1981, p. 107).

METHODOLOGY AND RESEARCH QUESTIONS

This article set out to conduct a contrastive and cross-disciplinary empirical study of impersonal stance markers, in order to determine their frequency and context of use in scientific writing. To do so, the author of this research compiled a corpus of 124 research articles written in English, Serbian, and German by native speakers, in the fields of linguistics, economics, and technology. These research articles were published in national or international journals between 2010 and 2020[1], producing an electronic corpus of 535,433 words. Table 1 offers information on all nine sub-corpora, including the number of articles constituting each sub-corpus and their word count per sub-corpus. The final two columns show the number of impersonal stance markers identified in each sub-corpus and the proportionally calculated normalised frequency of these markers per 1,000 words, on account of differing word counts across language and disciplinary sub-corpora.

[1] The articles comprising the corpus were selected based on the language, the authors' nationality, the field of research, the year of publication, the empirical nature of research, the impact factor and the journal publisher. Since journals published in Serbian and German have smaller impact factors than journals published in English, the impact factor alone was therefore not seen as the most dependable criterion. Further information on the 124 articles comprising the corpus, as well as the 53 journals comprising the corpus can be found in Rodić, 2025.

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

Field	Language	Articles	Word count	Markers	Markers per 1,000 words
Linguistics	English	10	83,457	602	7.2
	Serbian	14	63,132	467	7.4
	German	10	64,839	1173	18.0
Economics	English	11	84,659	669	7.9
	Serbian	16	57,120	604	10.6
	German	12	69,836	1388	19.9
Technology	English	15	68,581	1569	22.9
	Serbian	17	47,701	1355	27.7
	German	19	64,689	1766	27.3

The analysis ensued in MAXQDA, a software tool for qualitative and quantitative data analysis, in order to unveil the qualitative and quantitative differences in the distribution of impersonal stance markers.

This research combines pragmatic and contrastive linguistic approaches, in analysing language in context and within three linguistic and disciplinary cultures. The analysis was done manually, by assigning a particular language construction the value of an impersonal stance marker based on its contextual use. Therefore, it adopts an onomasiological approach by assigning a particular form (e.g. passive voice) to the function it performs (e.g. objectivity in reporting), rather than the other way around, with the aim of answering the following questions.

- **RQ1.** How different is the frequency of impersonal stance markers in the corpus?
- **RQ2.** Which linguistic forms are used to express impersonal stance, and in which context?
- **RQ3.** Can any of the differences in the distribution of impersonal stance markers in the corpus be accounted for on the level of national culture or disciplinary culture?

RESULTS

The quantitative analysis, as shown in Table 1, uncovers both the absolute frequencies and the normalised frequencies of impersonal stance markers, in order to account for differing word count across different sub-corpora. Absolute frequencies show that impersonal stance markers are used most frequently in the technology and the German sub-corpus, and least frequently in the linguistics and the English sub-corpus. This is confirmed with normalised frequencies of expressions per 1,000 words, shown in Table 1, as impersonal stance markers are overall most frequent in Ger-

man, as well as the technology sub-corpus, and least frequent in English, as well as in the linguistics sub-corpus.

Following the quantitative analysis, the qualitative analysis of these markers is aimed towards determining which linguistic forms convey impersonal stance in this corpus and their context of use. All the provided examples were found in the corpus.

LINGUISTIC FORMS OF IMPERSONAL STANCE

Impersonal stance markers from the analysed corpus, used to express impartiality and objectivity in articles, are linguistically realised by various formal categories, which can be classified into the following four groups, found in all three languages and all three disciplines:

1. The passive voice
2. Impersonal constructions
3. Participle constructions
4. Metonymic use of inanimate nouns

The Passive Voice

In all three languages, the most frequent form of expressing impersonal stance is the passive voice. According to data given in Table 2, it can be said that passive voice markers are overall used most frequently in the technology sub-corpus, as well as in the English sub-corpus, and least frequently in the economics, as well as in the Serbian sub-corpus.

Table 2. Number and percentage of passive voice markers in the sub-corpora based on the total number of impersonal stance markers

	English		Serbian		German	
	Number of markers	Percentage	Number of markers	Percentage	Number of markers	Percentage
Linguistics	**273** / 602	45%	**182** / 467	39%	**508** / 1173	43%
Economics	**270** / 669	40%	**222** / 604	37%	**607** / 1388	44%
Technology	**976** / 1569	62%	**741** / 1355	55%	**916** / 1766	52%

The use of the passive voice is generally considered a well-established and typical construction in academic and scientific texts (Weinrich, 2005, p. 170), most commonly used to describe the procedures conducted in the research, without emphasising the role and the agency of the researcher, which is rather deemphasised and the information pertaining to the research is put to the forefront (Weinrich, 2005, p. 179). This may explain the tendency of passive constructions to cluster in the description of procedures, as shown in examples (1) – (5). The procedures described by the passive voice are seen as standard and replicable, so the agent in these

clauses can be deemed redundant (Quirk et al., 1985, p. 165), as the action is removed from the author and their role is only inferred from the context.

In English, the use of the passive voice is hence characterised by the omission of the agent *by*-phrase. In Serbian, passive voice can be expressed by both the participial passive (verb *to be* + participle), seen in example (2), or through reflexive passive (reflexive particle *se* + third-person active form of the main verb), seen in example (3) (Tanasić, 2014, p. 220). In German, too, two forms of passive voice can be found in the corpus: the *werden*-passive indicates a process that is not completed (Duden, 2022, p. 376), seen in example (4), and this form is therefore used to describe the processes conducted for the research, while the *sein*-passive indicates that the action is completed, and the copula construction focuses on the resultant state (Duden, 2022, p. 387), seen in example (5). For all examples provided in Serbian and German, translations by the author are provided in footnotes below.

1) All materials were digitally recorded in a sound-attenuated booth using a head-mounted microphone connected to a Tascam HD-P2 Portable Stereo Audio Recorder. Stimuli were elicited and recorded in three stages. First, all contexts were read aloud by the male ‘‘narrator’’ and recorded during a single session; the narrator was instructed to read each context, displayed on a laptop monitor, with a neutral-yet-engaging tone of voice and was provided constructive feedback by the examiner. These recordings were transferred to a PC and edited to isolate the onset and offset of each context. Questions were then recorded during a second session by the female speaker who played the ‘‘Asker’’. [Ling_Eng_4]
2) Stopice su procesom zavarivanja elektrolučnim postupkom spojene sa osloncem, pri čemu su dve stopice zavarene za jedan oslonac. Držač je uz pomoć četiri vijka, dimenzije M5x60 mm, pričvršćen za cevni luk. Tri vijka, koja se nalaze u istoj ravni, prolaze kroz cevni luk, dok je četvrti vijak postavljen 15 mm iznad cevnog luka.[2] [Tech_Srb_100]
3) U radu će se koristiti metod studije slučaja, a kao tehnika prikupljanja podataka koristiće se ispitivanje putem ankete među zaposlenima u Gradskoj upravi Grada Beograda.[3] [Econ_Srb_47]
4) Messungen wurde die Sauerstoffkonzentration im Partikelbulk aufgezeichnet. Die Überwachung der Spülvolumenströme wurde mit thermischen Massendurchflussmessern durchgeführt. Für die Versuche

[2] The feet are connected to the support by the electric arc welding process, whereby two feet are welded to one support. The holder is attached to the pipe arch with the help of four screws, dimensions M5x60 mm. Three bolts, located in the same plane, pass through the tube arch, while the fourth bolt is placed 15 mm above the tube arch.

[3] The case study method will be used in the paper, and as a data collection technique, a survey will be used among the employees of the City Administration of the City of Belgrade.

wurden ausgehend von einem Referenz-produkt drei unterschiedliche Partikelfraktionen in Form von Glasperlen mit einer Porosität von e = 0,33 verwendet.[4] [Tech_Ger_112]

5) Alle Individuen die weniger als 200 Bücher haben, sind mit 0 gelistet.[5] [Econ_Ger_71]

Impersonal Constructions

The second, overall most frequently used type of construction to denote impersonal stance are various impersonal constructions, seen formally as "constructions lacking a referential subject" (Malchukov & Ogawa, 2011, p. 17). As seen in Table 3, impersonal constructions are most frequently used in the German and the economics sub-corpus, and least frequently in the Serbian and the technology sub-corpus.

Table 3. Number and percentage of impersonal constructions in the sub-corpora based on the total number of impersonal stance markers

	English		Serbian		German	
	Number of markers	Percentage	Number of markers	Percentage	Number of markers	Percentage
Linguistics	**105** / 602	17%	**60** / 467	13%	**344** / 1173	29%
Economics	**102** / 669	15%	**95** / 604	16%	**434** / 1388	31%
Technology	**155** / 1569	10%	**115** / 1355	8%	**333** / 1766	19%

In English, impersonal stance is expressed through various extraposed constructions, using the dummy subjects *it* and *there*: *it is believed, it is expected, it is evident, there is no point,* as illustrated in examples (6) – (7). Both extraposed constructions and nominal predicates (*is visible*) are used to express the evaluations of the truth value of the propositions, without directly attaching this evaluation to the authors, while the authors' aims and actions were often expressed through non-finite dependent clauses (*to ascertain/to evaluate, using the LIML-ER and F(1)-ER bootstraps*). Additionally, constructions with the impersonal pronoun *one* used to deemphasise the agent and not attribute stance directly can also be found in the corpus (*one might expect*). Finally, constructions with the common noun *author(s)* are used for depersonalised self-reference, in both active and passive voice, showing that self-mention is not only done through first-person pronouns (Hyland, 2001): *the authors address, observed by the authors*. This form is used to overtly refer to the writer(s), but "the self is viewed as if it were another person […] [which] es-

[4] The oxygen concentration in the particle bulk was recorded during the measurements. The purge volume flows were monitored using thermal mass flow meters. For the tests, three different particle fractions in the form of glass beads with a porosity of e = 0.33 were used, based on a reference product.

[5] All individuals who have less than 200 books are listed as 0.

tablishes distance between the writer as an individual and their role as a writer-researcher" (Charles, 2006, p. 508). In this way, the agent is functionally under-elaborated (Malchukov & Ogawa, 2011, p. 18), contributing to impersonality of expression.

In Serbian, impersonal constructions are deagentised clauses in which the agent denotes a human entity, and a common feature of scientific writing (Stanojčić & Popović, 2004, pp. 252–253): *očekuje se (=it is expected), mislilo se (=it is thought)*. Additionally, nominal predicates (Stanojčić & Popović, 2004, p. 224) have a qualitative purpose with the aim of omitting both the object and the subject making the assessment: *je objašnjiva (=is explainable), evidentno je (=is evident), uočljivo je (=is noticeable), je realno pretpostaviti (=is realistic to assume),* illustrated in example (8). Finally, authors also refer to themselves through common noun *author(s)* as a means of depersonalised self-reference: *autori smatraju (=authors think)*.

In German, impersonal stance markers include the use of the indefinite pronoun *man* (Malchukov & Ogawa, 2011, p. 24), aimed at generalising or not expressing details (Duden, 2022, p. 760): *so könnte man sagen (=so one could say), für den man vermutet (=for whom one suspects)*, as well as clauses with the third-person singular neutrum *es* used as a semantically empty subject of the sentence (Duden, 2022, p. 485): *es zeigt sich hier (=it shows here), es ist nicht relevant (=it is not relevant)*. Such forms denoting the authors' implicit viewpoint and evaluation can also be found in the combination of the copular verb *sein* with participles, adjectives or adverbs as the nominal predicate: *ist nicht überraschend (=is not surprising), ist erforderlich (=is required),* as illustrated in example (9). Additionally, the three types of impersonal constructions in the German sub-corpus include the (1) *um… zu* final clauses (Duden, 2022, p. 172) – used to denote a certain goal of the actions conducted in the research – *um Antworten zu erhalten = to get answers*, (2) the passive substitute form *lassen (sich)* (Duden, 2022, p. 385), (3) the auxiliary copular verbs *sein (to be)* or *bleiben (to remain)* with the *zu* infinitive used to indicate the intention of the authors implicitly (Duden, 2022, p. 386) – *ist zu vergleichen, zu erwarten ist = is to be compared, is to be expected*.

6) It is hoped that this article presents a case for a larger-scale investigation into whether the discursive processes identified in this interview are part of a wider systemic problem with institutional approaches to investigating rape allegations. [Ling_Eng_5]
7) […] it is not outlandish to propose that the prepositional function of round is gradually being replaced by around. [Ling_Eng_1]

8) Svaka zemlja ima svoje specifičnosti koje mogu da utiču na privlačenje stranih direktnih investicija, otuda je realno pretpostaviti da postoji korelacija između, ε i t i (SDI).[6] [Econ_Srb_54]
9) Diese Ergebnisse sind im Prinzip auch nicht überraschend, da Disziplinunterschiede in der Sprachverwendung gut dokumentiert sind [...].[7] [Ling_Ger_32]

Participle Constructions

It could be said that the third most frequent form of expressing impersonal stance in this corpus includes the use of past participle constructions. As can be seen in Table 4, participle constructions are used most frequently in the Serbian and the economics sub-corpus, and least frequently in the English and the linguistics sub-corpus.

Table 4. Number and percentage of participle constructions in the sub-corpora based on the total number of impersonal stance markers

	English		Serbian		German	
	Number of markers	Percentage	Number of markers	Percentage	Number of markers	Percentage
Linguistics	**56** / 602	9%	**89** / 467	19%	**124** / 1173	11%
Economics	**119** / 669	18%	**196** / 604	32%	**210** / 1388	15%
Technology	**329** / 1569	21%	**264** / 1355	19%	**415** / 1766	23%

Participle constructions are often realised as text-deictic means to refer to specific text-portions of the article by the authors for organisation metadiscoursal purposes, usually as adverbial clauses of manner in English and German: *as discussed above/below, as outlined earlier, as mentioned above/earlier/before, gore pomenuti (=abovementioned), oben formulierten (=formulated above), wie oben argumentiert (=as argumented above)*, or as reduced relative clauses (without a relative pronoun) with an attributive function, acting as pre- or post- modifiers of noun phrases denoting actions conducted by the authors: *obtained, identified, hypothesised, analizirani (=analysed), posmatrani (=observed), gewählten (=chosen), vorgeschlagene (=suggested)*. These constructions implicitly indicate that the action is performed by the agent, but the agent is not overtly named, but rather inferred from the context, as shown in examples (10) – (12):

[6] Each country has its own specificities that can influence the attraction of foreign direct investments, hence it is realistic to assume that there is a correlation between ε and t and (FDI).
[7] In principle, these results are not surprising, since disciplinary differences in language use are well documented [...].

10) The single measure of school performance employed in this paper is the percentage of students gaining five or more GCSE passes at grades A* - C in any one year. [Econ_Eng_40]
11) Kompozitni uzorak dobijen u masi ima najnižu vrednost T5% od svih ispitivanih uzoraka jer sadrži najveću količinu niskomolekulskih komponenata.[8] [Tech_Srb_91]
12) Die vier untersuchten sprachlichen Mittel werden hier kurz erläutert und zum Sprechergeschlecht in Beziehung gesetzt.[9] [Ling_Ger_32]

Metonymic Use of Inanimate Nouns

The final type of expression of impersonal stance in this corpus includes constructions in which the personal subject (I, we) is replaced by another, non-human entity. These nouns include the so-called "research nouns" (Charles, 2006, p. 501), referring to, i.a., processes (e.g. *analysis, observation*), products (e.g. *results, data*), material entities (e.g. *model*) or abstract phenomena (e.g. *idea, goal, concept*) in the research. The most common examples found across all nine sub-corpora include, i.a.:

- In English: *research, study, article, analysis, paper, findings, data, results, tests*
- In Serbian: *analiza, istraživanje, rezultati, rad, podaci, nalazi*, *ispitivanja*
- In German: *Untersuchung, Studie, Beitrag, Ergebnis(se), Daten, Forschung, Befunde*

As can be seen in Table 5, this type of expression is used most frequently in the English sub-corpus, followed by Serbian and German. In the disciplinary sub-corpora, it is used most frequently in linguistics, followed by economics and, finally, technology.

Table 5. Number and percentage of metonymic use of inanimate nouns in the sub-corpora based on the total number of impersonal stance markers

	English		Serbian		German	
	Number of markers	Percentage	Number of markers	Percentage	Number of markers	Percentage
Linguistics	**168** / 602	28%	**136** / 467	29%	**197** / 1173	17%
Economics	**178** / 669	27%	**91** / 604	15%	**137** / 1388	10%
Technology	**109** / 1569	7%	**235** / 1355	17%	**102** / 1766	6%

These inanimate nouns (often preceded by a demonstrative determiner, possessive determiner or definite article) act as a metonymic refer-

[8] The composite sample obtained in the mass has the lowest T5% value of all the tested samples because it contains the largest amount of low molecular components.
[9] The four linguistic means examined are briefly explained here and related to the speaker gender.

ence to the authors of the paper i.e. the researchers doing the research in question. They act as a metonymic replacement for the authors' actions, carrying the semantic role of an agent in an active sentence. As such, they are used as instruments of an action, "the entity […] which an agent uses to perform and action or instigate the process" (Quirk et al., 1985, p. 743), while the agent of the clause is omitted. By not directly attributing agency to the authors, their stance is inferred and therefore more objective, which can also be seen in examples (13) – (15).

13) *This study used* a power cycling schema because it is best designed to simulate the real-world operating conditions of these materials. [Tech_Eng_80]
14) Istraživanje je imalo za cilj da se utvrdi uticaj razvojnih fondova na razvoj MSPP sektora.[10] [Econ_Srb_59]
15) Die Analyse hat auch gezeigt, dass die Emittenten im Bereich der einfachen NP die Tilgung gegenüber dem Abbau markierter Kategorien bevorzugen.[11] [Ling_Ger_28]

These expressions are also closely related to the notion of evidentiality, as replacing an animate subject by an inanimate entity implies that the evidence for the claim is shifted from the researcher to the research source, and the source of the claim is thereby distanced from the researchers. Attributing the source of knowledge to a non-human entity allows the authors to not be explicitly denoted as the source of a claim, and "by attributing it to a feature of their work," they imply that their scientific claims are based on data gathered from experiments, rather than their own subjective judgement (Charles, 2006, p. 500). Additionally, the use of these markers "reflects an ideology in which facts speak for themselves and […] the role of the researcher is hidden" (Charles, 2006, p. 501), putting the emphasis on the scientific process, rather than the scientists themselves, making the claim more persuasive.

These expressions also include nouns referring to processes conducted as part of the research (Charles, 2006), used to omit the agent of the clause. In English, these nouns are either derived with the suffix *-ation* as deverbalised abstract nouns (Đorđević, 2007, p. 27) or derived from verbs (Đorđević, 2007, p. 29), such as *observation, comparison, assumption,* indicating the performed action. In Serbian, these include the use of verbal nouns (*glagolske imenice* with the suffix *-nje*) indicating an action or an occurrence (Stanojčić & Popović, 2004, p. 81), such as *ispitivanje (=examination), tretiranje (=treatment)*. In German, as well, these nouns include those derived from verbs, such as *Betrachtung (=consideration),*

[10] The aim of the research was to determine the impact of development funds on the development of the SME sector.
[11] The analysis has also shown that the emitters in the range of simple NPs prefer repayment to the reduction of marked categories.

Verwendung (=usage) (derived from the verbs *betrachten* and *verwenden*, respectively, with the suffix *-ung*), as well as other verbal nouns, derived through the process of nominalisation, denoting an inanimate entity which the agent uses to perform an action or instigate a process (Quirk et al., 1985, p. 743). These nouns refer to the actions undertaken by the authors of the studies (indicated by the base verb), but their agency is covert, as seen in examples (16) – (18).

16) As already discussed, our identification of creative metonyms in this way does not presume that the remaining metonyms are in any way uniformly 'conventional'. [Ling_Eng_7]
17) Nakon eksperimentalnog ispitivanja cevnog luka, primenom metode korelacije digitalnih slika, a pre numeričke analize, koja je sprovedena korišćenjem metode konačnih elemenata u softverskom paketu Abaqus, izvršeno je ispitivanje mehaničkih svojstava čelika 12H1MF nakon 200.000 h eksploatacije.[12] [Tech_Srb_100]
18) Ein Vergleich der verschiedenen analysierten Dokumente zeigt, dass die Anzahl an geschlechtergerechten Personenbezeichnungen mit 95,7% in den untersuchten Amtlichen Mitteilungsblättern der Universitäten am höchsten ist.[13] [Ling_Ger_25]

DISCUSSION AND CONCLUSIONS

This study makes an attempt at providing a first account of the use of impersonal stance markers in English, Serbian, and German in three scientific disciplines, in order to uncover cross-linguistic and cross-disciplinary differences in both the frequency and the formal and functional use of these markers.

Both the quantitative and the qualitative results of this study attest to the fact that the use of impersonal and passive constructions is a frequent and typical feature of writing in scientific articles. This is particularly true for the technology sub-corpus, as the normalised frequencies indicate that hard sciences do show a general preference for impersonal texts (confirming findings by Hyland, 2005 and Lachowicz, 1981). Conversely, impersonal stance markers are used less frequently in economics and least frequently in linguistics.

[12] After the experimental testing of the pipe arc, using the digital image correlation method, and before the numerical analysis, which was carried out using the finite element method in the Abaqus software package, the mechanical properties of steel 12H1MF were tested after 200,000 h of exploitation.
[13] A comparison of the various documents analyzed shows that the number of gender-neutral personal designations is highest at 95.7% in the official university newsletters examined.

The use of passive voice markers and impersonal constructions relates directly to authorial absence and non-direct attribution of responsibility in the text. This can be related to the fact that, in hard sciences, "the activity of the discipline is primarily directed to the performance of experiments" (Charles, 2003, p. 317), so authors use passive and impersonal constructions abundantly to describe the scientific processes, as well as their conclusions and interpretations, increasing the persuasiveness of their statements. However, all sub-corpora exhibit frequent usage of impersonal stance markers to denote objectivity and impersonality which are traditionally associated with hard sciences, thereby confirming that impersonal stance markers are a common trait in all three disciplines (and all three languages) examined in this research. It can be said, however, that metonymic use of inanimate nouns and participle constructions have a more prominent role in linguistics and economics, used to foreground the examined phenomena and implicitly express the authors' role in the research process, which also has a persuasive function.

When it comes to cross-linguistic differences, based on the qualitative analysis, it can be deduced that all three languages employ similar structures to convey impersonal stance, as passive voice, participle constructions, metonymically used inanimate nouns, and various impersonal constructions were found throughout all nine sub-corpora. The authorial presence and stance in the text is made implicit and indirect, and their role de-emphasised, which ensures objective reporting and the universalistic nature of findings, independent of the researchers' role. It can also be concluded that both German and Serbian show a general preference towards an impersonal style of writing, while English shows fewer impersonal markers overall, a finding consistent with previous research (Blagojević, 2007, 2008; Clyne, 1987). This would imply that both Serbian and German favour a style of writing which brings the action, rather than the agent, into the foreground, which in turn enhances their credibility and the persuasiveness of their writing. On the other hand, the English writing style can be seen as more personal, as the explicit presence of the author shows more direct involvement in the research process and overtly denotes the authors' positions and opinions, emphasising the engaging nature of their writing. However, more in-depth research into distinct stance markers would be necessary to make further conclusions (cf. Rodić, 2024).

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О НЕЛИЧНОМ АУТОРСКОМ СТАВУ У НАУЧНОМ ПИСАЊУ: МЕЂУЈЕЗИЧКО И МЕЂУДИСЦИПЛИНАРНО ИСТРАЖИВАЊЕ

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Резиме

Рад је истраживао квантитативне и квалитативне разлике у учесталости маркера неличног ауторског става у научном писању, кроз корпусну анализу 124 научна рада у три језика – енглеском, српском и немачком, као и три научне дисциплине – лингвистици, економији и технологији. Претходна истраживања указују да су маркери неличног ауторског става најчешћи у области технологије (за разлику од друштвених и хуманистичких наука) (Hyland, 2005; Lachowicz, 1981), као и у немачком и српском језику (за разлику од енглеског) (Благојевић, 2007, 2008; Clyne, 1987), што је потврђено и у овом истраживању. Док квантитативна анализа указује на изразите разлике међу језицима и дисциплинама, квалитативна анализа показује да сва три језика користе сличне конструкције да би нелично изразили став: пасив, номинализоване форме и заједничке именице које служе као граматички субјекти, партиципске конструкције и различите обезличене реченице. Сви ови облици доприносе имплицитном исказивању ауторског става и сматрају се истакнутим карактеристика научног дискурса. Истраживање је спроведено кроз мануалну анализу текста у контексту кроз софтверски програм за анализу текста MAXQDA, на основу чега су издвојене ове конструкције и утврђене њихове функције. Добијени резултати су сагледани у ширем контексту међујезичких и међудисциплинарних разлика, при чему су дискутоване дискурсне и реторичке функције, као и језичке и дисциплинарне тенденције различитих стилова писања.