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Variation of Adverbial Markers of Reciprocity in Czech

1. Introduction

This article is somewhat against the grain: at a time when the tools for processing linguistic data are rapidly evolving, it advocates the idea that in some linguistic research the only possible method is an examination of each piece of data by the linguist. Such an approach may sound anachronistic, but it is not intended to be universal: certain linguistic phenomena (often related to the meaning of linguistic units) are not amenable to the use of automatic tools, usually because of insufficient formal manifestations.

The paper addresses two related topics: (i) the systemic relations of lexical (adverbial) markers of reciprocity in Czech, (ii) the general topic of grammatical variation in the language and how it can/should be studied. The combination of both topics is novel from the perspective of both theories: (1) The question of possible variation between the markers *navzájem*/*vzájemně* 'each other,

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mutually' and *spolu* 'with each other' has not yet been addressed in reciprocity research, presumably because Czech is not one of the languages in which reciprocity has most often been studied, and in English there is no lexical equivalent to the adverb *spolu* used as a reciprocity marker. (2) The relationship between the two markers has not been studied in the context of grammatical variation either, perhaps because they are alternatives to each other only in some cases (see below).

The aim of the paper is to verify the following hypotheses:

Hypothesis 1: The markers *navzájem*/*vzájemně* 'each other, mutually' and *spolu* 'with each other' are by default contradictory, each marking a different type of reciprocal meaning.

Hypothesis 2: Reciprocals that combine with the marker *spolu* by default can also combine with the marker *navzájem*/*vzájemně* if the context provides the information that the number of reciprocants[1] is greater than two. In such a case, the two markers become variants.

Arguably, the reciprocal *sejít se* 'meet' is combined with the marker *spolu* by default, but with more than two reciprocants being part of the situation, the use of *navzájem*/*vzájemně* becomes possible.

(1) *Marek a Petr se spolu sešli.*[2]
'Mark and Peter met with each other.'

(2) ?*Marek a Petr se navzájem sešli.*
'Mark and Peter met each other.' – the sentence is not fully acceptable in Czech

(3) *Marek, Petr a Marie se spolu sešli.*
'Mark, Peter and Mary met with each other.'

(4) *Marek, Petr a Marie se navzájem sešli.*
'Mark, Peter and Mary met each other.' – both sentences (3) and (4) are acceptable and roughly synonymous

[1] Following Nedjalkov (2007a), I use the term "reciprocants" for participants of a reciprocal situation. For the definition of a reciprocal situation, see Section 4.

[2] In the English translation of the Czech examples, when possible, I will translate *navzájem*/*vzájemně* as 'each other' and *spolu* as 'with each other' to highlight the contrast between the two Czech adverbs, even though the latter may not be the most natural form of expression in English.

Note that all four examples are "artificial", i.e. made up by me, and thus need to be supported by analysis of authentic language data.

The paper is organized as follows: Section 2 briefly sums up how grammatical variation has been treated in different linguistic frameworks so far. Section 3 provides a general description of the method used in this study and how it relates to the methods commonly used in other approaches. Section 4 defines the linguistic category of reciprocity and outlines the means of its expression in the Czech language. Section 5 presents a quantitative-qualitative analysis of the variation between the markers *navzájem*/*vzájemně* 'each other, mutually' and *spolu* 'with each other'.

2. Different approaches to studying grammatical variation

The phenomenon of variation in language has received considerable attention in modern linguistics, within different disciplines and using different methodologies. Variation is a core concept in sociolinguistics, where it has been studied in relation to social phenomena. In the work of Labov (1963, 1972) and many others, sociolinguistic patterns that determine speakers' use of alternate linguistic forms have been studied through quantitative analyses, i.e. statistical analyses of the frequencies of variants belonging to the same variable.

Language variation has also been approached from the perspective of cognitive linguistics (see e.g. Croft, 2010; Delbecque, 2005), and in particular from the perspective of cognitive constructional grammar (Goldberg, 1995; Gries & Stefanowitsch, 2004). In these approaches, alternation has been linked to different mental concepts and their contextual values. However, the cognitive perspective has also often been adopted by variationists belonging to other disciplines, such as sociolinguistics (Kristiansen & Dirven, 2008) and discourse analysis (Serrano & Aijón Oliva, 2011).

Variation has been treated differently in generative grammar. In its early stages, represented by transformational grammar, grammarians dealt with pairs of sentences which they regarded as formal variants endowed with the same meaning, e.g. active vs. passive voice sentences (Chomsky, 1957). The goal was to determine an underlying structure common to both alternatives and a transformation rule for obtaining these alternatives. In later stages

of generative grammar, the question of which sentence represents the basic form was addressed, as well as the question of what semantic conditions must be met for the transformation to be possible (Pinker, 1989).

Both the research concept and the research topic differ markedly between frameworks, which is not surprising given the diversity of approaches and the breadth of the phenomenon of variation. In general, these approaches differ in terms of:

(i) the language level they typically deal with,

(ii) whether and to what extent the alternating forms are allowed to be semantically distinct,

(iii) the way in which language data are collected and analyzed.

In general, generative approaches can be contrasted with empirically based frameworks, because they do not systematically deal with real language data. However, the assumption that alternating forms show no difference in their descriptive content has been adopted not only by generative grammarians but also by Labovian variationists: "[variants should be] truth-conditionally equivalent and used on the whole to refer to the same state of affairs" (Weiner & Labov, 1983, pp. 31–32). Under this assumption, the choice between alternatives can naturally be conceived as driven by their different stylistic features (corresponding in particular to the standard vs. non-standard opposition) and by extra-linguistic factors, i.e. social class, gender and age of the speaker, etc.; see Labov (1972, p. 271): "the variants are identical in reference or truth value, but opposed in their social and/or stylistic significance".

Regarding empirically oriented approaches to language variation based on quantitative data analysis, aspects (i) to (iii) have been addressed in several ways:

1. By focusing on units of the phonetic level, semantic issues do not need to be addressed, so the quantitative analysis can be carried out straightforwardly (Horvath & Horvath, 2002; Labov, 1963; Labov et al., 2006; and many others).

2. When it comes to the variation of higher-level language units, various internal non-semantic differences between variants and constraints on their use have been taken into account; see Trudgill (1974, p. 109) and Rickford and McNair-Knox (1994) on issues such as the presence vs. absence of the third person present tense marker (*he goes* vs. *he go*) and the presence vs. absence of the copula/auxiliary *be* (*He is on the phone* vs. *He on the phone*), where various functional constraints have been noted. Some approaches have focused on differences in the flow of information, e.g. what part of certain types of

constructions (e.g. active and passive constructions) is presented as topical (see Givón, 1993), and are thus on the border between Types 2 and 3.

3. With the focus on the variation of higher-level language units, there has been an assumption of semantic differences between alternatives, and some approaches have investigated these differences in terms of frequency. The more complex units are studied, the less tenable it is to ignore the semantic aspects of their variation. Construction-based approaches assume that each construction conveys a specific meaning: "If two constructions are syntactically distinct, they must be semantically or pragmatically distinct" (Goldberg, 1995, p. 67). Similar view has been adopted by variationists focusing on discourse analysis: "The hypothesis can be put forward that each grammatical form has a unique meaning not exactly matching that of any other one, not even that of its purported 'variants' or 'alternatives'" (Aijón Oliva, 2013, p. 574). Examples of constructions that have received attention in terms of presumed semantic differences include: the dative alternation (*John sent the book to Mary* vs. *John sent Mary the book*), verb-particle constructions (*John picked up the book* vs. *John picked the book up*), and variation between the *s*-genitive and *of*-construction (*the university's budget* vs. *the budget of university*); see Gries and Stefanowitsch (2004). Insights into semantic constraints have also been provided by authors of the sociolinguistic orientation; see, for example, the analysis of the variation between *was* and *were* (*She was a good worker* vs. *She were a good worker*) by Tagliamonte (1998), where the opposition between *be*-existential and *be*-leveling was one of the factors investigated.

3. Integrating quantitative and qualitative approaches

Not only the choice of language units determines an appropriate research method, but also the research method usual for a certain framework may influence the choice of the researched units. There is nothing wrong with this. Quantitative analysis can be done straightforwardly with low-level language units and even with higher-level language units if semantic issues are (largely) ignored, and extralinguistic factors that can be easily obtained from corpora or another data source are in the foreground, e.g. different characteristics of speakers and text genres; see Aijón Oliva and Serrano (2012) on extralinguistic factors determining the expression/omission of the Spanish pronoun *usted*/

ustedes 'you (s/pl)'). However, quantitative analysis of higher syntactic units with more complex semantics proves problematic.

In construction-based research, attention is paid to semantic constraints on the use of lexical items that fill the slots of various alternative constructions. In Gries and Stefanowitsch (2004), a distinctive collexeme analysis was applied to several pairs of constructions which are commonly considered as alternatives because they are functionally close to each other (e.g. the dative alternation and the variation between the *s*-genitive and the *of*-construction). As a result, the most distinctive lexical units were identified (mostly automatically, with the help of the syntactic annotation of the corpus), and their relation to a particular construction was explained on a semantic basis. This was done in principle in two steps: the statistical part was carried out first, followed by the explanatory part, i.e. the qualitative analysis. Such a concept is in line with the idea of empirical research of variation proposed by Aijón Oliva and Serrano (2012, p. 87): "quantitative analysis, in order to become meaningful, must be accompanied by the qualitative description of the values linguistic forms acquire in particular contexts". In these approaches, qualitative analysis is conceived as a kind of complement to quantitative analysis, the two being rather independent of each other.

This paper presents a case of variation where a straightforward quantitative analysis is hardly possible due to the complex interplay of various semantic and syntactic factors. Using only automatic procedures, the result of the quantitative analysis would be a distorted picture of the quantitative proportions between the variants. To avoid this scenario, *a qualitative analysis should be part of the quantitative description*. Once the relative frequencies of the alternatives are correctly determined, it is possible to perform an *in-depth qualitative analysis* to address the functional differences between the variants in respect to how common they are relative to each other.

The case study presented below deals with variation between adverbial markers of reciprocity in Czech, or more precisely, variation between different types of reciprocal constructions containing these markers. This instance of variation differs significantly from the instances typically studied in Labovian and construction-based approaches, because:

(i) the variation only arises when certain semantic and pragmatic conditions are met,

(ii) the variants do not have a very high frequency of occurrence, even though they are grammatical variants.

According to my assumptions (see Hypotheses 1 and 2 in Section 1), the markers *navzájem*/*vzájemně* 'each other, mutually' and *spolu* 'with each other' are by default contradictory, each marking a different type of reciprocal meaning, but can become variants if certain semantic and pragmatic (contextual) conditions are fulfilled: reciprocals that are combined with *spolu* by default can also be combined with *navzájem*/*vzájemně* if the number of reciprocants is greater than two. In cases of syntactic variation discussed by Gries and Stefanowitsch (2004), on the other hand, a lexical unit is (not) eligible for the use in the alternating constructions based on its semantic and syntactic properties, and there is arguably no contextual feature that could reverse these preconditions. Consider the variation between active and passive voice: there are many verbs that can be used with both voices (e.g. *uvařit* 'cook'), and there are also many verbs of which the opposite is true (e.g. *stát* 'stand'); the latter verbs do not participate in voice variation under any contextual settings.

It is impossible to reliably determine the number of reciprocants by any automatic method. It would be possible to distinguish between cases such as *Mark and Peter* and *Mark, Peter and Mary* based on formal differences, but only contextual clues will allow us to determine whether plurals such as *my friends* refer to two entities or more than two entities. In such cases, a "manual"[3] analysis of individual utterances and their contexts must be performed to establish quantitative relationships.

4. Reciprocity and its expression in Czech

The literature on reciprocity is quite extensive, and it is not my intention to provide a detailed summary here. The following collected works are recommended for readers interested in a deeper insight into the topic: König and Gast (2008), Nedjalkov (2007b), and Evans et al. (2011).

Reciprocity is traditionally defined in terms of symmetry: the relationship between participants A and B in a reciprocal situation is symmetrical, i.e. the relationship of A to B is the same as the relationship of B to A. When more than two reciprocants are involved, the issue becomes more complicated.

[3] Hereafter I will use this expression without quotation marks.

According to Haspelmath (2007, p. 2088), a situation is mutual if at least two participants are in a symmetrical relationship as described above. The concept is probably easiest to grasp with action predicates: A does "something" to B, and B does basically the same "something" to A. For example, from the sentence *Petr a Martin se navzájem uhodili* 'Peter and Martin hit each other' it follows that Peter hit Martin and Martin also hit Peter, so the hitting was mutual.

Reciprocity literature traditionally distinguishes two groups of expressions: lexical reciprocals and grammatical reciprocals. Nedjalkov (2007a, p. 14) defines lexical reciprocals as follows: "These are items whose meaning is not a mere sum of the meaning of the base and the meaning 'each other'"; grammatical reciprocals can be defined in a negative manner. This distinction by Nedjalkov can be modified to serve as a test for distinguishing lexical and grammatical reciprocals in Czech:

(i) If a reciprocal has a base verb which denotes the same reciprocal situation when combined with the expression *jeden druhý* 'each other', where the latter part gets the case required by the verb based on its valency frame (*jeden druhého*$_{2/4}$, *jeden druhému*$_3$, *jeden o druhém*$_6$), then it is a grammatical reciprocal.

(ii) It is also a grammatical reciprocal if the expression *jeden druhý* is part of it.

(iii) Otherwise it is a lexical reciprocal.

For example:

(a) *nenáviděli se* (*navzájem*) 'they hated each other' → *nenáviděli jeden druhého* 'they hated each other' – this is a grammatical reciprocal according to (i);

(b) *nenáviděli jeden druhého* 'they hated each other' – this is a grammatical reciprocal according to (ii);

(c) *bojovali* (*spolu*) 'they fought (with each other)' (there is no base verb); *sešli se* 'they met' (there is also no base verb, as *sejít se* 'meet' is a reciprocal tantum); *hádali se* (*spolu*) 'they argued (with each other)' (*hádat* 'guess' may appear as a base verb as to its form, but it is not) – all these cases are lexical reciprocals according to (iii).

There is, however, one caveat: all three lexical reciprocals in (c) occur with *jeden s druhým* 'with each other', but this expression does not usually indicate grammatical reciprocals but lexical reciprocals. This special use is suggested by the fact that the morpheme *se* as part of the reciprocal is

no obstacle for the use of *jeden s druhým*: *hádali se jeden s druhým* 'they argued with each other', compare with **nenáviděli se jeden druhého* 'they hated each other'.[4] In Czech, there is an expression which is analogous to the English expression *each other*, both in form and in application. This is the expression *jeden druhý*. However, while *each other* is the basic reciprocity marker in English, in Czech there is a different one: these are the reflexive morphemes *se* and *si* for accusative-like and dative-like cases,[5] respectively, and the reflexive forms *sebe*, *sobě* and *sebou* used in genitive, locative and instrumental positions, respectively (both the accusative form *sebe* and the dative form *sobě* can only be used in specific cases). Among the lexical reciprocity markers, the marker *navzájem*/*vzájemně* 'each other, mutually' can be considered basic, since it typically occurs with many reciprocal verbs.

Regarding the semantic aspect of reciprocal expressions (composition of the denoted situation), two types have been distinguished in the literature, albeit with the help of different terms, namely: "single-event reciprocity" vs. "binary conjunctive reciprocity" (König & Gast, 2008, p. 24), "uniplex mutual events" vs. "multiplex mutual events" (Haspelmath, 2007, p. 2106), "naturally reciprocal events" as a label for the former type (Kemmer, 1993, §4. 1.3), etc.[6] The former labels in each pair cover reciprocal situations consisting of parts that cannot exist independently (the reciprocal situation thus corresponds to a single event, e.g. *potkat se* 'meet', *hádat se* 'argue', *bojovat* 'fight'), while the latter labels cover reciprocal situations consisting of parts that can exist independently, i.e. they are autonomous events (thus the reciprocal situation typically corresponds to a pair of events, e.g. *nenávidět se* 'hate each other', *navštívit se* 'visit each other', *podporovat se* 'support each other'). Applying the above definition of lexical

[4] However, as demonstrated by Pergler (2022), the co-occurrence of the reflexive form with *jeden druhý* is sometimes acceptable.

[5] The status of these reflexive components in current Czech, as well as the status of similar expressions in other Slavic languages such as Slovak and Polish, has long been discussed in the literature, in terms of both the reflexive and reciprocal senses: *Petr se nenáviděl* 'Peter hated himself' – *Petr a Karel se nenáviděli* 'Peter and Charles hated each other'. According to some authors (e.g. Kettnerová & Lopatková, 2020; Panevová, 1999, 2001; Panevová & Mikulová, 2007), the form *se* is a reflexive pronoun form with the characteristic of case (accusative), while according to others (e.g. Karlík, 1999; Oliva, 2001) it is a morpheme without a case. The latter view seems to be predominant today, and I am inclined to this view as well.

[6] Henceforth, I will use only the first pair of terms.

and grammatical reciprocals, the meaning of single-event reciprocity can be associated with lexical reciprocals, while the meaning of binary conjunctive reciprocity can be associated with grammatical reciprocals. This is not very surprising: if parts of a reciprocal situation are not autonomous events, there is "no reason" to have a name for them that is derivatively related to the reciprocal verb.

Arguably, the mentioned assignment between the two oppositions is valid for most reciprocals in Czech. However, since this is a semantic opposition one can expect a continuum between two extreme poles rather than a pair of mutually exclusive categories. There are borderline cases like *objímali se* 'they hugged each other', where it is not quite clear whether the denoted situation should be considered as a single action or as (consisting of) two actions, and whether the reciprocal *objímali jeden druhého* 'they hugged each other' should be ascribed the same meaning, or whether these are distinct units, the former being a lexical reciprocal (i.e. the intransitive verb *objímat se* 'hug each other') and the latter – a grammatical reciprocal (i.e. the transitive verb *objímat* 'hug' used in a reciprocal construction).

5. Variation of reciprocals combined with *navzájem/vzájemně* and reciprocals combined with *spolu*

Arguably, the adverb *navzájem/vzájemně* 'each other, mutually' combines with binary conjunctive reciprocals by default (and from the recipient's point of view, it indicates binary conjunctive reciprocity), while the adverb *spolu* 'with each other' primarily combines with single-event reciprocals (in other words, it indicates single-event reciprocity). For example:

Single-event reciprocity:

(5) *My se s mámou máme dobře, bavíme se spolu, jen se spolu nestýkáme.* (SYN v8)[7]
'We are doing well with my mom, we talk with each other, we just don't see each other.'

[7] SYN v8 indicates that the example was taken from the SYN version 8 corpus (Křen et al., 2019).

(6) *Muže žena pozvala k sobě domů, poté co se spolu seznámili přes inzerát.* (SYN v8)
'The woman invited the man to her home after they met with each other through an advertisement.'

(7) *Pak se spolu milovali, aniž by řekli jediné slovo.* (SYN v8)
'Then they had sex with each other without saying a single word.'

Binary conjunctive reciprocity:

(8) *Když manželé stárnou, láska jim pomáhá, aby se vzájemně podporovali* […]. (SYN v8)
'As married couples grow older, love helps them to support each other […].'

(9) *Hleděli jsme* [*já a George*] *na sebe navzájem s nedůvěrou.* (SYN v8)
'We [I and George] were looking at each other with distrust.'

(10) […] *Brenda a Laurence si navzájem posílali milostné dopisy.* (SYN v8)
'Brenda and Laurence sent love letters to each other.'

This is not to say, however, that these adverbs cannot be combined with reciprocals of the other type. It is not difficult to run across utterances in the corpus where *navzájem*/*vzájemně* occurs together with single-event reciprocals, for example:[8]

(11) *Hledal jsem mimo jiné odpověď na otázku, kteří prezidenti se mohli navzájem potkat.* (SYN v8)
'Among other things, I was looking for an answer to the question of which presidents could have met each other.'

(12) *Politici se navzájem hádají o to, kdo má největší zodpovědnost za současnou krizi.* (SYN v8)
'Politicians argue with each other about who is most responsible for the current crisis.'

(13) *Na závěr bylo připraveno občerstvení, kdy si všichni* [*soutěžící*] *mohli vzájemně popovídat a navázat nová přátelství.* (SYN v8)
'At the end, refreshments were prepared, when all [competitors] could talk to each other and establish new friendships.'

[8] The different collocation properties of the markers *navzájem*/*vzájemně* and *spolu*, as well as a certain overlap of the group of verbs which they combine with, were noticed by Kettnerová and Lopatková (2020), but the relation of the two markers to the semantic types of reciprocity was not addressed, nor was the overlap of the respective group of verbs explained.

Note that in all three examples, (i) the number of reciprocants is greater than two, (ii) *navzájem/vzájemně* could be easily substituted by *spolu*, i.e. both markers are variants. However, it remains to be determined via an analysis of corpus data how frequent these instances of *navzájem/vzájemně* are in comparison to instances of the adverb *spolu* combined with the same reciprocals.

5.1. Determining the frequencies of each reciprocity marker (a first approximation)

The data were obtained from the SYN version 8 corpus (Křen et al., 2019). It is a monolingual corpus of written Czech with 5,391,362,082 tokens, which contains mostly journalistic texts (about 90%), but also fiction and technical literature. I find this composition of the corpus convenient, because the journalistic texts contained therein are mostly current, intended for a wide audience and written in standard Czech.

The data sets were created using the following method. First, I looked up (1) all the collocations containing a verb, the expression *se* (in the range of two text positions from the verb) and the adverb *navzájem/vzájemně* (in the range of three text positions from the verb); (2) all the collocations containing a verb, the expression *se* (in the range of two text positions from the verb) and the adverb *spolu* (in the range of three text positions from the verb).[9] In each case, the set of the twenty most frequent reciprocals (taken in absolute frequencies) was extracted. Then, for each list, a frequency of occurrence with "the other" adverb (taken from the other data set) was added for each reciprocal, resulting in two frequency values for each unit. In this

[9] Some reciprocals may contain reflexive components other than *se*: under certain circumstances, *se* is to be replaced by the accusative form *sebe* (*respektovali jiné i sebe navzájem* 'they respected others as well as each other'). A number of reciprocals contain the component *si*, which in some cases is to be replaced by the long form *sobě* (*rozuměli si* 'they understood each other' – *rozuměli ostatním i sobě navzájem* 'they understood others as well as each other'). For the genitive, locative, and instrumental, there are only long reflexive forms in Czech: *sebe* (*dotýkali se sebe navzájem* 'they were touching each other'), *sobě* (*mluvili o sobě navzájem* 'they talked about each other'), and *sebou* (*pohrdali sebou navzájem* 'they despised each other'). I restricted my analysis to reciprocals with the component *se* because this is the central and most common type of reciprocal expression in Czech, and I did not want too many factors to interfere with the observed variation.

way, the reciprocals that were frequently combined with *navzájem*/*vzájemně* and *spolu*, respectively, were obtained, and it was ascertained whether (and to what extent) the combinations with "the other" adverb also occurred; see Table 1 and Table 2 below.[10]

A methodological note: Absolute frequencies were chosen instead of relative ones because (1) they could be easily corrected on the basis of a qualitative analysis of the data (see below); (2) I did not intend to compare frequencies across different corpora. Two readers of the manuscript of this paper suggested to me that measures of collocation strength, such as MI-score and T-score, could have been used. However, these measures are completely inappropriate when polysemous or homonymous units are the subject of analysis (and the different senses need to be distinguished). To obtain these measures, one needs to know the frequency of the collocation, the frequency of the words it consists of, and the number of tokens in the corpus. For example, in the case of the expression *bavit se spolu* 'talk with each other' / 'have fun together', it would be necessary to distinguish between the reciprocal and non-reciprocal senses of both the collocation and its word components as separate units, which would be a very demanding task. As for the observed opposition between the situation with two and more than two reciprocants (see below): the two cases would have to be discerned not only in terms of the individual collocations (e.g. *bavit se navzájem* 'talk to each other'), but also in terms of the marker *navzájem*/*vzájemně* itself. These numbers could only be roughly estimated, and the value of the respective measures would be questionable.

[10] Kettnerová et al. (2020) also arrived at a set of Czech reciprocal verbs by looking up their occurrences with the adverbs *navzájem* and *vzájemně* – and with the expression *mezi sebou* 'among themselves' – in the corpus. However, their goal and method were different: they aimed to collect a large number of grammatical reciprocals containing various reflexive components (see the preceding footnote) to reflect them in the valency lexicon, whereas I sought to collect only a limited set of reciprocals – both grammatical and lexical – containing the reflexive form *se* which had a large number of occurrences in the corpus. The set was limited so that the qualitative analysis I intended to carry out would be feasible. It contained highly frequent reciprocals, since I expected the variation of the two reciprocity markers to manifest itself in the corpus with such reciprocals.

Table 1. Most frequent reciprocals marked with *navzájem/vzájemně*

Reciprocal	***navzájem/vzájemně***	***spolu***
doplňovat se 'complement each other'	2,844	79
znát se 'know each other; be acquainted'	2,672	1,225
podporovat se 'support each other'	2,259	73
obviňovat se 'blame each other'	1,471	1
respektovat se 'respect each other'	1,352	44
ovlivňovat se 'influence each other'	1,268	19
poznat se 'get to know each other; recognize each other; meet' (pf.)	1,055	135
prolínat se 'be intertwined'	915	12
navštěvovat se 'visit each other'	894	113
informovat se 'inform each other'	807	8
potřebovat se 'need each other'	732	32
lišit se 'differ'	711	9
hecovat se 'tease each other'	700	83
inspirovat se 'inspire each other'	666	10
učit se 'teach each other'	643	680
vylučovat se 'exclude each other'	633	9
poznávat se 'get to know each other; recognize each other; meet' (impf.)	585	52
povzbuzovat se 'encourage each other'	577	15
rušit se 'disturb each other; interfere with each other'	493	6
dotýkat se 'touch each other'	469	33

Table 2. Most frequent reciprocals marked with *spolu*

Reciprocal	***spolu***	***navzájem/vzájemně***
bavit se 'talk with each other'	3,727	202
utkat se 'compete, fight'	1,739	209
znát se 'know each other; be acquainted'	1,225	2,672
sejít se 'meet'	1,080	75
domluvit se 'agree (on sth.); be able to speak with each other'	861	302
dohodnout se 'agree (on sth.)'	785	442
setkat se 'meet' (pf.)	747	106
potkat se 'meet' (pf.)	621	99
seznámit se 'get acquainted'	550	252
střetnout se 'compete, fight; collide'	503	122
scházet se 'meet'	441	84
vidět se 'meet; see each other'	359	214
hádat se 'argue'	341	109
milovat se 'make love'	332	259
držet se 'hold each other'	309	444
setkávat se 'meet' (impf.)	282	197
potkávat se 'meet' (impf.)	281	114
stýkat se 'meet, see each other'	241	94
vídat se 'meet, see each other'	225	21
vyspat se 'have sex'	223	0

5.2. Manual correction of the obtained frequencies

For the reasons described below, it was necessary to manually check all four sets of utterances, i.e. the co-occurrences of twenty reciprocals from Table 1 and Table 2 with both adverbial markers (that is, 80 expression types: *doplňovat se navzájem/vzájemně*, *doplňovat se spolu* 'complement each other'; *bavit se spolu*, *bavit se navzájem/vzájemně* 'talk with/to each other'; etc.).

The numbers obtained from the corpus gave a picture of variation that was significantly distorted: it may give the impression that the adverbs *navzájem*/*vzájemně* and *spolu* are common variants (which is not the case). The first problem was the form of the corpus query: it was based on mere co-occurrences of text units instead of syntactic dependencies between them, so that part of the data contained invalid syntactical pairs, i.e. sentences in which the adverbial marker was dependent on an expression different from the looked-up verb (this applied to the marker *spolu* in particular, because of its higher polysemy compared to the marker *navzájem*/*vzájemně*). The use of queries based on syntactic dependencies would largely solve this problem but can (of course) be applied only when searching in syntactically annotated corpora. Within the Czech National Corpus there are corpora with a syntactical layer, such as the SYN2020 corpus (Křen et al., 2020). This corpus is well-suited for analyses of standard written Czech, but it contains only 121,826,797 tokens, and thus is not large enough to capture some less frequent phenomena. For many of the verbs on the list, the non-basic variant would turn out to be non-existent in SYN2020, simply because it does not pass a certain threshold of "commonness". For the analysis of this type of variation, it was therefore necessary to choose a bigger corpus (SYN v8 contains 5,391,362,082 tokens, which makes it 44 times larger than SYN2020) and to dispense with syntactical annotation. In addition, the error rate in syntactic annotation of the SYN2020 corpus is quite high, so even if the queries could have been based on syntactic dependencies, it would be necessary to manually check the obtained data to exclude the erroneous cases.

Another reason why the numbers on the two lists cannot be taken at face value is the polysemy/homonymy of some of the verbs looked up. I considered it an acceptable simplification not to distinguish cases like *střetnout se* 'compete, fight' vs. 'collide' (*fotbalové týmy se střetly* 'football teams played against each other' vs. *auta se střetla* 'the cars collided'), *domluvit se* 'agree (on sth.)' vs. 'be able to speak with each other' (*domluvili jsme se, že se brzy sejdeme* 'we agreed to meet soon' vs. *Češi a Slováci se spolu domluví* 'Czechs and Slovaks can speak with each other'), because in each type of use, the verbs are single-event reciprocals. A different approach was required for the reciprocals *znát se* 'know each other; be acquainted', *poznat se* 'get to know each other; recognize each other; meet' (perfective), and *poznávat se* 'get to know each other; recognize each other; meet' (imperfective). That the reciprocal *znát se* represents a difficult case is suggested by its presence on both lists, i.e. by the fact that it frequently occurs together with both adverbial markers. This is because there are two

reciprocals, one single-event and one binary conjunctive: *znát se* 'be acquainted' vs. 'know each other (in some respect)'. The former combines primarily with *spolu*, the latter – primarily with *navzájem*/*vzájemně*. For example:

(14) *Znají se spolu už dvanáct let, seznámili se v roce 1998.* (SYN v8)
'They have been acquainted with each other for twelve years, they met in 1998.'

(15) *Dobře se navzájem známe, oba milujeme basket, biliár i stejná jídla.* (SYN v8)
'We know each other well, we both love basketball, billiards and the same foods.'

A similar distinction can be applied to the reciprocals *poznat se* (perfective) and *poznávat se* (imperfective): 'get to know each other; recognize each other' vs. 'meet'. However, they did not occur frequently enough with the adverb *spolu* to be included in Table 2. The reciprocal *vidět se* 'meet' vs. 'see each other' displays similar ambiguity between the two types of reciprocity, but in most cases it was relatively easy to ascertain the actual meaning. Another problematic item was the expression *držet se spolu*. In a number of cases, *spolu* was part of the expression *spolu s(e)* 'together with', i.e. it was not a reciprocity marker:

(16) *Z nových zemí EU se tak držíme spolu se Slovinskem a Slovenskem na čelných místech.* (SYN v8)
'Among the new EU countries, we hold the top positions together with Slovenia and Slovakia.'

In other cases, the expression *držet se spolu* represented a phraseme with the meaning 'stay together',[11] where the adverb *spolu* corresponded to the semantic feature 'together (side by side)'. Instead of deleting this item from the list, I decided to restrict the search to cases where the reciprocal *držet se* binds an object *ruka* 'hand', i.e. to cases of the type *držet se spolu* (*navzájem*/*vzájemně*) *za ruku*/*ruce* 'hold each other's hand(s)', which are clearly reciprocal and non-metaphorical.

Obviously, a major problem for the manual analysis was the size of some of the data sets. It would hardly be possible (or at least reasonable) to manually check data sets with thousands of utterances. In such cases I used the following method. When a data set contained 200 or fewer utterances, I manually checked all of them. For data sets with more than 200 utterances, I created a random sample of exactly 200 utterances. To be systematic, I worked with random samples even when

[11] This phraseme is applicable to both concrete and abstract situations.

the original data set contained just over 200 utterances. Subsequently, the frequency values assumed for the original data sets were derived from the sample data sets by the formula $x/200 \times y$, where x was the number of valid occurrences of the looked-up constructions determined by the manual inspection of the samples, and y was the total number of occurrences contained in the original data sets. For example, the expression *učit se navzájem/vzájemně* 'teach each other' had 643 occurrences in the original data sets, but there were 132 valid cases in the sample of 200 occurrences. As a result, the formula $132/200 \times 643$ gave the estimated value of 453 valid occurrences in the original sample.

5.3. Two vs. more than two reciprocants

Another reason to inspect the individual utterances did not relate to erroneous cases. I wanted to verify Hypothesis 2, i.e. the assumption that the use of the marker *navzájem/vzájemně* with single-event reciprocals is licensed by the number of reciprocants being greater than two (see Section 1). Thus, the occurrences of single-event reciprocals with the marker *navzájem/vzájemně* could be expected to refer to reciprocal situations with more than two reciprocants and should not be taken as evidence against the assumption that single-event reciprocals do not combine with this marker by default (see Hypothesis 1 in Section 1). For this reason, when manually checking occurrences of single-event reciprocals with *navzájem/vzájemně* (i.e. expressions like *navzájem se setkali* 'they met each other'), I classified them in terms of the opposition of two reciprocants vs. more than two reciprocants. In some cases, the number of reciprocants was clearly determined by various contextual clues, or one interpretation was highly probable compared to the other one. Of course, there were also a considerable number of unclear cases, so I divided the utterances into three classes: those with two reciprocants, those with more than two reciprocants, and unclear cases. I will give a few examples:

(17) *Dusno mezi Sobotkou a Haškem bylo cítit i během sobotní tiskové konference. Vzájemně se nebavili* […]. (SYN v8; two reciprocants)
'The tension between Sobotka and Hašek was also felt during Saturday's press conference. They didn't talk to each other […].'

(18) *Dobrá nálada panovala všude kolem a lidé s dětmi se vzájemně bavili.* (SYN v8; more than two reciprocants)
'There was a good mood all around and people with children were talking to each other.'

(19) *Snažili jsme se posílit ovzduší důvěry a vůle se navzájem bavit o rozvoji území.* (SYN v8; with the available context, the number of reciprocants is unclear)
'We tried to strengthen the atmosphere of trust and the will to talk to each other about the development of the territory.'

It was sometimes difficult to interpret cases where a collective noun represented the reciprocants. In some contexts, the collective noun was understood to refer to a single (albeit collective) participant, while in other cases it referred to a group of participants. For example:

(20) *Reprezentanti byli rozděleni do družstva „bílých" a „modrých". Střetla se navzájem a pak dvakrát s Dány.* (SYN v8)
'The representatives were divided into "white" and "blue" teams. They played against each other and then against the Danes twice.'

(21) *Starousedlíci i noví obyvatelé se vzájemně stýkají, žádný problém tu nemáme.* (SYN v8)
'Old residents and new residents socialize with each other, we have no problem here.'

While (20) was counted as a situation with two reciprocants, (21) was counted as a situation with more than two reciprocants. The distinguishing criterion was ultimately the number of actions performed by the reciprocants (two reciprocants – one action vs. more than two reciprocants – two or more actions).

5.4. Rectified frequencies and refined classification

Excel spreadsheets with the reviewed data sets are freely accessible (see Veselý, 2024). The classification of the data is shown in different colors; the assignment of the colors is described in the spreadsheets. Unfortunately, it was not possible to provide English translations for the Czech language material due to the large amount of the data. Readers not familiar with the Czech language are invited to use automatic translations provided by .xlsx file editors such as Microsoft Excel to get an idea of the meaning of individual utterances.

Table 3 and Table 4 below are a rectification of Table 1 and Table 2, respectively, based on a manual check of the individual utterances. An asterisk placed before a value indicates that it is an estimate derived from a value obtained by analyzing a random sample of 200 utterances. Values conceived as a range (see the units *znát se*, *poznat se* and *poznávat se*) correspond to unclear cases. For example: *znát se navzájem/vzájemně* 'know each other (in some respect)': 815–1,283 (value on the left: none of the unclear cases were counted; value on the right: all unclear cases were counted).

Table 3. Most frequent reciprocals marked with *navzájem/vzájemně* (with rectified frequencies)

Reciprocal	***navzájem/vzájemně***	*spolu*
doplňovat se 'complement each other'	*2,787	17
znát se 'know each other (in some respect)'	*815–1,283	*43–80
podporovat se 'support each other'	*2,203	0
obviňovat se 'blame each other'	*1,464	0
respektovat se 'respect each other'	*1,278	0
ovlivňovat se 'influence each other'	*1,236	0
poznat se 'get to know each other; recognize each other' (pf.)	*680–986	0
prolínat se 'be intertwined'	*865	12
navštěvovat se 'visit each other'	*854	5
informovat se 'inform each other'	*799	0
potřebovat se 'need each other'	*670	0
lišit se 'differ'	*700	0
hecovat se 'tease each other'	*686	57
inspirovat se 'inspire each other'	*582	0
učit se 'teach each other'	*453	0*
vylučovat se 'exclude each other'	*611	2
poznávat se 'get to know each other; recognize each other' (impf.)	*506–579	1
povzbuzovat se 'encourage each other'	*551	0
rušit se 'disturb each other; interfere with each other'	*478	0
dotýkat se 'touch each other'	*464	7

Table 4. Most frequent reciprocals marked with *spolu* (with rectified frequencies)

Reciprocal	***spolu***	***navzájem/vzájemně***		
		recipro-cants = 2	recip-rocants > 2	unclear cases
bavit se 'talk with each other'	*3,354	*6	*56	*2
utkat se 'compete, fight'	*1,713	*40	*162	*23
znát se 'be acquainted'	*576–613	*120	*1,055	*40
sejít se 'meet'	*724	0	6	0
domluvit se 'agree (on sth.); be able to speak with each other'	*667	*66	*151	*35

Reciprocal	***spolu***	***navzájem/vzájemně***		
		recipro-cants = 2	recip-rocants > 2	unclear cases
dohodnout se 'agree (on sth.)'	*506	*177	*108	*82
setkat se 'meet' (pf.)	*631	8	52	4
potkat se 'meet' (pf.)	*487	7	51	8
seznámit se 'get acquainted'	*322	*10	*105	*8
střetnout se 'compete, fight; collide'	*190	36	70	7
scházet se 'meet'	*267	0	14	1
vidět se 'meet'	*181	*4	*29	*10
hádat se 'argue'	*228	2	28	9
milovat se 'make love'	*186	*0	*0	*0
držet se za ruku/ruce 'hold each other's hand(s)'	21	5	19	3
setkávat se 'meet' (impf.)	*179	6	117	4
potkávat se 'meet' (impf.)	*171	5	65	6
stýkat se 'meet, see each other'	*182	6	69	7
vídat se 'meet, see each other'	*141	3	7	1
vyspat se 'have sex'	*216	0	0	0

As can be seen from the comparison of Table 1 and Table 3, the error rate of values in the middle column (corresponding to the type *doplňovat se navzájem/vzájemně* 'complement each other') was rather low in most cases. Thus, the manual correction did not change the overall picture much. However, for several units the values had to be corrected more significantly; see the reciprocals *znát se* 'know each other (in some respect)', *poznat se* 'get to know each other; recognize each other' (perfective), and *učit se* 'teach each other'. On the other hand, the effect of manual corrections on the last column (corresponding to the type *doplňovat se spolu* 'complement each other') was significant: while the data in Table 1 suggested that there was a possible variation for each reciprocal unit, the corrected data in Table 3 showed that for 12 reciprocals no variation was represented in the data. The variation was attested for the following 8 reciprocals: *doplňovat se* 'complement each other', *znát se* 'know each other (in some respect)', *prolínat se* 'be intertwined', *navštěvovat se* 'visit each other', *hecovat se* 'tease each other', *vylučovat se* 'exclude each other', *poznávat se* 'get to know each other; recognize each other' (imperfective), and *dotýkat se*

'touch each other'. The middle column of Table 2 (corresponding to the type *bavit se spolu* 'talk with each other') had a higher error rate than the middle column of Table 1 (corresponding to the type *doplňovat se navzájem/vzájemně* 'complement each other'). There are probably two reasons for this: (i) It is less common to mark single-event reciprocity with the adverb *spolu* than to mark binary conjunctive reciprocity with the adverb *navzájem/vzájemně*; in part of the data the adverb *spolu* was bound to another expression. (ii) The adverb *spolu* is multifunctional; in a number of utterances it was part of the expression *spolu s(e)* 'together with' and did not mark reciprocity.

Based on the analysis described in Section 5.3, the last column of Table 2 was divided into three columns related to the number of reciprocants (see Table 4). One can ask whether the middle column in Table 1 should also be split, i.e. whether it is desirable to classify binary conjunctive reciprocals such as *doplňovat se navzájem/vzájemně* 'complement each other' in terms of this feature as well. I suggest that the answer should be negative, since it is impossible to discern whether the use of *navzájem/vzájemně* was motivated by the semantic type of the reciprocal or by the number of reciprocants (note that the two options are not mutually exclusive).

5.5. Evaluating the results in relation to Hypotheses 1 and 2

For the sake of clarity, I will repeat both hypotheses below.

Hypothesis 1: The markers *navzájem/vzájemně* 'each other, mutually' and *spolu* 'with each other' are by default contradictory, each marking a different type of reciprocal meaning.

It is evident that all the units in Table 4 (including *znát se* 'be acquainted') are single-event reciprocals, and most of the units in Table 3 are binary conjunctive reciprocals (only the verbs *prolínat se* 'be intertwined' and *lišit se* 'differ' are single-event reciprocals; note that the respective translations lack the expression *each other*). It is also evident that the marker *navzájem/vzájemně* significantly outweighed the marker *spolu* in the occurrences of the units in Table 3, and the marker *spolu* was prevalent in the occurrences of the units in Table 4 (though this prevalence was less significant). Thus, it can be concluded that the ascertained frequencies corroborate Hypothesis 1.

Hypothesis 2: Reciprocals that combine with the marker *spolu* by default can also combine with the marker *navzájem/vzájemně* if the context provides

the information that the number of reciprocants is greater than two. In such a case, the two markers become variants.

When situations with more than two reciprocants were expressed, the marker *navzájem/vzájemně* was relatively common for a number of single-event reciprocals (not for all of them), especially for the reciprocals *znát se* 'be acquainted', *utkat se* 'compete, fight', *domluvit se* 'agree (on sth.); be able to speak with each other', and *dohodnout se* 'agree (on sth.)'. However, the marker *spolu* was more frequent for all the units in Table 4 except for the reciprocal *znát se* 'be acquainted'. Thus, it can be concluded that the criterion of the number of reciprocants proved to be relevant: it would be too strong to claim that the co-occurrence of the single-event reciprocals with the adverb *navzájem/vzájemně* is necessitated by the fact that more than two reciprocants participate in the situation, but this co-occurrence is certainly facilitated by this fact. Therefore, Hypothesis 2 is partially supported by the ascertained frequencies.

5.6. Explaining the ascertained frequencies

The first question to be asked concerns Hypothesis 1: Why are the reciprocals *prolínat se* 'be intertwined' and *lišit se* 'differ' primarily combined with the marker *navzájem/vzájemně*, although they are single-event reciprocals? Note that both units are also specific in another respect: unlike most of the units in Table 3, they have a static meaning and do not (necessarily) imply human participants. The specific semantic nature of *prolínat se* 'be intertwined' is suggested by its co-occurrence with *spolu*. As for *lišit se* 'differ', one can hypothesize that its co-occurrence with *spolu* is blocked by the semantic content of this verb: since *spolu* typically expresses cooperation between the reciprocants (even in cases like *bojovali spolu* 'they fought with each other'), it cannot be combined with a verb expressing the static meaning of difference.

The second question relates to Hypothesis 2: Why is the use of the marker *navzájem/vzájemně* with single-event reciprocals facilitated by the fact that more than two reciprocants participate in the situation? Sentences like *Lidé se navzájem bavili* 'People talked to each other' often seem to imply that there was a plurality of reciprocal actions, each performed by two reciprocants. Note that binary conjunctive reciprocals, primarily marked with the adverb *navzájem/vzájemně*, typically denote two actions performed by two participants who switch roles (*Petr a Marie se navzájem navštívili* 'Peter and Mary

visited each other'). Therefore, the use of *navzájem*/*vzájemně* with binary conjunctive reciprocals and with single-event reciprocals denoting situations with more than two reciprocants have two features in common: (i) the plurality of actions, (ii) the alternation of participants, i.e. each action is specific in terms of the participants and their contribution to the action. The fact that *navzájem*/*vzájemně* can fulfill this secondary function, i.e. be a variant of the marker *spolu*, but not vice versa, is also consistent with my assumption that it is the basic lexical indicator of reciprocity in Czech; see Section 4. Unlike the sentence *Lidé se navzájem bavili* 'People talked to each other', the sentence *Lidé se spolu bavili* 'People talked with each other' probably does not trigger the implication that there were several conversations, each performed by two participants (see above). Thus, the use of *navzájem*/*vzájemně* together with single-event reciprocals strongly suggests that more than two reciprocants were involved in the situation.

The above observations are consistent with the view that each grammatical variation is functional, i.e. variants are never exactly the same in meaning. As envisaged in Section 3, the functional differences between the variants can be addressed by a detailed qualitative analysis once their frequencies have been correctly determined. I have conducted such an analysis, also in terms of reciprocals below the frequency peak, but it cannot be presented here due to space limitations (it is presented in Veselý, 2025). However, for the sake of illustration I will mention two possible reasons for the occurrence of the observed variation besides the number of reciprocants: it is (a) a certain blurring of the opposition between the single-event and the binary conjunctive reciprocity (see the verb *hecovat se* 'tease each other' in (22)); (b) a semantic shift of the reciprocal to the opposite semantic pole (the verb *navštěvovat se* 'visit each other' in (23) can be understood as 'meet').

(22) *V týmu Jihlavy hraje váš mladší bratr Stanislav. Hecujete se spolu před takovýmto soubojem?* (SYN v8)
'Your younger brother Stanislav plays in the Jihlava team. Do you joke with each other before a fight like this?'

(23) *„Často se spolu navštěvujeme," řekl šaman* […]. (SYN v8)
'"We often visit each other [lit. with each other]" said the shaman […].'

6. Conclusions

Determining the frequency of grammatical variants in the corpus cannot be achieved without a qualitative analysis if the variation is in any way conditioned by semantic and/or pragmatic settings. If these settings are not part of the grammatical information represented in a corpus layer, the qualitative analysis must be done manually, i.e. by examining each utterance of the data set. This can be done in a two-step manner: (i) in relation to a large number of utterances, to ascertain correct frequencies of the variants, (ii) in relation to a limited number of utterances, to study in detail the functional aspects of the variation. Note that in the first step, the qualitative analysis is a means to determine the correct frequencies, while in the second step, it is rather the other way round: the aim of this analysis is to describe the functional relationship between the variants in respect to their relative frequencies. The methodological requirement to integrate the quantitative and qualitative parts of research on functionally unequal variants may sound trivial, but it is arguably not commonly implemented in variation research.

However, the integration of the two components is not without its problems. It is necessary to deal with the large amount of data associated with some variants: the sets of utterances subject to manual analysis cannot be so large as to make this analysis impractical. For this reason, it is sometimes necessary to reduce the data set to a random sample and to obtain estimated frequencies using this method. Even with these limited samples, the manual analysis may be difficult if semantic and/or pragmatic aspects are to be considered, since the context does not always provide clear clues as to which meaning the speaker had in mind. Therefore, it is sometimes unavoidable to establish a "class" of unclassified units. I hope that my analysis can stimulate discussion on how to address these methodological challenges.

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Variation of Adverbial Markers of Reciprocity in Czech

Summary

This paper presents a study on variation between adverbial markers of reciprocity in Czech: *navzájem*/*vzájemně* 'each other, mutually' and *spolu* 'with each other'. The study demonstrates in practice what method quantitative-qualitative empirical research on grammatical variation should follow. The qualitative analysis can be integrated with the quantitative description in a two-step manner: (1) the qualitative analysis is often necessary to determine the frequencies of the variants; (2) an in-depth qualitative analysis should follow to establish the functional relationship between the variants. The two adverbs form a semantic opposition (*navzájem*/*vzájemně* indicates binary conjunctive reciprocity, while *spolu* indicates single-event reciprocity) but become variants if certain semantic and pragmatic conditions are met. The corpus analysis showed that the co-occurrence of *navzájem*/*vzájemně* with single-event reciprocals is facilitated when the number of reciprocants is greater than two.

Wariantywność przysłówkowych wyznaczników wzajemności w języku czeskim

Streszczenie

W artykule przedstawiono analizę wariantywności przysłówków *navzájem*/*vzájemně* 'nawzajem/wzajemnie' i *spolu* 'ze sobą' w języku czeskim. Praca pokazuje w praktyce, jaką metodę należy przyjmować w ilościowo-jakościowych badaniach empirycznych wariantywności gramatycznej. Analizę jakościową można połączyć z opisem ilościowym dwuetapowo: 1) analiza jakościowa jest często niezbędna dla określenia częstotliwości wariantów; 2) pogłębioną analizę jakościową należy przeprowadzać w celu ustalenia relacji funkcjonalnej

między wariantami. Dwa analizowane przysłówki tworzą opozycję znaczeniową (*navzájem*/*vzájemně* wskazuje na wzajemność binarnie koniunktywną, natomiast *spolu* – wzajemność pojedynczego zdarzenia), ale stają się wariantami, jeśli spełnione są pewne warunki semantyczne i pragmatyczne. Przeprowadzona analiza korpusowa wykazała, że występowanie *navzájem*/*vzájemně* z czasownikami zwrotnymi odnoszącymi się do pojedynczego zdarzenia jest możliwe, gdy liczba uczestników w relacji wzajemności jest większa od dwóch.

Keywords: variation; reciprocity; reflexive verb; adverb

Słowa kluczowe: wariantywność; wzajemność; czasownik zwrotny; przysłówek

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