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On the functional relationship between the Czech reciprocity markers *navzájem/vzájemně* and *spolu*

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Abstract: The paper presents an analysis of utterances extracted from a corpus of written Czech that contain the adverbs *navzájem/vzájemně* ‘each other, mutually’ or the adverb *spolu* ‘with each other’ used as markers of reciprocity in a way that does not correspond to the semantic type of the reciprocal expression that the marker syntactically combines with. When used in this way, the two markers are interchangeable and thus represent grammatical variants. The paper focuses on the functional and semantic differences between the two variants, as well as on possible motives for using the non-basic variant. The general semantic relationship between the variants is also examined, taking into account their relative frequency of use.

Keywords: reciprocity; variation; marker; corpus; frequency

1 Introduction

This paper is concerned with the relationship between the Czech adverbs *navzájem/vzájemně* ‘each other, mutually’ and *spolu* ‘with each other’, which indicate that the part of speech on which they syntactically depend, typically a verb used as a predicate, has a reciprocal meaning. As I argue in Veselý (2025), the two markers form a semantic opposition: *navzájem/vzájemně* indicates binary conjunctive reciprocity, while *spolu* indicates single-event reciprocity (König and Gast 2008: 24); both terms will be clarified below. Under certain semantic and pragmatic circumstances, however, they can become variants, i.e., it is possible to use both adverbs without a significant difference in meaning. This is not to say that their meanings are exactly the same. In my analysis, which is presented below, I have focused on those utterances found in the Czech National Corpus in which a reciprocal is combined with an adverbial marker that, at least on a general level, does not correspond to its semantic

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type. Hereafter I will call this (not corresponding) marker non-basic, whereas the corresponding marker will be called basic. In the research I focused especially on those cases where, according to the analyzed data, this non-basic use is much less common than the basic one, and although in such contexts the two markers become variants (it is always possible to substitute the non-basic marker by the basic one), subtle semantic differences between them can be observed. The aim of this paper is to describe these differences and to address the question of why this asymmetric variation occurs only with certain reciprocals used in certain contexts (and how it relates to the observed differences in meaning).

When studying the variation of units at any level of language, it is crucial to determine how common the alternatives are relative to each other, otherwise their functional relationship could not be described in a complex way. As I argue in Veselý (2025), when studying difficult cases of variation (i.e., variation of meaningful units in particular), a quantitative analysis of corpus data should be integrated with a qualitative analysis, rather than the latter being carried out after the former and independently of it. This can be done in a two-step manner: 1. as an analysis of a large amount of data, where the qualitative part must be undertaken to ensure that the frequencies have been correctly determined, i.e., that issues such as form-meaning asymmetries (polysemy and homonymy) and false syntactic pairs have been resolved and only true alternatives have been counted in the statistics, 2. as a detailed analysis of a limited number of utterances, which aims to ascertain the functional relationship between the variants with respect to their frequencies (obtained via the first step). The variation I am dealing with here was subjected to the first step of the process in Veselý (2025). The core of this text was a general picture of the variation between *navzájem/vzájemně* and *spolu* and methodological aspects of its research. This study, on the other hand, is an implementation of the second step, so the qualitative component of the analysis dominates over the quantitative one. Here, I will refer to the results of the general analysis presented in Veselý (2025) only to the extent necessary.

The corpus research was focused solely on the situation in the Czech language. I am not aware of other languages than Czech – except for Slovak, where the situation is very similar – that signal the opposition between single-event and binary conjunctive reciprocity by lexical (adverbial) means. While binary conjunctive reciprocity is often signaled by an adverb (e.g., *mutually* in English, *einander*, *gegenseitig* in German, etc.), single-event reciprocity is not signaled in this way, and it is often not manifested at all, i.e., not even by morphological or clitical means (e.g. *they kissed*, *Die Eltern sprachen über alles Mögliche* (German) ‘The parents talked about all sorts of things’, etc.). The Czech adverb *spolu* is

unique in the sense that it is polysemous between a collaborative and a reciprocal sense (for example, the English adverb *together* does not display such a behavior). In this context it is worth noting the situation in Polish: while the adverb *razem* ‘together’ with a collaborative sense cannot also signal single-event reciprocity, the prepositional phrase *z(e) sobą* ‘with each other’ seems to be functionally similar to the Czech adverb *spolu* ‘with each other’, cf. Wiemer (1999: 308): “These observations are wholly compatible with the almost complementary distribution of *jeden drugiego* ‘one the other’ and *nawzajem, wzajemnie* ‘mutually’, on the one hand, and *ze sobą*, on the other: the former are used with canonical reciprocals, but excluded with verbs denoting naturally reciprocal events, whereas *ze sobą* may be used only with natural reciprocals and verbs related to them closely [...]”¹ It might be fruitful to undertake a crosslinguistic corpus-based research focused on a comparison of how the semantic opposition of single-event and binary conjunctive reciprocity is indicated in Czech, Slovak and Polish. Obviously, such research would require different methods than those used in this paper. Here I will only make a brief remark on the situation in Czech and Polish (another remark can be found in Section 3): the functions of the Polish *z(e) sobą* are distributed among at least three expressions in Czech: *se sebou* (*bojoval sám se sebou* / *walczący z (sámym) sobą* ‘he fought with himself’), *s sebou* (*vzali si s sebou svačtinu* / *przynieśli ze sobą przekąskę* ‘they took a snack with them’) and *spolu* (*povídali si spolu* / *rozmawiając ze sobą* ‘they were talking to each other’). The Czech phrase *se sebou* does not conventionally signal single-event reciprocity, but this usage is not entirely excluded, especially in co-occurrence with *navzájem/vzájemně*: *stýkají se pouze se sebou navzájem* ‘they only socialize with each other’.

The paper is organized as follows: Section 2 deals with the general concept of variation and how it is understood in this paper. Section 3 defines the category of reciprocity and outlines the classification of reciprocal expressions according to various criteria. Section 4 deals with the means of expressing reciprocity in Czech, and Section 5 focuses on their variation. In Section 6 the variation of the adverbial markers *navzájem/vzájemně* and *spolu* is analyzed in detail, especially the cases when a given marker is combined with a reciprocal of an “inappropriate” semantic type. Section 7 discusses the question of the semantic relationship between the two units.

1 Canonical reciprocals are basically binary conjunctive reciprocals, whereas natural reciprocals are basically single-event reciprocals. An overview and explanation of these terms is given in Section 3.

2 Variation as a functional relationship of language units

Sankoff (1988) distinguishes three basic approaches to syntactic variation: 1) the introspective-generative approach studies variation as part of the language system; 2) the experimental-evaluative approach is concerned with cognitive processes related to the choice from the alternatives, using the method of psycholinguistic experiment; 3) the descriptive-interpretive approach analyzes syntactic variation based on language use, with data being mostly taken from linguistic corpora. The present study clearly adheres to the third paradigm of approaches.

According to the rigorous concept of variation, variants should have exactly the same meaning in a truth-functional sense, cf. Weiner and Labov (1983: 31–32): “[variants should be] truth-conditionally equivalent and used on the whole to refer to the same state of affairs”. Of course, this requirement is unproblematic when the variants are not meaningful units, i.e., in the case of variation between phonetic and graphic non-sign units. However, when it comes to variants at the morphological, lexical, and syntactic levels, the strict definition becomes difficult to maintain. In many conceptions, semantic differences are not only allowed but even assumed to be a necessary feature of any instance of linguistic variation, for example: “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: 574). In the context of construction grammar, much attention has been paid to variation of syntactic units, cf. Goldberg (1995: 67): “If two constructions are syntactically distinct, they must be semantically or pragmatically distinct”. It has been pointed out that because of these functional differences, each use of a given alternative is preceded by a meaningful choice² made by the speaker in a given communicative situation. The concept of deliberate choice between nearly (but not completely) synonymous competing units, determined by a number of intralinguistic and extralinguistic variables, has been widely elaborated in the disciplines investigating language use (pragmatics, stylistics, and discourse analysis). On the development of research on grammatical variation towards this comprehensive view, see, for example, Aijón Oliva and Serrano (2012).

Some authors (e.g. Biber et al. 2021) treat variation as a relation between units of the language system, while others (e.g. Dorgeloh and Wanner 2010) use this term in reference to actual language use and with respect to genre-specific communicative settings. From a methodological point of view, I believe that one approach cannot be separated from the other: only through analyses of language use, we can “credibly”

2 Rosenbach (2002: 77) speaks about choice-based approaches to grammatical variation.

ascertain what is and what is not part of the language system, and what the relations between the “parts” are. However, it is possible to distinguish between a systemic variation, in which the alternation relation is part of the language system, and an occasional variation in individual texts.³ The latter type can be expected to manifest itself in significant differences between the frequencies of each variant, in contrast to the former type. Arguably, each type is associated with diverse perceptions of the functional differences by the speakers: the use of an occasional, infrequent variant may be perceived as a symptomatic substitution. However, a single alternation relation can sometimes be identified as systemic and sometimes as merely textual, depending on the context. For example, in Czech when the reciprocal *hádat se* ‘argue’ denotes an action with more than two reciprocants,⁴ the construction *hádat se spolu* ‘argue with each other’ commonly alternates with the construction *hádat se navzájem* ‘argue with each other’; this is therefore a systemic alternation. However, when the same reciprocal denotes an action with only two reciprocants, the construction *hádat se spolu* ‘argue with each other’ is only rarely replaced by the construction *hádat se navzájem* ‘argue with each other’; this is therefore an occasional alternation. I will discuss this issue in more detail below, especially in Section 7.

3 The semantic category of reciprocity and its expression in Czech

According to Haspelmath (2007: 2088), a mutual situation can be defined as a situation with two or more participants (A, B, ...) in which for at least two of the participants A and B, the relation between A and B is the same as the relation between B and A. For example, the sentence *John and Mary loved each other* denotes a reciprocal situation, as indicated by the reciprocal anaphor *each other*, because not only John loves Mary, but also Mary loves John. Reciprocity/mutuality is related to symmetry. The predicate *to love each other* can be said to be symmetrical, because it consists of two (in the given example) relations that are principally the same: someone loves someone else (although each “someone” is assigned a different semantic role). However, the relation between the two notions (i.e., reciprocity and symmetry) is a matter of authorial conception. König and Kokutani (2006) define symmetry as a semantic property and reciprocity as a syntactic property.⁵ For

³ Note that affiliation to these types may change over time and can be investigated in language development research: an occasional alternation made possible by the flexibility of the language system can become systematic, at least within a certain style or genre, if it occurs repeatedly.

⁴ Following Nedjalkov (2007), I use the term “reciprocants” for participants of a reciprocal situation.

⁵ A similar distinction is made by Evans (2008) and Dimitriadis (2008).

example, the verb *argue* denotes an action that may not be perfectly symmetrical in meaning when the participants are represented in different valency positions (*a argued with b*), but it becomes perfectly symmetrical when used in a reciprocal construction, where the number of valency positions is reduced (*a and b argued*). However, constructions such as *a argued with b* are often recognized as a specific type of reciprocal, cf. the term “discontinuous reciprocal” coined by Dimitriadis (2008). Wiemer and Grzybowska (2015), on the other hand, distinguish between reciprocal and symmetrical predicates, see below in detail. In this text, I use the term “reciprocity” in the same way as Haspelmath uses the term “mutuality” (see above), i.e. as a semantic concept, and I assume that reciprocity is based on symmetry (which, however, can have different forms).

In Czech, reciprocal situations are most typically denoted by reciprocals containing the reflexive morphemes *se, si*; these expressions either form a lexical unit, as in example (1), or they are grammatical units⁶ semantically related to a non-reciprocal expression (in example (2), *milovat se* is a grammatical reciprocal based on the verb *milovat*):⁷

(1) *Jan a Marie se potkali na náměstí.* ‘John and Mary met at the square.’

(2) *Jan a Marie se milovali.* ‘John and Mary loved each other.’

These reciprocals are sometimes accompanied by adverbs indicating reciprocity, most typically *navzájem/vzájemně* ‘each other, mutually’ and *spolu* ‘with each other’ (however, the latter can also mean ‘together’, as in *jeli tam spolu* ‘they went there together’):

(3) *Jan a Marie se spolu potkali na náměstí.* ‘John and Mary met at the square.’

(4) *Jan a Marie se navzájem milovali.* ‘John and Mary loved each other.’⁸

⁶ A definition of lexical reciprocals is given by Nedjalkov (2007: 14): “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. While lexical reciprocals are established members of the language lexicon, grammatical reciprocals, arguably, arise only in the process of text formation (for example, the grammatical reciprocal *milovat se* ‘love each other’ is not part of the lexicon, i.e., it must be formed by the speaker using the units *milovat* ‘love’ and *se* ‘each other’).

⁷ I consider the forms *se, si* to be morphemes (i.e., not word forms) even in grammatical reciprocals. There is no complete consensus on the status of these forms in linguistics, but the given view is far from rare, cf. Zec (1985) and Siloni (2012). I will not discuss this issue here, since the focus of this paper is different.

⁸ The sentence *Jan a Marie se milovali* could also mean ‘John and Mary had sex’. In this case, the sentence contains the lexical reciprocal *milovat se* ‘have sex’, and the marker *spolu* could be added: *Jan a Marie se spolu milovali* ‘John and Mary had sex’. With the reciprocal *milovat se*, the use of the adverbial marker of reciprocity (either *navzájem/vzájemně* or *spolu*) can be motivated by the need to distinguish between the two senses.

There can be various motives for using these adverbs; one is to eliminate ambiguity of the reflexive morphemes *se, si*; note that sentence (2) can also mean ‘John and Mary loved themselves’. The situation described by (2) can also be expressed by a grammatical construction containing the expression *jeden druhý* ‘each other’; in this case the marker *navzájem/vzájemně* cannot be attached to the reciprocal (however, exceptions to this rule can be attested in the corpus data):

- (5) *Jan a Marie jeden druhého (‘navzájem’) milovali.* ‘John and Mary loved each other.’

König and Gast (2008: 24) distinguish between binary conjunctive and single-event reciprocity. In the case of binary conjunctive reciprocity, “a symmetric relation R is instantiated twice between two participants *a* and *b* (*Masha and Vanya noticed each other*)”, while in the case of single-event reciprocity, “two instantiations of a relation R are conceived of as a single event (*Masha and Vanya kissed*)”. The latter type corresponds to the class of predicates that Dimitriadis (2008: 376) calls “irreducably symmetric”; Kemmer (1993) calls them “natural reciprocals”. In Haspelmath (2007: 2106), the two notions are covered by the terms “uniplex mutual events” and “multiplex mutual events”: the sentence *Ram and Dolores told each other a secret* represents multiple sub-events (two telling events with two secrets involved), whereas the sentence *Pedro and Aisha quarreled (with each other)* describes only a single (i.e., uniplex) event. Leaving aside minor differences in the understanding of these concepts by individual authors, binary conjunctive / multiplex reciprocals can presumably be equated with grammatical (sometimes called canonical) reciprocals, and single-event / uniplex reciprocals with lexical reciprocals. These are natural correspondences: a lexical reciprocal lacks a non-reciprocal base verb, reflecting the fact that sub-events of a given reciprocal are not easily distinguishable. In this paper, I will use the notions single-event × binary conjunctive reciprocity / reciprocals, mainly for the following reasons: i) These are semantic concepts, and my analysis is mostly a semantic one (e.g., I work with the concept of neutralization of a semantic opposition, see Section 7); the terms grammatical × lexical reciprocals rather refer to different types of linguistic units. ii) I assume that the meanings of single-event and binary conjunctive reciprocity can sometimes be evoked by the reciprocal adverbs and other contextual clues, even though the reciprocal alone might suggest the opposite. And in some cases, it may not be easy to determine whether the meaning is only created in context or is associated with a reciprocal of a particular type. Having chosen the pair of terms above, this dilemma does not need to be resolved, i.e., the reciprocal does not need to be determined as a grammatical or lexical one.

It can be a matter of debate whether binary conjunctive reciprocals – and also all single-event reciprocals – are truly symmetric. According to Wiemer and Grzybowska (2015: 219–220), sentences such as *Koni-e się kopi-ą* ‘The horses kick each

other’ contain a reciprocal predicate, not a symmetrical one: “In a reciprocal relation, there are two referents (individuals or sets thereof) each of which represents two different semantic functions, in other words: which are each aligned to two functions with complementary status in argument structure. It is important to realize that this involves two conditions: [a] X and Y stand in an identical semantic relation to each other, but [b] each of them is ascribed to two different arguments (roles). Symmetrical predicates fulfil the first, but not the second condition.” In sentences like *Ich ręcę się dotyka-k-ł-y* ‘Their hands touched (each other)’ the predicate is symmetrical, since both conditions are met: “In these instances, X and Y (i.e. two different referents) can only be ascribed to one argument (i.e. semantic function).” Finally, single-event reciprocals like *całować się* ‘kiss (each other)’ represent intermediate cases, i.e., may show a transition between reciprocal and symmetrical predicates (Wiemer and Grzybowska 2015: 220–221). In my view, fulfillment of condition [a] alone is sufficient for qualifying a given predicate as symmetric: When two horses kick each other, the first horse relates to the second horse in an agent-to-patient way, and the second horse relates to the first horse in the same way. When two lovers kiss, they stand in a co-agent relationship with each other. And when two hands touch, each hand stands in a relation of spatial co-occurrence with the other hand. Both “parts” of the situation thus either can or cannot be assigned two different participant roles. Qualifying all these instances as symmetrical predicates does not mean that there are no significant differences between them. However, the broader concept of symmetry which I am endorsing here emphasizes the common features of both groups and reflects the unsharp boundary between them. The proximity of the two types also seems to be suggested by Kemmer (1993: 97, 117–118): whereas for prototypical (i.e., binary conjunctive) reciprocals, the initiator (i.e., agent) and endpoint (i.e., patient) roles are represented in their semantic scheme, for natural (i.e., single-event) reciprocals, there is no separate representation for these roles, which is consistent with Kemmer’s assumption of “less participant distinguishability between *initiating and endpoint aspects* [emphasis mine] of the participants”. Thus, even in co-agent cases such as *całować się* ‘kiss’, the action is “oriented” from one participant to the other and vice versa.

In Veselý (2025), I presented an analysis of data extracted from the SYN v8 corpus (Křen et al. 2019) to support the hypothesis that in Czech, both types of reciprocals are primarily marked with a different adverbial marker: binary conjunctive reciprocals are primarily combined with the adverb *navzájem/vzájemně* ‘each other, mutually’, while single-event reciprocals are primarily combined with the adverb *spolu* ‘with each other’. See examples (3) and (4); note that *potkat se (spolu)* ‘meet’ is a single-event reciprocal, and *milovat se (navzájem/vzájemně)* ‘love each other’ is a binary conjunctive reciprocal. In principle, my analysis of a) 20 most frequent collocations made up of a reciprocal containing the reflexive element *se* and the adverb *navzájem/*

vzájemně, b) 20 most frequent collocations made up of a reciprocal containing the reflexive element *se* and the adverb *spolu*⁹ supported this hypothesis,¹⁰ i.e., examples (3) and (4) represent the typical, most frequent combinations. The result of the analysis will be specified in Section 6.

A crucial question is how it is possible to determine whether a reciprocal is a single-event or a binary conjunctive one. Several criteria are given below. It is not always (i.e., for each reciprocal) possible to apply all of them, and their application is not always entirely conclusive. The validity of the given criteria is not compromised by these obstacles, because i) individual reciprocals can show individual behavior, ii) the opposition between the semantic categories is not strictly contradictory, i.e., there is, arguably, a continuum of cases that cannot be clearly assigned to either category.¹¹

- a) As observed by Siloni (2012), when a binary conjunctive reciprocal is determined by a multiplicative numeral such as *pětkrát* ‘five times’, ambiguity regarding the number of events arises; this is not the case when a single-event reciprocal is determined in the same way. For example: *Jan a Petr se navzájem pětkrát navštívili* ‘John and Peter visited each other five times’ = there were 5 visits / there were 10 visits × *Jan a Petr se pětkrát potkali* ‘John and Peter met five times’ = there were 5 meetings.
- b) As mentioned above, single-event reciprocals are principally lexical reciprocals, and binary conjunctive reciprocals are grammatical reciprocals. Hence, the absence of a base verb indicates single-event reciprocity (assuming that the reflexive form is a reciprocal). However, it may not be trivial to determine whether the corresponding non-reflexive form is a base verb, i.e., whether the reciprocal has the same meaning when the reciprocal meaning is “subtracted”. For example, the reciprocal *znát se* is either a grammatical one, with the sense

⁹ I looked up all the verbs in the SYN v8 corpus, and then limited the occurrences I found to those in which the form *se* was in the first or second position to the left or right of the verb, and at the same time either the adverb *navzájem/vzájemně* or the adverb *spolu* was in the first, second or third position to the left or right of the verb.

¹⁰ The datasets were manually checked and some of the utterances found were excluded on this basis, which resulted in a reduction of the corresponding frequency value. It is therefore possible that other collocations would have been more frequent if they had also been manually checked and if the frequency reduction had been smaller. However, I did not take such a step, because the exact order of collocations by frequency was not important for my research (I only wanted to analyze collocations that were highly frequented).

¹¹ The idea that single-event reciprocals do not form a homogeneous set, is suggested also by Maslova (2008: 243) who distinguishes between RECP^S predicates and RECP^S-oriented predicates. Simply put, the former are basically lexical reciprocals such as *hádat se* ‘argue’, while the latter denote events which are “asymmetrical, yet conceptually similar to, as it were, “one-way” components of common symmetrical events (like kiss or talk)” Maslova (2008: 244).

‘know each other’, or a lexical (lexicalized) one, with the sense ‘be acquainted’, and the base verb *znát* ‘know’ can only be related to the former sense. The two senses cannot be easily distinguished in all contexts because of their proximity and the scarcity of contextual clues. Conversely, when there are contextual clues indicating single-event reciprocity, it may not be clear whether there is a lexicalized unit, which the contextual clues support, or whether the single-event construal arose in the context alone.

- c) A sentence with a binary conjunctive reciprocal is synonymous with the conjunction of sentences containing the corresponding non-reciprocal predicates, e.g. *Jan a Petr se navzájem navštívili* ‘John and Peter visited each other’ = *Jan navštívil Petra a (také) Petr navštívil Jana* ‘John visited Peter and (also) Peter visited John’. Such conjunctions aptly illustrate the binary semantics of these reciprocals. Single-event (lexical) reciprocals do not allow such a transformation for the trivial reason that they have no base verbs, see the previous criterion. Even if there is a corresponding non-reflexive lexical unit, it may not be a true base verb, as suggested by the fact that a conjunction of sentences containing this verb is not an alternative to the sentence with the single-event reciprocal. For example, *Jan a Petr se znají už dvacet let* ‘John and Peter have known each other for twenty years’ cannot be replaced by *Jan zná Petra už dvacet let a Petr zná Jana už dvacet let* ‘John has known Peter for twenty years and Peter has known John for twenty years’ (this is not a communicationally acceptable alternative).
- d) If there is a base verb, the reciprocal situation can also be expressed with the bipartite quantifier *jeden druhý*, e.g. *navštívili se navzájem – navštívili jeden druhého* ‘they visited each other’. Thus, this alternative also signals binary conjunctive reciprocity. However, this does not apply to reciprocals of the form *hádali se jeden s druhým*, where *jeden s druhým* alternates with *spolu*, see Section 4.
- e) To render the reciprocal meaning, base verbs related to binary conjunctive reciprocals materialized by reflexive verbs can also be combined with the reflexive pronoun *sebe* (*sobě*). Actually, the replacement of the “light” marker *se* (*si*) by the “heavy” marker is obligatory in Czech: the long form must be selected when the reciprocal relation is conjoined or contrasted with a non-reciprocal one, e.g. *Jan a Petr navštívili Martina i sebe navzájem* ‘John and Peter visited Martin and also each other’; *Jan a Petr navštívili Martina, sebe navzájem ale ne* ‘John and Peter visited Martin but not each other’. As for single-event reciprocals, Czech speakers would probably not opt for the “heavy” marker, e.g. *Jan a Petr se hádali spolu* (‘*mezi sebou*’) *i s jinými lidmi* ‘John and Peter argued with each other and also with other people’.

The situation in Czech is different from the situation in Polish, where, as Wiemer (1999) observes, the pronoun *sie* replaces the clitic *się* not only for the syntactic reasons noted in the previous paragraph, but also for reasons related to the reflexivity-reciprocity homonymy of the reflexive forms. According to Wiemer (1999: 308), “a replacement of *się* by *sie* most probably renders a reflexive reading with those lexical reciprocals that also most readily appear in any type of any comitative construction and with the reciprocity marker *ze sobą* [...]. With less typical lexical reciprocals, which bear a more straightforward semantic relation to their transitive bases, *siebie*, on the contrary, causes a fragmentation of the denoted event and reinforces the reciprocal interpretation”. The first group comprises verbs such as *widzieć się* ‘meet’, *całować się* ‘kiss’, and (*przy*) *witać się* ‘exchange greetings’, whereas the second group includes verbs such as *obejmować się* ‘embrace each other’ and *cmoknąć się* ‘smack each other’. Wiemer notes that members of the latter group, unlike members of the former group, cannot occur with comitative objects. In Czech, the respective translation equivalents do not seem to form two groups on the grounds of the given criterion, since not only the constructions such as *Jan se pozdravil s Petrem* ‘John and Peter greeted each other’ but also the constructions such as *Jan se objímal s Martinou* ‘John and Martina were hugging each other’ are possible and unproblematic. Moreover, for any of the respective equivalents, a replacement of *se* (*si*) by *sebe* (*sobě*) cannot be licensed by the need to reinforce the reciprocal interpretation. If a reflexive reading is to be unambiguously expressed instead of the reciprocal (and more typical) one, a combination of the intensifier *sám* ‘by oneself’ with the pronoun *sebe* seems to be the preferred option, e.g. *viděli v zrcadle sami sebe* ‘they saw themselves in the mirror’. However, it is the intensifier rather than the “heavy” marker (or the combination of both) that evokes the reflexive reading, as suggested by the alternative *viděli se sami v zrcadle* ‘they saw themselves in the mirror’, which is also unambiguous. The fact that the opposition of *se* – *sebe* in Czech (and *sa* – *seba* in Slovak) does not follow the same principles as in Polish, has also been noted by Ivanová (2025).

- f) In principle the possibility of a discontinuous form such as *Martin se hádal s Petrem* ‘Martin argued with Peter’ indicates lexical / single-event reciprocity. However, it can be debatable what exactly “to be possible” means. For example, the construction ²*Martin se respektoval s Petrem* ‘Martin and Peter respected each other’ may be deemed ungrammatical by some speakers, but grammatical by others. It is not documented in the Czech National Corpus, but it can be found in Google.
- g) Although this would actually be a *petitio principii* fallacy, I believe that the very opposition of the reciprocal adverbs *navzájem/vzájemně* and *spolu* is a good

indicator of binary conjunctive and single-event reciprocity in Czech, respectively. This is a convenient criterion, because both adverbs, save for exceptions, adhere to reciprocals the reciprocants of which are expressed in the same syntactical position (typically: *Jan a Petr se navzájem navštívili* ‘John and Peter visited each other’, *Jan a Petr se spolu pohádali* ‘John and Peter had an argument’) and are thus fully symmetrical in meaning. The syntagmatic nature of this criterion also allows for its application in corpus-based research. However, even this criterion is not entirely unproblematic. First, *navzájem/vzájemně* ‘reliably’ indicates binary conjunctive reciprocity only if the number of reciprocants equals two (see Section 6.2). Second, both markers sometimes co-occur (*studenti spolu navzájem diskutovali* ‘the students discussed with each other’). Third, some reciprocals do not follow the assumed pattern. For example, the reciprocal *prolínat se* ‘be intertwined’ is primarily combined with *navzájem/vzájemně*, despite being a single-event reciprocal, as suggested by application of criteria c)–f) (application of criteria a) and b) would be problematic). Similarly, the reciprocal *lišit se (od sebe)* ‘differ (from each other)’ can only be combined with *navzájem/vzájemně*, even though it is not a binary conjunctive reciprocal, as suggested by criteria b)–e) (application of criterion a) would be problematic; criterion f) fails here).

4 Morphological and lexical indicators of reciprocity in Czech

The means of expressing reciprocity in Czech are much more diverse than suggested in the previous section, since the morphological and lexical markers (reflexive morphemes and word forms, the expression *jeden druhý* and a few adverbial markers) occur and co-occur in multiple ways. In the following, I will identify several classes of reciprocals in Czech based on the number of markers used.¹²

1) No marker:

Petr a Martin diskutovali ‘Peter and Martin discussed’, *telefonovali* ‘... talked on the phone’, *bojovali* ‘... fought’, etc. Without reciprocity markers and contextual clues, such expressions are vague, i.e., they can mean ‘... with each other’ as well as ‘... with someone else’. However, even with the latter sense, the situation described is reciprocal in nature.

¹² Wiemer (2007) presents a comprehensive and detailed overview of reciprocity markers in Polish. There is no such overview for Czech, but Kettnerová and Lopatková (2020) give a rather complex account of the means of expressing reciprocity in this language.

2) A single marker:

- a) The reflexive morphemes *se*, *si* and the “long” word forms *sebe*, *sobě* and *sebou*: *nenáviděli se* ‘they hated each other’, *záviděli si manželky* ‘they envied each other’s wife’, *pohádali se* ‘they argued’, *nemohli bez sebe žít* ‘they couldn’t live without each other’, *mluvili o sobě hezky* ‘they talked nicely about each other’, *pohrdali sebou* ‘they despised each other’, etc. Note that the reflexive morpheme is multifunctional, so a given predicate is often ambiguous, often between a reciprocal sense and a reflexive sense. For example, *nenáviděli se* can mean both ‘they hated each other’ and ‘they hated themselves’.
- b) The expression *jeden druhý* ‘each other, one another’, whose second part can have different cases depending on the valency of the predicate:¹³ *jeden druhého nenáviděl* ‘one hated the other’ / *nenáviděli jeden druhého* ‘they hated each other’, *jeden druhému záviděl manželku* ‘one envied the other’s wife’ / *záviděli manželku jeden druhému* ‘they envied each other’s wife’, *jeden druhým pohrdal* ‘one despised the other’ / *pohrdali jeden druhým* ‘they despised each other’, etc. This marker is usually not used with the reflexive marker (**nenáviděli se jeden druhého*), but the construction *jeden s druhým* ‘with one another’, which is rather a different marker, sometimes occurs with single-event reciprocals (*věřící se můžou sejít jeden s druhým* ‘the faithful can meet with each other’) and even with binary conjunctive reciprocals (*nenáviděli se jeden s druhým* ‘they hated each another’), where the reflexive morpheme is part of the sentence.¹⁴
- c) An adverbial marker. There are five of them in Czech: *navzájem* ‘each other, mutually’, *vzájemně* ‘each other, mutually’, *spolu* ‘with each other’, *dohromady* ‘together’, and *mezi sebou* ‘among themselves’.¹⁵ Being a single marker is quite typical for the marker *spolu* as well as for the (less frequent) markers *dohromady* and *mezi sebou*: *bojovali spolu* ‘they fought with each other’, *bojovali mezi sebou* ‘they fought with each other’, *mluvili spolu* ‘they talked to each other’, *smíchat všechny ingredience dohromady* ‘to mix all the ingredients together’. It is not very typical of the marker *navzájem/vzájemně*, although it is possible for some predicates, for example: *studenti navzájem diskutovali* ‘students discussed with

¹³ However, both parts may change according to the features of gender and number related to the participants.

¹⁴ Based on the examination of the corpus data, it seems that the construction *jeden s druhým* ‘with one another’ occurs mostly with reciprocals that lack the reflexive morpheme, e.g. *komunikovali jeden s druhým* ‘they communicated with each other’, *závodili jeden s druhým* ‘they raced each other’ and with various reciprocals with the meaning of joining, e.g. *výkřiky splyývaly jeden s druhým* ‘the cries merged with each other’. These reciprocals also occur with the adverb *spolu*, see the type c) below.

¹⁵ Kettnerová and Lopatková (2020: 261) comment on the fact that while the adverbs *navzájem* and *vzájemně* unambiguously signal reciprocity, the remaining means may also have other senses.

each other'. In these cases, the adverbial marker can in principle be omitted, but this is not possible in all contexts, cf.: *ten večer jsme (spolu) mluvili o všem možném* 'we talked about all sorts of things that night' × *už rok jsme spolu nemluvili* 'we haven't talked for a year'. However, some single-event reciprocals require the *spolu* marker to be expressed if the verb is not used discontinuously (in which case the "s + N₇" complement is obligatory): *soucítili spolu* 'they sympathized with each other', *spali spolu* 'they had sex'.

3) Two markers:

When a reflexive marker is used, an adverbial marker can be attached to the reciprocal. The reflexive marker can be considered a primary marker and the adverbial marker a secondary marker, since the presence of the latter is conditioned by the presence of the former, and the latter can in principle be omitted from the sentence: *nenáviděli se (navzájem)* 'they hated each other', *potkali se (spolu)* 'they met', etc. However, adverbial markers can also occur as primary markers, see type 2c) above.

This type also includes cases where two adverbial markers occur together without the predicate containing a reflexive component: *navzájem spolu komunikují* 'they communicate with each other'.¹⁶

4) Three markers:

Combinatorial possibilities in Czech are quite rich, although the combination of three markers cannot be considered typical. It is possible to find combinations such as *navzájem se mezi sebou kontrolovali* 'they controlled each other' and *navzájem si spolu konkurují* 'they compete with each other' (the latter example could also contain only two markers: *navzájem spolu konkurují*).

These formal types of reciprocals can be associated with the semantic types defined above as follows:

Binary conjunctive reciprocals always have at least one marker (*nenáviděli jeden druhého, nenáviděli se* 'they hated each other'), while single-event reciprocals do not (*diskutovali* 'they discussed').¹⁷ Both single-event and binary conjunctive reciprocals

¹⁶ The corpus data suggest that only a few verbs commonly occur with both markers at once: *komunikovat* 'communicate', *mluvit* 'talk' and three verbs beginning with *sou-*, namely *souviset* 'be related', *souhlasit* 'agree', and *soupeřit* 'compete'.

¹⁷ In a sense, the comitative complement in discontinuous reciprocals such as *tygr bojoval se slonem* 'a tiger fought with an elephant' also marks reciprocity. In this paper, however, I do not treat the comitative complement as a marker of reciprocity. Otherwise, one could also consider treating the conjunction of two nouns (*tygr a slon bojovali* 'a tiger and an elephant fought') as a reciprocity marker.

can contain the reflexive morphemes *se, si*, while only the latter can contain the word forms *sebe, sobě, sebou*, excepting cases such as *oddělit od sebe* ‘separate from each other’, where the long form of the reflexive is required by a preposition. In other words, as part of reciprocal expressions, these forms are clear signals of binary conjunctive reciprocity; this does not apply to the adverbial marker *mezi sebou*, however.

In general, the use of the adverbial markers *navzájem, vzájemně, spolu, dohromady*, and *mezi sebou* is not directly conditioned by any semantic type, but it is related to syntactic patterns: It is only possible with reciprocals where the respective participants are expressed in a single syntactic position, typically the subject position, less often the object position, while it is not possible with discontinuous reciprocals where one of the participants is expressed with the form “s + N₇”, compare: *Martin a Petr se spolu pohádali* ‘Martin and Peter argued’ – **Martin se spolu pohádal s Petrem* ‘Martin argued with Peter’; *Fotbalisté Sparty a Slavie se mezi sebou nesnášeli* ‘The football players of Sparta and Slavia hated each other’ – **Fotbalisté Sparty se mezi sebou nesnášeli s fotbalisty Slavie* ‘The football players of Sparta and Slavia hated each other’. As observed by Kettnerová and Lopatková (2020), the expression of *spolu* is possible only for reciprocals which can be used discontinuously, although *spolu* and the expression “s + N₇” cannot occur together, for example: *Martin a Petr se (spolu) pohádali* ‘Martin and Peter argued’ – *Martin se (*spolu) pohádal s Petrem* ‘Martin argued with Peter’.

5 Variation between reciprocals / reciprocal markers in Czech

The variation of the individual constructions is a phenomenon that is complex and difficult to explain. The variants differ from each other in the number of markers involved as well as in which marker is chosen from a given set of morphemic and lexical alternatives. I will give some examples of such competing constructions:

- A. *navštěvovali se – navštěvovali jeden druhého – vzájemně se navštěvovali – navštěvovali se spolu – navzájem se spolu navštěvovali – navzájem jeden druhého navštěvovali* ‘they visited each other’
- B. *setkali se na náměstí – setkali se spolu na náměstí – setkali se na náměstí jeden s druhým – navzájem se setkali na náměstí* ‘they met (each other) on the square’
- C. *projekty si konkurovaly – projekty si navzájem konkurovaly – projekty spolu konkurovaly – projekty si spolu konkurovaly – projekty si mezi sebou konkurovaly – projekty mezi sebou konkurovaly – projekty si mezi sebou navzájem konkurovaly* ‘the projects competed with each other’

The marker *jeden s druhým* is an alternative to the adverb *spolu*: *pohádali se spolu – pohádali se jeden s druhým* ‘they argued one with another’. On the other hand, constructions containing *navzájem/vzájemně* are alternatives to constructions containing the marker *jeden druhého, jeden druhému*, etc., and lacking the reflexive morpheme: *nesnášeli se navzájem – nesnášeli jeden druhého* ‘they hated each other’. The marker *mezi sebou* seems to be compatible with both types, e.g. *bavili se spolu / mezi sebou* ‘they talked to each other’ (*bavili se* is a single-event reciprocal); *navštěvovali se navzájem / mezi sebou* ‘they visited each other’ (*navštěvovali se* is a binary conjunctive reciprocal).

Obviously, such a complex variation can hardly be treated in a single paper, unless it is to be described only superficially. For this reason, I have limited my attention to a pair of alternatives: reciprocals with the adverbial markers *navzájem* or *vzájemně* and reciprocals with the adverbial marker *spolu*. Since the adverbs *navzájem* and *vzájemně* are identical in meaning, distribution and stylistic value, I consider them to be variants of a single marker and represent them as *navzájem/vzájemně*. From the set of Czech adverbial markers of reciprocity, *navzájem/vzájemně* and *spolu* are of particular interest because of their connection to the semantic classes of single-event reciprocals and binary conjunctive reciprocals.

6 *Navzájem/vzájemně* and *spolu* used as non-basic markers of reciprocity

The insights presented in this section are based on the analysis of a) 20 most frequent collocations made up of a reciprocal containing the reflexive element *se* and the adverb *navzájem/vzájemně*, b) 20 most frequent collocations made up of a reciprocal containing the reflexive element *se* and the adverb *spolu* (see Veselý 2025), but they also concern some other (less frequent) reciprocals containing the morpheme *se*.

By default, *navzájem/vzájemně* indicates binary conjunctive reciprocity, and *spolu* indicates single-event reciprocity. When *navzájem/vzájemně* occurs with single-event reciprocals, and *spolu* occurs with binary conjunctive reciprocals, I consider this type of use to be non-basic. In these cases, a variation between the basic and the non-basic marker arises, because the non-basic marker can always be replaced by the basic one. The use of *navzájem/vzájemně* together with single-event reciprocals is facilitated when the number of reciprocants is greater than two (see below), whereas the use of *spolu* does not seem to be affected by this factor.

6.1 Binary conjunctive reciprocals combined with *spolu*

The analysis of the data collected in the SYN v8 corpus (Křen et al. 2019), presented in Veselý (2025), suggests that binary conjunctive reciprocals are not commonly combined with the marker *spolu* (at least it has not been attested by the collected data), but some reciprocals of this type occasionally occur with this marker. Below I will focus on some of these cases. In each case, I will give the frequencies of occurrences of a given reciprocal with both *spolu* and *navzájem/vzájemně* (and I will do the same in Section 6.2). The frequencies were checked and, if necessary, corrected on the basis of a “manual” analysis of the individual utterances. An asterisk before a frequency value indicates that the value was estimated by analyzing a random sample of 200 utterances due to the large amount of data found.

In the SYN v8 corpus, the binary conjunctive reciprocal containing the morpheme *se* that is most frequently combined with *navzájem/vzájemně* is the reciprocal *doplňovat se* ‘complement each other’. 17 co-occurrences with *spolu* were found in the data, but this is a small number compared to the frequency of the co-occurrences with *navzájem/vzájemně* (*2787). What is striking about the expression *doplňovat se spolu* is that it often depicts a situation in which the reciprocants (for instance football players) cooperate with each other. Note that the adverb *spolu* can also express the (non-reciprocal) meaning of *active cooperation*: *pracovali spolu na knize* ‘they worked together on a book’. Arguably, both the reciprocal *doplňovat se* and the adverbial marker *semantically overlap* in terms of this feature, which makes their combination possible. It is also significant that in the data set these occurrences typically contained adverbs such as *dobře* ‘well’, *vhodně* ‘appropriately’, and *výborně* ‘very well’, which emphasize the meaning of cooperation:

- (6) *Jak Kláva, tak Káně hrají výborně a velice dobře se spolu doplňují.* ‘Both Kláva and Káně play excellently and complement each other very well.’ (SYN v8; about football players)

The co-occurrence of the reciprocal *dotýkat se* ‘touch each other’ with the marker *spolu* was attested by 7 utterances. Again, this is not a high number compared to the number of utterances in which this reciprocal was combined with *navzájem/vzájemně* (464). The variation of the two markers is probably related to the fact that *dotýkat se* sometimes denotes a single-event situation.¹⁸ Compare the following examples:

¹⁸ I will occasionally use the terms “single-event” and “binary conjunctive” in relation to the extralinguistic situation denoted by the respective predicate, because it is mainly the nature of this situation that determines the class membership of the predicate (including the linguistic features reflecting it). In addition, if the extralinguistic situation is ambivalent in this respect a single-event reciprocal (or its text occurrence) may be perceived as biased toward the binary conjunctive pole, and vice versa; see details below.

- (7) *Leželi tam polonazí, nekonečně dlouho se vzájemně dotýkali [...].* ‘They lay there half-naked, endlessly touching each other [...].’ (SYN v8)
- (8) *Když se spolu dotýkáme jako muž a žena, obě se tomu mimo kameru smějeme.* ‘When we touch each other as man and woman, we both laugh about it off camera.’ (SYN v8; about two women)
- (9) *Zkuste se spolu dotýkat jazyky, olizovat si navzájem čelisti, rty a zuby.* ‘Try touching each other’s tongues, licking each other’s jaws, lips and teeth.’ (SYN v8)
- (10) *Během celého cvičení se dívejte vzhůru. Kolena jsou pokrčená a vzájemně se dotýkají.* ‘Look up throughout the exercise. The knees are bent and touching each other.’ (SYN v8)
- (11) *Která dvojice obsahuje kosti, které se spolu dotýkají [...].* ‘Which pair contains bones that touch each other [...].’ (SYN v8)

Both examples (7) and (8) probably depict a binary conjunctive reciprocal situation, unlike example (9) (one can hardly touch another’s tongue with one’s own tongue without the opposite situation also occurring). Examples (10) and (11) also show a single-event situation; with inanimate participants, as here, the binary conjunctive scenario is not possible. Surprisingly, however, occurrences of this reciprocal with *spolu*, such as (11), are not frequent in the SYN v8 corpus. It may be assumed that the use of *spolu* is hindered by the inanimacy of the participants. It is probably no coincidence that sentences such as (9) are relatively more frequent: these sentences depict a situation in which two parts of the human body touch each other as a result of a voluntary action of the reciprocants. The parts of the human body can be understood as “animate things”; cases like (9) can thus be seen as a blend of cases like (7) (binary conjunctive reciprocals with animate participants) and cases like (11) (single-event reciprocals with inanimate participants).

For some binary conjunctive reciprocal situations, it is conceivable that they could also be perceived as single-event situations (of course, this is a weaker statement than saying that they are single-event situations, as in examples (9), (10), and (11)). One of the main reasons for this seems to be that, although the individual events are autonomous (unlike the components of single-event reciprocal situations), they often occur simultaneously or almost simultaneously. Thus, the respective pairs of events may be perceived as single events. For example:

- (12) *S Ivanem se vzájemně stále hecujeme, ale každý náš spor skončí v pohodě.* ‘Ivan and I still make fun of each other, but every argument we have ends well.’ (SYN v8)

- (13) *V týmu Jihlavy hraje váš mladší bratr Stanislav. Hecujete se spolu před takovýmto soubojem?* ‘Your younger brother Stanislav plays in the Jihlava team. Do you make fun of each other before a fight like this?’ (SYN v8)
- (14) *Pařížané se navzájem zdraví políbením na obě tváře.* ‘Parisians greet each other by kissing each other on the cheeks.’ (SYN v8)
- (15) *To je jejich smluvené znamení; podle toho se poznají a tak se spolu zdraví.* ‘This is their covenant sign; that’s how they recognize each other and that’s how they greet each other.’ (SYN v8)

The event denoted by the verb *hecovat* ‘make fun of, tease’ often happens, not surprisingly, in a reciprocal way, because the one who teases is often also teased as a result. Therefore, the reciprocal *hecovat se* ‘make fun of each other, tease each other’ is not much less common than its non-reciprocal counterpart, and it may be perceived as a single-event reciprocal. Accordingly, it is relatively often combined with the adverb *spolu* (57 occurrences), see example (13), even though the combinations with the adverb *navzájem/vzájemně* prevail (*686 occurrences), see example (12). Note also that the reciprocal sometimes occurs with both *navzájem/vzájemně* and the expression “s + N₇”, as in example (12), which is consistent with my assumption of its semantically ambivalent nature or, in other words, *a certain blurring between the opposition of single-event and binary conjunctive reciprocity*.

As to the event of (mutual) greeting (examples (14) and (15)), it is certainly possible to greet someone without being greeted back, but it is often reciprocal. It is rather a binary conjunctive situation (correspondingly, it combines mostly – but not exclusively – with *navzájem/vzájemně*),¹⁹ but it can probably also be perceived as a single-event situation, see example (15), where the adverb *spolu* occurs. As for (14): kissing the other person’s cheek as a form of greeting can hardly happen in only one way, and both kisses often happen at the same time. The reason why the adverb *navzájem* was opted for in this sentence (despite the single-event “tune” of the situation) may be the fact that the number of reciprocants was greater than two (see the following section).

The observation that there may be a correlation between the frequency of the reciprocal and non-reciprocal use of a verb (e.g. *zdravit* ‘greet’ × *zdravit se* ‘greet each other’) and the status of the reciprocal (such as *zdravit se* ‘greet each other’) in terms of the opposition between single-event and binary conjunctive reciprocity seems to be analogous to the form-frequency correspondence hypothesis (Haspelmath 2021:

¹⁹ The ratio of the frequencies of the two variants in the SYN v8 corpus was 110:17 (*zdravit se navzájem/vzájemně* – *zdravit se spolu*).

606). This hypothesis is related to the opposition between extroverted and introverted verbs: extroverted verbs are used reflexively relatively less often, so they tend to take longer forms of the reflexive morpheme, while introverted verbs are used reflexively more often, so they tend to take shorter forms of the reflexive morpheme (Haspelmath 2023; Ivanová 2025; Wiemer 1999). For example, *podvést* ‘deceive’ is an extroverted verb, therefore the reflexive form is usually *podvést (sám) sebe* ‘deceive oneself’, whereas *umýt* ‘wash’ (in the sense of bodily hygiene) is usually introverted, so it mostly has the reflexive form *umýt se* ‘wash (oneself)’. Note that the omission of the marker of single-event reciprocity (*spolu*), which results in a shorter form of the reciprocal expression, is more frequent than the omission of the marker of binary conjunctive reciprocity (*navzájem/vzájemně*).

If an action happens significantly more often in a non-reciprocal way than in a reciprocal way, the single-event concept of the reciprocal situation evoked by the marker *spolu* seems to be less probable. Consider, for example, the following verbs: *obviňovat se* ‘accuse each other’, *respektovat se* ‘respect each other’, *ovlivňovat se* ‘influence each other’, *potřebovat se* ‘need each other’, and *rušit se* ‘disturb each other’. All of them are much less frequent than their transitive non-reflexive (non-reciprocally used) counterparts, i.e., *obviňovat* ‘accuse’, *respektovat* ‘respect’, *ovlivňovat* ‘influence’, *potřebovat* ‘need’, and *rušit* ‘disturb’. Accordingly, all these reciprocals commonly co-occur with *navzájem/vzájemně*,²⁰ and there is no corpus evidence for their co-occurrence with *spolu*. On the other hand, verbs such as *hecovat* ‘tease’ and *zdravit* ‘greet’ are used relatively more often in a reciprocal way, which is reflected by their occurrences with *spolu* in the corpus data. I will devote a separate paper to this topic.

Arguably, the bias of binary conjunctive reciprocals toward the single-event pole is often intertwined with other factors, such as the perfective versus imperfective opposition. Consider the verbs *obejmout* ‘hug’, pf., and *objímat* ‘hug’, impf. While the former verb denotes an event, the latter verb denotes either an event or a state which is the result of this event, i.e., it expresses the meaning ‘to hold someone in a hug’ (compare example (16) below with examples (17) and (18)). At first glance, both the reciprocals *obejmout se* ‘hug each other’, pf., and *objímat se* ‘hug each other’, impf., are combined with *navzájem/vzájemně* and *spolu* similarly often: occurrences of both reciprocals with the former marker are about five times more frequent than occurrences with the latter marker.²¹ However, a closer look reveals that a considerable number of occurrences with *objímat se navzájem/vzájemně* denote a binary

²⁰ The frequencies found in the SYN v8 corpus were *1464, *1278, *1236, *670, and *478, respectively.

²¹ The ratios of the frequencies of the two variants in the SYN v8 corpus were 22:4 (*obejmout se navzájem/vzájemně* – *obejmout se spolu*) and 109:19 (*objímat se navzájem/vzájemně* – *objímat se spolu*).

conjunctive situation in which multiple hugging events between more than two people²² take place, for example:

- (16) *Na tiskovce pak členové jeho týmu dokonce nad výsledkem plakali a navzájem se objímali.* ‘At the press conference, members of his team even cried and hugged each other over the result.’ (SYN v8)

On the other hand, when this reciprocal denotes hugging between two people as a state, the marker *navzájem/vzájemně* does not show a significant prevalence over the marker *spolu*,²³ i.e., the predicate can be naturally combined with both markers. For example:

- (17) *Vyprávění doprovází několik černobílých snímků – jeden zachycuje malého chlapce se zavalitou dívenkou, jak se navzájem objímají.* ‘The narration is accompanied by several black and white images – one shows a small boy and a stocky girl embracing each other.’ (SYN v8)
- (18) *Nedokázal jsem se toho obrazu zbavit. Moje snoubenka a můj nejlepší přítel se spolu objímali.* ‘I couldn’t get rid of the image. My fiancée and my best friend were hugging.’ (SYN V8)

This may suggest that the reciprocal *objímat se* is biased toward the single-event pole when it expresses a state – a state is constant over time, the contribution of the participants may be difficult to distinguish, speakers may therefore tend to perceive the situation as compact and single-event.

Another type, different from the above examples, is represented by the reciprocal *navštěvovat se* ‘visit each other’, which, unlike reciprocals such as *zdravit se* ‘greet each other’, typically denotes events (i.e., the individual visits) that do not immediately follow one another. For this reason, the single-event conception of the situation is not fully acceptable, and the use of *spolu* is conditioned by a *lexical-semantic shift of the reciprocal*. Arguably, this shift does not lead to the establishment of a new lexical unit, as in the case of *znát se* ‘know each other’/‘be acquainted’. I do not find such a shift noticeable in reciprocals like *hecovat se* ‘tease each other’, *zdravit se* ‘greet each other’, and *obejmout se* ‘hug each other’. For example:

²² Note that in the quantitative analysis of the corpus data (see Section 5.2), the number of reciprocants was observed as a possible motive for the use of *navzájem/vzájemně* together with single-event reciprocals, but not as a possible obstacle for the use of *spolu* together with binary conjunctive reciprocals. For reciprocals such as *zdravit se* ‘greet each other’ and *objímat se* ‘hug each other’, which cannot be clearly classified as binary conjunctive reciprocals (they are between the two extreme poles), this obstacle may have a more pronounced effect.

²³ In this case, I will not give frequencies for the different uses, because there would have been too much uncertainty involved: with the available context, it is not always possible to determine the number of reciprocants and whether the verb denotes an action or a state.

- (19) *Maminka bydlí stále v Krkonoších s bráškou a vzájemně se navštěvujeme.*
'Mom still lives in Krkonoše with my brother, and we visit each other.'
(SYN v8)
- (20) „Často se spolu navštěvujeme,“ řekl šaman [...]. “‘We often visit each other”
said the shaman [...].’ (SYN v8)
- (21) *S Bohuslavem Reynkem velmi dobře vycházel také malíř a grafik Jan Zrzavý, i když se spolu moc nenavštěvovali.* ‘The painter and graphic artist Jan Zrzavý also got along very well with Bohuslav Reynek, even though they did not visit each other much.’ (SYN v8)
- (22) *Znám starší paní, která každé ráno prozvoní svou dceru, jen aby věděla, že je s matkou všechno v pořádku. Ale obě se spolu mohou navštěvovat, tak proč by se chtěly vidět ještě na internetu?* ‘I know an elderly lady who rings her daughter every morning just to let her know that everything is fine with her mother. But both can visit each other, so why would they want to see each other on the Internet?’ (SYN v8)

In (19), two distinct places are pointed out, one by explicit reference (v *Krkonoších*) and the other by inference – locating the events in two distinct places might have been an obstacle for the use of *spolu*. In examples (20) to (22), on the other hand, the reciprocal seems to be semantically shifted to the pole of single-event reciprocity, i.e., it is close in meaning to the verb *setkávat se* ‘meet (on a regular basis)’.

6.2 Single-event reciprocals combined with *navzájem/vzájemně*

The analysis of the corpus data presented in Veselý (2025) showed that the co-occurrence of the marker *navzájem/vzájemně* with single-event reciprocals is relatively common for a number of these reciprocals when more than two reciprocants participate in the situation. In the set of twenty reciprocals with the morpheme *se* that are most frequently combined with the marker *spolu*, the percentage of their occurrences with the marker *navzájem/vzájemně* (taken from all their occurrences with either *spolu* or *navzájem/vzájemně*) ranged from 0 to 67 %, with 22 % being an average value (values were rounded to whole numbers). The percentage of occurrences with *navzájem/vzájemně* where the reciprocal denoted a situation with only two reciprocants ranged from 0 to 20 %, with 4 % being an average, whereas the percentage of occurrences with *navzájem/vzájemně* where the reciprocal denoted a situation with more than two participants ranged from 0 to 58 %, with 16 % being an average (again, taken from the set of all

occurrences with either marker), which is a four times higher value.²⁴ Thus, it could be concluded that when the number of reciprocants is greater than two, the use of *navzájem/vzájemně* with single-event reciprocals is facilitated, even though it is still less common than the use of *spolu*.

However, it can be assumed that it is the number of actions rather than the number of reciprocants that facilitates this kind of use of the marker *navzájem/vzájemně*. For binary conjunctive reciprocals, with which this marker typically occurs, there are always at least two independent actions forming the reciprocal situation. For single-event reciprocals, there are at least two independent actions if more than two reciprocants participate in the situation. When there is only one action (of the single-event type) performed by two reciprocants, speakers seem to strongly prefer the marker *spolu* to the marker *navzájem/vzájemně*. From the perceiver's point of view, the use of *navzájem/vzájemně*, in contrast to the use of the basic marker *spolu*, may suggest that more than two reciprocants are involved in the situation:

- (23) *Byla to debata, kdy jsme se vzájemně hádali o číslička.* 'It was a debate, when we argued with each other about numbers.' (SYN v8)
- (24) *Byla to debata, kdy jsme se spolu hádali o číslička.* 'It was a debate, when we argued with each other about numbers.' (a modified example (23))²⁵

The use of *vzájemně* in example (23) seems to promote the interpretation that more than two people were arguing (indeed, this fact is apparent from a more distant previous context not mentioned in the example). This is actually not surprising: if a variation is functionally determined (in this case by the number of reciprocants), a functional distinction between the variants naturally arises. It is significant that in these contexts the basic variant (*spolu*) and the non-basic variant (*navzájem/vzájemně*) sometimes co-occur, for example:

- (25) *Všechny tři nové terminály spolu navzájem komunikují a jejich činnost kontroluje jedna centrální procesorová jednotka (zkráceně CPU).* 'All three new terminals communicate with each other and their operation is controlled by one central processing unit (CPU for short).' (SYN v8)

In such contexts, *spolu* indicates single-event reciprocity, and *navzájem/vzájemně* indicates the number of reciprocants. Note, however, that the reciprocal itself does not contain the *se/si* morpheme. As the corpus data suggest, this is typical for the co-

²⁴ However, part of the occurrences of these reciprocals with *navzájem/vzájemně* were cases in which based on the context available, it was not possible to determine the number of reciprocants.

²⁵ The ratio of the frequencies of the reciprocal *hádat se* in the SYN v8 corpus was *228:2/*28 (*hádat se spolu* – *hádat se navzájem/vzájemně* with two reciprocants / more than two reciprocants).

occurrence of the two markers. For this reason, I have not examined this phenomenon in detail in my analysis.²⁶

In the remainder of this section, I will focus on the cases of variation between *spolu* and *navzájem/vzájemně* where the use of the latter marker is not motivated by the number of reciprocants. I will try to determine various factors which are necessary or supportive for the use of the non-basic marker *navzájem/vzájemně*. These factors are expected to be different for (groups of) individual reciprocals.

In the set of analyzed utterances, a considerable number of cases contained a reciprocal predicate that had a negative form:

- (26) *Dusno mezi Sobotkou a Haškem bylo cítit i během sobotní tiskové konference. Vzájemně se nebavili [...].* ‘The tension between Sobotka and Hašek was also felt during Saturday’s press conference. They didn’t talk to each other [...].’ (SYN v8)
- (27) *Dva lidé po něm [po schodišti] mohou jít současně nahoru i dolů a vzájemně se nepotkají.* ‘Two people can go up and down it [the stairs] at the same time and not meet each other.’ (SYN v8)²⁷

If we assume that the use of *spolu* is typical for situations involving a single action, the tendency not to occur with negative predicates would indeed be natural: in negative sentences like (26) and (27) the realization of the given action is denied, i.e., the number of actions performed is determined to be zero. If negation really facilitates the use of *navzájem/vzájemně* with single-event reciprocals, as the data suggest, it would mean that the range of application of this marker is much wider than in the case of the adverb *spolu*: *navzájem/vzájemně* would be “naturally applicable” to all reciprocal situations (both binary conjunctive and single-event ones) except those in which exactly one action is performed. This broad application would suggest that *navzájem/vzájemně*, and not *spolu*, is the most typical lexical indicator of reciprocity in Czech. However, the effect of negation is noticeable with different verbs to varying degrees.

The verbs *utkat se* ‘compete, fight’ and *střetnout se* ‘compete, fight; collide’ are partially synonymous. Both are relatively often combined with the adverb *navzájem/vzájemně*.²⁸ For example:

²⁶ The procedure used to obtain the corpus data is described in Section 3.

²⁷ The ratios of the frequencies of the two variants in the SYN v8 corpus were *3354:6/*56 (*bavit se spolu* – *bavit se navzájem/vzájemně* with two reciprocants / more than two reciprocants) and *487:7/51 (*potkat se spolu* – *potkat se navzájem/vzájemně* with two reciprocants / more than two reciprocants).

²⁸ The ratios of the frequencies were *1713:40/*162 (*utkat se spolu* – *utkat se navzájem/vzájemně* with two reciprocants / more than two reciprocants) and *190:36/70 (*střetnout se spolu* – *střetnout se navzájem/vzájemně* with two reciprocants / more than two reciprocants).

- (28) *Chodov hraje ve Vítkovcích, Liberec v Havířově a v posledním kole se utkají navzájem.* ‘Chodov plays in Vítkovice, Liberec in Havířov, and they will play each other in the last round.’ (SYN v8)

I think that the reason for this co-occurrence could be that in such a context, although the predicate denotes only a single action, other actions of the same kind are often mentioned or at least implied (both participants are typically part of a larger group whose members interact successively).

Another possible factor is homonymy between verbs. The single-event reciprocal *radit se* ‘discuss something’,²⁹ exemplified by (29) and (30), is homonymous with a non-reciprocal verb, i.e., *radit se (s někým o něčem)* ‘consult (someone about something)’, see example (31),³⁰ and it is only partially homonymous with the binary conjunctive reciprocal *radit si* ‘advise each other’, see (32). However, it is occasionally combined with *navzájem/vzájemně*, as in example (33).

- (29) *Tak jsme se radili, co máme dělat [...].* ‘So we discussed what to do next [...].’ (SYN v8)
- (30) *Zatímco šéf Evropské rady Donald Tusk se včera radil s Angelou Merkelovou i s francouzským prezidentem Francoisem Hollandem, německá kancléřka postupně jednala s Hollandem a s italským premiérem Matteem Renzim.* ‘While Donald Tusk, the head of the European Council, conferred with Angela Merkel and French President Francois Hollande yesterday, the German Chancellor held talks with Hollande and Italian Prime Minister Matteo Renzi.’ (SYN v8)
- (31) *Před každým vyjádřením se radí s advokátem.* ‘He consults with an attorney before making any statement.’ (SYN v8)
- (32) *Nakupující si navzájem radí, kde najít největší slevy.* ‘Shoppers advise each other where to find the biggest discounts.’ (SYN v8)
- (33) *Předpokládám, že mluvíte Karlovi do oblékání, funguje to i opačně nebo tuhle záležitost nechává manžel jen na vás? – Vzájemně se radíme, protože nejvíc dáme na názor toho druhého.* ‘I assume you talk to Karel about dressing, does it work the other way around or does your husband leave this matter to you? – We advise each other because we’re most receptive to each other’s opinion.’ (SYN v8)

²⁹ The ratio of the frequencies was 100:6/19 (*radit se spolu* – *radit se navzájem/vzájemně* with two reciprocants / more than two reciprocants).

³⁰ In a sense, this verb is reciprocal, too, since it implies that the participants speak to each other. However, its semantic merit is non-reciprocal because the verb does not mean that the participants consult each other.

The general picture is complicated by the fact that the complement “s + N₇” expresses either a reciprocant (example (30)) or an addressee participating in a non-reciprocal situation (example (31)). Note that only the constructions of the former type alternate with constructions with a compound subject, i.e. for (30): *Donald Tusk, Angela Merkelová a Francoise Holland se včera radili...* ‘Donald Tusk, Angela Merkel, and Francoise Hollande conferred yesterday...’. However, non-reciprocal situations, such as (31), are not completely incompatible with the reciprocal concept, since the addressee actively participates in the action. (33) can be seen as a blend of the single-event reciprocal (exemplified by (29) and (30)) and the non-reciprocal verb (exemplified by (31)). Two possible explanations can be offered: 1. The existence of (33) is facilitated by the existence of the non-reciprocal verb *radit se (s někým o něčem)* ‘consult (someone about something)’, which is evoked by the expression *vzájemně se radíme*. 2. The mentioned expression is the result of the reciprocalization of the non-reciprocal verb *radit se (s někým o něčem)* ‘consult (someone about something)’. Such constructions are not expected to be reciprocalized, but in this case it may be allowed because of the relation to the semantically close homonym *radit se* ‘discuss something’. Both explanations allow to explain the unusualness of (33): according to the former, it is caused by the combination of a single-event reciprocal with the marker of binary conjunctive reciprocity, while according to the latter, it is caused by the reciprocalization of a verb which is not eligible for it.

Nevertheless, some single-event reciprocals are occasionally combined with *navzájem/vzájemně* even though they are not homonymous with a semantically different reflexive expression. This is the case for the verbs *domluvit se*, *dohodnout se (na něčem)* ‘agree (on something)’.³¹ However, they are related to the transitive non-reflexive verbs *domluvit* and *dohodnout (něco s někým)* ‘negotiate (something with someone)’ which may facilitate their co-occurrence with *navzájem/vzájemně*, since reciprocals typically combined with this marker often have a non-reflexive counterpart. In addition, the valency frames of the verbs *domluvit* and *dohodnout* include an addressee that is quite active, just as with the verb *radit se*, compare: *radil se s advokátem* ‘he consulted a lawyer’ – *domluvil s ním podmínky prodeje* ‘he negotiated the terms of sale with him’. For example:

- (34) *Moderátor Vladimír Čech a televize Nova se vzájemně dohodli na ukončení spolupráce [...].* ‘Moderator Vladimír Čech and Nova TV mutually agreed to end their cooperation [...].’ (SYN v8)

³¹ The ratios of the frequencies of the two variants in the SYN v8 corpus were *667:*66/*151 (*domluvit se spolu* – *domluvit se navzájem/vzájemně* with two reciprocants / more than two reciprocants) and *506:177/108 (*dohodnout se spolu* – *dohodnout se navzájem/vzájemně* with two reciprocants / more than two reciprocants).

The adverb *navzájem/vzájemně* is probably chosen in such contexts to indicate the active role of both participants, i.e., their full agreement with what has been arranged.

There is another possible explanation for all these cases: When combined with binary conjunctive reciprocals with no more than two reciprocants engaged (example (35)), the adverb *navzájem/vzájemně* emphasizes the fact that *the situation denoted is binary* in nature, pointing to a pair of sentences with non-reciprocal predicates (formed with non-reflexive verbs; example (36)) whose conjunction (example (37)) expresses the same situation as the sentence containing the reciprocal:

- (35) *Petr a Karel se vzájemně respektovali.* ‘Peter and Charles respected each other.’
- (36) *Petr respektoval Karla.* ‘Peter respected Charles.’ + *Karel respektoval Petra.* ‘Charles respected Peter.’
- (37) *Petr respektoval Karla a Karel respektoval Petra.* ‘Peter respected Charles and Charles respected Peter.’

My hypothesis can be stated as follows: When combined with single-event reciprocals with no more than two reciprocants engaged (example (38)), *navzájem/vzájemně* also points to a pair of sentences (example (39)) whose conjunction (example (40)) would have expressed the same situation as the sentence containing the reciprocal had it actually been used in communication (which is probably not the case, as indicated by the question mark in the superscript). Of course, there is usually no corresponding non-reflexive verb,³² but there is always a discontinuous reciprocal which can be used to construct the desired pair of sentences:

- (38) *Petr a Karel se vzájemně dohodli na ukončení spolupráce.* ‘Peter and Charles mutually agreed to end their cooperation.’
- (39) *Petr se dohodl s Karlem na ukončení spolupráce.* ‘Peter agreed with Charles to end their cooperation.’ + *Karel se dohodl s Petrem na ukončení spolupráce.* ‘Charles agreed with Peter to end their cooperation.’
- (40) [?]*Petr se dohodl s Karlem na ukončení spolupráce a Karel se dohodl s Petrem na ukončení spolupráce.* ‘Peter agreed with Charles to end their cooperation and Charles agreed with Peter to end their cooperation.’

³² Single-event reciprocals that have a non-reflexive counterpart of this kind, such as *potkat se* ‘meet’ – *potkat* ‘meet (someone)’, are rather rare in Czech.

Each of the two sentences in (39) obviously denotes a situation that is in principle the same as the situation denoted by the “genuine” reciprocal *vzájemně se na něčem dohodli* ‘they agreed on something’, and for this reason these sentences are difficult to combine into a conjunctive relation. However, there is agreement that discontinuous reciprocals may not be perfectly symmetrical in meaning, i.e., speakers may tend to perceive the subject participant as more active than the comitative participant (expressed with the phrase “s + N₇”).³³ Therefore, if this conjecture is correct and the adverb *navzájem/vzájemně* points to related discontinuous reciprocals, as suggested, it would explain why in such contexts the *active contribution of both participants* seems to be pointed out by the adverb, tipping a single-event reciprocal situation towards the binary reciprocity pole (to varying degrees). Note that the marker *spolu* can also be interpreted as a means of emphasizing an active role of the participants (see Section 6.1), but in a different vein: while *spolu* suggests that the participants actively cooperate in the realization of the reciprocal situation, *navzájem/vzájemně* may indicate that each of them is *active rather separately* (and possibly in her/his own way).

The given explanation is probably most plausible when there is neither a homonymous binary conjunctive reciprocal nor a semantically related non-reflexive counterpart to the single-event reciprocal that could facilitate the use of the non-basic marker. This is true, for example, of the verbs *bavit se* ‘talk’, *sblížit se* ‘become close’, and *rozejít se* ‘break up’:³⁴

- (41) *My si pořád často voláme, bavíme se vzájemně o tom, co a jak zlepšit, pořád se učíme jeden od druhého.* ‘We still call each other often, we talk to each other about what and how to improve, we still learn from each other.’ (SYN v8)

³³ The different semantic contribution of the two participants was captured by the opposition of *figure* and *ground*. In Gleitman et al. (1996), the subject participant is conceived as an entity that changes its location, i.e., a figure, while the object participant is conceived as a stable point, i.e., a ground. If the participant is extremely immobile, it may not be possible to express it in the subject position, for example: *Titanic se srazil s ledovcem*. ‘The Titanic collided with an iceberg.’ – **Ledovec se srazil s Titanicem*. ‘*An iceberg collided with the Titanic.’. Note, however, that the sentence *⁹Titanic a ledovec se srazily* ‘The Titanic and an iceberg collided with each other’ is not completely felicitous, which suggests that the situation denoted is not truly reciprocal. This also corresponds to the fact that in Czech, the sentence *Titanic narazil do ledovce* ‘The Titanic hit an iceberg’ describes the situation better.

³⁴ The frequencies found in the SYN v8 corpus were as follows. *Bavit se spolu* versus *bavit se navzájem/vzájemně* with two reciprocants / more than two reciprocants – *3354:*6/*56. *Sblížit se spolu* versus *sblížit se navzájem/vzájemně* with two reciprocants / more than two reciprocants – 37:11/29. *Rozejít se spolu* versus *rozejít se navzájem/vzájemně* with two reciprocants / more than two reciprocants – 57:4/0.

- (42) „[...] *Jak firma, tak i obec mají vůli vzájemně se sblížit*,“ *vyjádřil se k problematice zástavby starosta Lužce*. “[...] Both the company and the municipality are willing to get closer to each other,” said the mayor of Lužec.’ (SYN v8)
- (43) *Ty jsi ale ještě nedávno kluka měla. Kdo se s kým rozešel?* – *My jsme se rozešli vzájemně*. ‘But you had a boyfriend not long ago. Who broke up with whom? – We broke up with each other mutually.’ (SYN v8)

In all these examples, the discontinuous reciprocal alluded to by the “genuine” reciprocal, as suggested above, would possibly imply an asymmetry in the contribution of both participants to the action, and the situation depicted in these examples may be perceived as composed of two asymmetrical situational parts. In example (41), the asymmetrical “tune” of these parts is suggested by the expression *pořád se učíme jeden od druhého* ‘we always learn from each other’. In example (42), a modal component of wanting something is part of the reciprocal situation denoted by the reciprocal *sblížit se* ‘become close’, which supports the concept of “dual initiative” (unrealized, only desired actions may not happen simultaneously and therefore may not collide). In example (43), the discontinuous reciprocal *rozejít se s někým* ‘break up with someone’ contained in the first speaker’s question can generally denote both symmetrical (*Petr se rozešel s Alicí* ‘Peter broke up with Alice’ = Petr and Alice broke up by mutual agreement) and asymmetrical situations (*Petr se rozešel s Alicí* ‘Peter broke up with Alice’ = Petr decided to break up with Alice (and actually did so)). The question *Kdo se s kým rozešel?* ‘Who broke up with whom?’ certainly shows the latter use, which is, according to my intuition, much more common. The asymmetrical “tune” of this reciprocal is so strong that *Petr se rozešel s Alicí* ‘Peter broke up with Alice’ seems to contradict *Alice se rozešla s Petrem* ‘Alice broke up with Peter’. The point of the answer *My jsme se rozešli vzájemně* ‘We broke up with each other’ is to deny the contradiction assumed by the first communicator, i.e., to present the situations expressed by the two discontinuous reciprocals as mutually compatible. The answer is pragmatically quite a bit expressive, because it provides a different information than the communication partner expects.

7 On the semantic relationship between *navzájem/* *vzájemně* and *spolu*

As suggested in the previous sections, the range of use of *navzájem/vzájemně* is certainly wider than that of *spolu*. This is manifested by at least two phenomena: 1. single-event reciprocity is less often marked with *spolu* than binary conjunctive

reciprocity is marked with *navzájem/vzájemně*,³⁵ 2. As regards the use of the non-basic variants, it is generally less common to combine a binary conjunctive reciprocal with *spolu* than to combine a single-event reciprocal with *navzájem/vzájemně* (the latter use is facilitated when the number of reciprocants is greater than two). It is certainly the adverb *navzájem/vzájemně*, not the adverb *spolu* (nor the adverbial expressions *dohromady* and *mezi sebou*, see Section 4), that can be considered the most typical adverbial marker of reciprocity in Czech. In view of the fact that in contexts with more than two reciprocants, the marker *spolu* can be replaced almost freely by the marker *navzájem/vzájemně*, the hypothesis could be put forward that the two markers form a privative opposition of lexical units with a grammatical function in which *navzájem/vzájemně* is the unmarked member, because it either signals binary conjunctive reciprocity or is indistinctive in terms of the opposition between binary conjunctive and single-event reciprocity (i.e., it only signals reciprocity in general), whereas *spolu* is the marked member, because, with few exceptions (see Section 6.1), it is distinctive in terms of this opposition, i.e., it signals single-event reciprocity. This hypothesis will be discussed in the remainder of this section. Despite the skepticism of some linguists (Haas 1957; Plungjan 1994; Haspelmath 2006 and others), the theory of markedness and the concept of the zero sign is still an influential theory; therefore, I think it is worthwhile to address this issue.

Originally, privative oppositions were identified in phonological systems (Trubekoj 1939): members of the phonological correlation are unequal, i.e., one is marked, the other is unmarked (for example, in Czech /d/ and /t/ are voiced and voiceless phonemes, respectively, and the feature of voice represents the mark). However, Jakobson (1932, 1938) also applied this theory to morphological categories. Jakobson (1938) introduced the notion of the zero sign: while a marked sign signals A, a zero sign signals neither A nor not A. The zero sign is used in the proper sense (au propre), when A and not A are not distinguished, and when not A is to be signaled; however, the zero sign can also signal A.³⁶ The opposition between “nothing” and “something” can be illustrated by an example given by Jakobson: *osel* ‘donkey’ – *oslice* ‘female donkey’ (the correlation of gender; the examples given are from Czech). While *oslice* necessarily

³⁵ Note, however, that single-event reciprocals are basically lexical reciprocals, and these are generally less marked (in some cases, they are not marked at all, for example: *ten večer jsme mluvili o všem možném* ‘we talked about all sorts of things that night’).

³⁶ The term “zero sign” should not be confused with the term “null/zero morpheme”, which is a morpheme without a phonetic form. Although a zero sign is often expressed with a form containing a null morpheme (the above example *osel-0* ‘donkey’ contains no derivative suffix and (in the given form) a null ending; in contrast, *osl-ic-e* ‘female donkey’ contains a derivative suffix and a vocalic ending), a null morpheme does not generally indicate a zero sign. For example, the null ending in the form *ulic-0* ‘of streets’ bears the meanings of feminine, plural, and genitive, and none of them can be understood as an unmarked category in this case.

refers to individuals of the female sex, i.e., it bears the feature A, *osel* is by default indifferent to the male-female opposition, although in some contexts, it can also refer only to individuals of the male sex, i.e., it bears the feature A'. Accordingly, *osel* is the unmarked member of this lexical pair, which is reflected by the absence of the suffix *-ic(e)*.

Dokulil (1958) points out that a necessary condition for morphological correlation is the possibility of substitution of the marked member by the unmarked member provided that the respective feature is clearly indicated by the context. He gives three morphological oppositions in Czech that meet this condition: present conditional (*přišel bych* 'I would come') and past conditional (*byl bych přišel* 'I would have come'), preterite (*přišel jsem* 'I came') and past preterite (*byl jsem přišel* 'I had come'), iteratives (*dělat* 'do repeatedly') and non-iteratives (*dělat* 'do'). (It is not entirely clear to me whether the gender opposition would also pass this test in Dokulil's view.) For example, the present conditional *přišel bych* can be used with the sense of the past conditional in a context where it is clear that the action may not happen (*Kdyby venku tak strašně nepršelo, přišel bych / byl bych přišel* 'If it wasn't raining so hard outside, I would have come').

As regards the relationship between *navzájem/vzájemně* and *spolu*, the corpus data suggest that it is more common to use *navzájem/vzájemně* with single-event reciprocals (*navzájem se hádat* 'argue with each other') than to use *spolu* with binary conjunctive reciprocals (*respektovat se spolu* 'respect each other'³⁷), even if contexts with more than two reciprocants are not considered. However, my analysis of the corpus data showed that the former use is far from common for most single-event reciprocals,³⁸ which means that *spolu* as a marker of single-event reciprocity is not freely substitutable by *navzájem/vzájemně*, even when the single-event character of the action is clearly determined in a given context. I am therefore inclined to think that *navzájem/vzájemně* should not be treated as the unmarked member of the opposition between *navzájem/vzájemně* and *spolu*. I think it is more accurate to say that both adverbs are marked in their own way, i.e., each of them positively indicates a specific meaning: binary conjunctive reciprocity and single-event reciprocity, respectively. A similar type of opposition is assumed by Dokulil (1958) for the morphological category of number expressed by nouns: although Jakobson and some other members of the Prague school consider the singular to be the unmarked member of this opposition, Dokulil pointed out that in contexts like *To je pěkná kniha*

³⁷ This expression does not occur at all in the SYN v8 corpus (Křen et al. 2019), but my intuition is that such a use is not impossible.

³⁸ For example, *navzájem/vzájemně se hádat* 'argue with each other' has only two occurrences in the SYN v8 corpus when considering only contexts with two reciprocants, *navzájem/vzájemně se setkat* 'meet each other' has eight occurrences in the same context types, and so on.

'It is a nice book', singular endings cannot be substituted by plural endings without a change in meaning. Such a substitution is possible only if the noun represents the whole class, as in the sentence *Slavík pěkně zpívá* 'Nightingale sings beautifully'. This sentence has the variant *Slavíci pěkně zpívají* 'The nightingales sing beautifully', but in Dokulil's opinion the two sentences are not completely identical in meaning: in the first sentence the noun denotes a species, whereas in the second sentence it denotes individuals (albeit all individuals of the respective species).

In principle, an opposition of linguistic units can be neutralized in two ways: a) it is not important for communication whether a certain characteristic applies to the denoted entity, or b) it is not (completely) possible to determine whether this characteristic applies due to a certain blurring of the opposition. The former type is represented by the category of gender. For example, the masculine noun *tygr* 'tiger' indicates the male sex in some contexts (*V pražské zoo chovají tři tygry a dvě tygřice* 'The Prague Zoo breeds three tigers and two tigresses'), but it is usually used indifferently to the male/female opposition, because this feature is usually not important in terms of communication purposes (*Děti viděli v zoo tygra* 'The kids saw a tiger in the zoo'). The latter type, on the other hand, can be represented by the above example *Slavík pěkně zpívá* 'Nightingale sings beautifully' / *Slavíci pěkně zpívají* 'The nightingales sing beautifully'. In this case, the semantic opposition between singularity and plurality is somewhat blurred, since the subject noun denotes a single species consisting of many individuals. Arguably, the neutralization of the opposition between *navzájem/vzájemně* and *spolu* that occurs when a single-event reciprocal is used in a context with more than two reciprocants is also of this type: the reciprocal denotes a plurality of actions (provided it is an action predicate), and this plurality somewhat overshadows the single-event character of the reciprocal. Note that binary conjunctive reciprocals denote a plurality of actions in any case, regardless of the number of reciprocants, so the blurring assumed for the single-event reciprocals does not occur here.

However, the fuzziness between the two poles can also be a result of the nature of the reciprocal situation, and in this case it can also affect the binary conjunctive reciprocals. The reciprocals *hecovat se* 'tease each other', *zdravit se* 'greet each other', and *objímat se* 'hug each other' denote situations the parts of which (that can be expressed by the corresponding non-reflexive verbs *hecovat*, *zdravit*, and *objímat*, respectively) can also occur separately, i.e., independently of each other, but for which the bi-directional, reciprocal concept is typical. The close relationship between these parts is reinforced by the fact that they occur either simultaneously (*objímat se* 'hug each other') or in close succession (*hecovat se* 'tease each other', *zdravit se* 'greet each other'). The borderline character of these reciprocals is indicated by the fact that they can be combined with both *navzájem/vzájemně* and *spolu*, see Section 6.1. Occurrences with *navzájem/vzájemně* predominated in the corpus data, but

occurrences with *spolu* were relatively frequent, especially for the reciprocals *objímat se* ‘hug each other’ and *hecovat se* ‘tease each other’. Note that while the neutralization of the given opposition that occurs in situations with more than two reciprocants (see the previous paragraph) is a grammatical, systemic matter, the neutralization that results from the nature of the reciprocal situation, as in the case of the three reciprocals above, concerns only a number of specific units of the lexicon.

While the possibility of using the unmarked category in the sense of the marked category may be a necessary condition for understanding a given opposition as a privative one (see above), it is probably not true that only privative opposition are neutralized – equipollent oppositions, where both members positively indicate a certain grammatical feature, sometimes are too.

The equipollent character of the opposition between *navzájem/vzájemně* and *spolu* is also indicated by other facts: 1. Arguably, privative oppositions occur mostly in phonological and morphological systems; oppositions in lexical systems are usually equipollent oppositions (of course, privative morphological oppositions such as *tiger* × *tigeress* cannot be dissociated from the respective lexemes). 2. This is related to the fact that lexical signs, unlike morphological signs, cannot lack a phonetic form. Note that the opposition between “nothing” and “something” is traditionally assumed not only on the semantic level, but also on the formal level (see Křížková 1965): for example, in the case of the opposition between the present conditional and the past conditional in Czech, the former (unmarked) form lacks a component that the latter (marked) form contains; in other words, there is a correspondence between form and meaning. The adverbs *navzájem/vzájemně* and *spolu* are two “non-zero” forms, so it is not surprising that both have a certain positive meaning. Note also that the adverbs *navzájem/vzájemně* and *spolu* are not formally similar at all, and *navzájem/vzájemně* is not even shorter than *spolu* (a shorter form could be an indicator of an unmarked category). 3. The expression of both markers is usually only facultative, in contrast to the expression of morphological categories.

However, the non-basic use of both *navzájem/vzájemně* and *spolu* is not limited to the cases of neutralization. The difference between the two markers is that, arguably, *spolu* can only be combined with binary conjunctive reciprocals having certain semantic properties: Section 6.1 discussed cases in which a) the reciprocal *doplňovat se* ‘complement each other’ overlapped with the adverb *spolu* in terms of the semantic feature of cooperation, b) a certain blurring of the opposition between single-event and binary conjunctive reciprocity occurred (cases such as *hecovat se* ‘tease each other’ and *zdravit se* ‘greet each other’), c) the meaning of the reciprocal *navštěvovat se* was shifted to the pole of single-event reciprocity. *Navzájem/vzájemně*, on the other hand, does not require the predicate to have such properties. Let me return to two examples mentioned in previous sections:

- (44) „Často se spolu navštěvujeme,“ řekl šaman [...]. “We often visit each other” said the shaman [...].’ (SYN v8)
- (45) *Ty jsi ale ještě nedávno kluka měla. Kdo se s kým rozešel? – My jsme se rozešli vzájemně.* ‘But you had a boyfriend not long ago. Who broke up with whom? – We broke up with each other mutually.’ (SYN v8)

The reciprocal *navštěvovat se* ‘visit each other’ probably cannot be said to denote a situation the parts of which are not easily discernible, because the individual events (i.e., visits) do not overlap in time nor do they need to occur in close succession. However, the reciprocal *navštěvovat se* in (44) can be assumed to be shifted to the pole of single-event reciprocity, since it is close in meaning to the verb *setkávat se* ‘meet (on a regular basis)’ (which is a single-event reciprocal). The occurrence of *navštěvovat se* with the marker *spolu* is a consequence (and an indicator) of this shift. The reciprocal *rozejít se* ‘break up’, on the other hand, when all the reciprocants are expressed in the subject position, denotes a single, fully symmetrical event. This also applies to example (45): arguably, the binary “tune” of the reciprocal situation is not encoded in the lexeme *rozejít se*, but it is alluded to by the marker *vzájemně*. In fact, the adverb is used “in defiance” of the lexical meaning of the reciprocal, forcing a certain modification of its meaning. *Navzájem/vzájemně* may not be an unmarked member of a privative opposition (see the discussion above), but of the two reciprocity markers it is certainly the member with the wider range of application: even if it does not coincide with the meaning of the verbal lexeme, it can sometimes be combined with it. In these cases, a certain “semantic tension” may be perceived, resulting from the discordance between the meaning of the reciprocal and the meaning of the marker.³⁹ Significantly, such occurrences are rather occasional, in contrast to the use of *navzájem/vzájemně* with single-event reciprocals made possible by the number of reciprocants being greater than two (where, arguably, no “semantic tension” arises). Since the opposition between the markers *navzájem/vzájemně* and *spolu* is equipollent (see above), occurrences such as (45) can be reminiscent of cases when a marked member of a morphological opposition is replaced by another marked member of the same opposition, e.g., when the second singular is replaced by the first plural (*Kampak jdeme, panáčku?* ‘Where are we going, dummy?’). In such cases, the semantic effect of the transposition is always strong.

³⁹ This observation is based solely on my introspection. It could probably be tested by psycholinguistic research, but it was not my ambition to do such research.

8 Conclusions

In most cases, both the markers *navzájem/vzájemně* and *spolu* are used as secondary markers of reciprocity, i.e., reciprocity has a double marking in the sentence. However, the distinction between single-event and binary conjunctive reciprocity is not indicated with the reflexive morphemes *se* and *si*, which may be the reason for the use of the lexical markers. This is not to say that *navzájem/vzájemně* and *spolu* always really indicate one of the two types. When they become variants, the non-basic variant cannot be said to mark the semantic type which it marks by default. Whether it is a systemic variation conditioned by the number of reciprocants being greater than two (*žáci ve třídě se spolu/vzájemně hádali* ‘pupils argued with each other in the class’) or an occasional variation made possible by the lexical meaning of an individual reciprocal (*hráči se vzájemně/spolu hecovali* ‘the players teased each other’; *vzájemně se navštěvovali / navštěvovali se spolu* ‘they visited each other’), the non-basic variant (always given in second place) does not signal that *hádat se* ‘argue’ is a binary conjunctive reciprocal, and that *hecovat se* ‘tease each other’ and *navštěvovat se* ‘visit each other’ are single-event reciprocals, respectively (since they are not, although *hecovat se* and *navštěvovat se* are somewhat shifted to the pole of single-event reciprocity). Of course, they also do not signal the opposite semantic types (associated with the basic variants), because this would contradict their lexical meaning. Thus, both markers used as non-basic variants only indicate reciprocity in general, but they are by no means agnostic in terms of the given semantic opposition: there is usually a “good reason” for the use of the non-basic variant, i.e., the situation denoted must have features that motivate / enable the speaker’s choice of this variant, and which in turn are suggested to the perceiver by the non-basic variant. So, it is the nature of the reciprocal situation expressed by the reciprocal which motivates the speaker to use the non-basic variant, and which also makes this variant semantically defective in the above sense. It can be debated whether (and to what extent) the non-basic variant also semantically affects the reciprocal. I think that it is always indicative of the nature of the situation, and only sometimes, in cases like *rozešli jsme se vzájemně* ‘we broke up with each other mutually’ (see example (45) above), does it add semantic features to the sentence that would not otherwise have been associated with it.

Several types of variation between the markers *navzájem/vzájemně* and *spolu* can be distinguished, and these types are reflected by the relative frequencies of the respective variants. In the case of the systemic variation which is conditioned by the number of reciprocants being greater than two, the variation occurs with a number of reciprocals (although in varying degrees), and the frequencies of the non-basic variants are relatively significant (when compared to the basic variants). On the

other hand, the variation made possible by indistinctness of the denoted situation in terms of the opposition between single-event and binary conjunctive reciprocity concerns only a few reciprocals, and it is the case that frequencies of the non-basic variants are less significant (e.g. *hecovat se spolu* ‘to tease each other’). Finally, when *navzájem/vzájemně* used as a non-basic variant modifies the meaning of the sentence, pointing out that two reciprocants are active independently of each other, the frequencies of the non-basic variants are low (e.g. *radit se navzájem* ‘consult each other’), unless, for example, the given syntactic construction becomes a cliché (*dohodnout se vzájemně na ukončení smlouvy* ‘to mutually agree to terminate the contract’).⁴⁰

The use of an adverbial marker of reciprocity has different motives as well as semantic effects depending on whether it corresponds to the semantic type of the reciprocal (in terms of the distinction between the single-event and binary conjunctive reciprocity), but also depending on the characteristics of the individual reciprocals, i.e., their lexical semantics, systemic relations in the lexicon, etc. Nevertheless, it is possible to assume that the respective markers have consistent semantic effects in all contexts, albeit to varying degrees. These effects can be described as follows: *Navzájem/vzájemně* indicates that the reciprocal situation consists of events (in the broadest sense) that are independent on each other and easily distinguishable, and that the participants engaged in this situation switch across the individual events. *Spolu*, on the other hand, indicates that the reciprocal situation consists of events (or rather sub-events) that are not independent of each other and easily distinguishable, and that the participants jointly bring about the situation, i.e., they participate in the same way. Note that the function of *navzájem/vzájemně* here is conceived in such a way that it covers both the cases where it is combined with binary conjunctive reciprocals and the switching of participants equals to switching of semantic roles, and the cases where it is combined with single-event reciprocals and the switching of participants means that the individual events (as parts of the reciprocal situation) involve different participants who, however, fulfill only a single semantic role. Compare e.g.: *A a B se navzájem nenáviděli* ‘A and B hated each other’ = *A hated B and B hated A* × *týmy A, B a C se navzájem utkali* ‘teams A, B and C fought each other’ = *A and B fought each other, A and C fought each other, B and C fought each other*. Both adverbs have in common that when they are used as non-basic markers of reciprocity, they often point out the active role of the individual participants (but each in a different way), e.g. *trenér a klub se vzájemně dohodli na ukončení spolupráce* ‘the coach and the club mutually agreed to end their cooperation’; *oba hráči se spolu skvěle doplňovali* ‘both players complemented each other perfectly’.

⁴⁰ The frequencies of all the variants under discussion are given above.

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