Towards a Semantics-Based Typology of Polish Comitative Constructions

Beata Trawiński
University of Tübingen

trawinski@sfs.uni-tuebingen.de

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Overview

- Background
- Motivation and Goal
- Basic Properties of CCs
- Semantic Classification of CCs
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- Summary and Outlook
Comitative Expressions

The notion *comitativity* has been used inconsistently, being applying to:

- certain declensional forms (cf. the comitative case in Uralic, Altaic, Nakh-Dagestanian, Dravidian and Finno-Ugrian languages, as well as in Yukaghir, Chukot and Osetin (Iranian)),
- nouns and verbs which contain affixes indicating comitativity, such as English *co-* *(coauthor, cooperate),* German *mit-* *(mitmachen ‘to take part’, Mitverfasser ‘coauthor’) or *zusammen-* *(zusammenspielen ‘collude’, Zusammenarbeit ‘collaboration’),* Russian *so-* *(souchastvovat’ ‘to take part’, sonaslednik ‘coheir’),* Polish *współ-* *(współpracować ‘collaborate’, współżycie ‘cohabitation’),
- verbs denoting a joint action of two agents or their joint being, e.g., *to meet, to border, to compete,* etc.,
- verbal aspect denoting an action which accompanies another action,
- subordinate comitative clauses,
- prepositional phrases, in particular those containing the preposition *with* (cf. Polish *z,* German *mit,* French *avec,* Portuguese *com,* Spanish *con* or Russian *s).*
Here, we will focus exclusively on comitative expressions in which the comitative content is provided by the comitative preposition `with’, and more precisely, on expressions of the following form:

\[ \text{NP1} \ z \ \text{NP2} \ V.\text{SG/PL} \]

(1) Jan z Marią wyjechał / wyjechali.
    Jan with Maria.INSTR left.SG / left.PL
    ‘Jan left with Maria / Jan and Maria left.’
Previous Research on CCs

- The description of CCs has occupied researchers in syntax, semantics, and pragmatics alike since seventies.

- Thereby, CCs in a vast number of languages have been investigated: Acholi, Bari, Bulgarian, Catalan, Cherokee, Chilean Spanish, Czech, Dakota, Diola-Fogny, Ewe, Fijian, Finnish, Hausa, Hawaiian, Hungarian, Kanuri, Kirundi, Kpelle, Latvian, Logbara, Mende, Mokilese, Navajo, Nuer, Russian, Spanish, Tagalog, Temne, Tera, Toqabaqita, Tzotzil, Yapese, and a range of Australian languages.

- Polish CCs have also been subject to several linguistic approaches in recent years (cf. Dyla (1988, 2003), Trawiński (2005), Dyla and Feldman (to appear)).
Missing a Coherent Typology

Despite a relatively long tradition, the treatment of CCs still lacks a consistent typology of these expressions, whether cross-linguistic or language-internal typology.

Previous attempts to distinguish between the particular CC types are in the majority of cases based on incoherent criteria (Ionin and Matushansky (2002) distinguish between singular comitative constructions, plural comitative constructions and pronoun comitative constructions, which implies using morphosyntactic and semantic or categorical properties as differentiation criteria in parallel).

The goal of this study is to elaborate a uniform classification of Polish CCs based on coherent, semantic criteria, and to develop a formal analysis within the paradigm of HPSG.
Basic Properties of CCs

CCs are expressions consisting of two NPs and the preposition *z* ‘with’, and occurring with singular or plural predicates (the *z* NP2 sequence can be associated either with the NP1 or the V, occurring before or after the V):

\[
\text{NP1 } z \text{ NP2 V}_{\text{SG/PL}} \\
\text{NP1 V } z \text{ NP2}
\]

The NP2 is assigned the instrumental case.

CCs introduce comitative content (they refer to a joint participation of individuals denoted by the NP1 and the NP2 in the event denoted by a predicate).

CCs bear a conventional implicature of togetherness (individuals referred to by the NP1 and the NP2 must be related to each other in some very broad sense).
The *together*-Test

As an indication for comitativity, the modifiability of \( z \) NP2 sequences by collectivizing adverbs can be considered:

(2) Jan (razem) \( z \) Marią wyjechał.
    Jan together with Maria.INSTR left
    ‘Jan left together with Maria.’

(3) Chłopak (#razem) \( z \) zezem wyjechał.
    boy together with cross-eye.INSTR left
    ‘The cross-eyed boy left.’
Three Types of CCs

(4) Jan z Marią wyjechał do USA.
Jan.SG with Maria.INSTR.SG left.SG to USA
‘Jan left for the USA with Maria.’

(5) Jan z Marią wyjechali do USA.
Jan.SG with Maria.INSTR.SG left.PL to USA
‘Jan and Maria left for the USA.’

(6) My z Marią wyjechaliśmy do USA jako jedyna para małżeńska.
we INSTR.SG left.PL to USA as only couple married
‘Maria and I, the only married couple, left for the USA.’
Open and Closed Inclusive CCs

(7) My z Marią wyjechaliśmy do USA jako jedyna para małżeńska.

‘Maria and I, the only married couple, left for the USA.’

(8) Tylko my trzej z Janem spaliśmy z żonami w trzech osobnych pokojach. Pozostałe małżeństwa spały wszystkie razem.

‘Only Jan and the rest of us three slept with our wives in three separate rooms. The other married couples all slept in another room.’
Classification of Polish CCs

- accompanitive comitative constructions (ACCs),
- conjunctive comitative constructions (CCCs),
- inclusive comitative constructions (ICCs):
  - inclusive closed comitative constructions (IOCCCs),
  - inclusive open comitative constructions (IOCCCs).
Further Evidence

To demonstrate denotational differences between ACCs, CCCs and ICCs, we will

- discuss their aggregational properties (by examining their ability to occur in collective and distributive contexts; collective and distributive interpretations are traditionally assumed to be available for objects denoting aggregation/plurality),
- present some presuppositional effects,
- point out coreferential and focal differences.
Collective Predicates

meet, form a circle / line, be numerous, be few in number, encircle, collide, surround

(9) a. *Jan z Marią, który mieszka w USA, spotyka Jan.SG with Maria.INSTR.SG who.SG.M1 lives.SG in USA meets.SG się od czasu do czasu u rodziców. ACC RM from time to time at parents’
‘Jan, who lives in the USA, meets Maria from time to time at their parents’.’

b. Jan z Marią spotykają się od czasu do czasu u rodziców. Jan.SG with Maria.INSTR.SG meet.PL RM from time to time at parents’
‘Jan and Maria meet from time to time at their parents’.’

c. My z Marią spotykamy się we dwoje od czasu do we with Maria.INSTR.SG meet.1ST.PL RM in two from time to czasu u rodziców. time at parents’
‘Maria and I both meet from time to time at our parents’.’

d. My czterej z Janem włącznie spotykamy się we four with Jan.INSTR.SG including meet.1ST.PL RM systematycznie na brydża. systematically for bridge
‘We four including Jan meet systematically to play bridge.’
Collectivizing Adverbs

(10)  

(a) *Jan z Marią bywa wspólnie u rodziców. ACC Jan.SG with Maria.INSTR.SG visits.SG together parents 
‘Jan visits together with Maria at their parents’. [intended]

(b) Jan z Marią bywają wspólnie u rodziców. CCC Jan.SG with Maria.INSTR.SG visit.PL together by parents 
‘Jan and Maria visit together at their parents’.

(c) My z Marią, jak każde małżeństwo, bywamy wspólnie na we with Maria.INSTR.SG as every marriage go.1ST.PL together to parties 
‘Maria and I, like every married couple, go to parties together’.

(d) My czterej włącznie z Janem grywamy wspólnie w brydża. 
‘We four including Jan are used to playing bridge together.’
Distributive Predicates

(11) a. *Jan z Marią jest przeciwnikiem przemocy w grach komputerowych dla dzieci. 
Jan with Maria.INSTR is.SG objector violence in games computer for children

`Jan and Maria object to violence in computer games for children.'

b. Jan z Marią są przeciwnikami przemocy w grach komputerowych dla dzieci. 
Jan with Maria.INSTR are.PL objectors violence in games computer for children

`Jan and Maria object to violence in computer games for children.'

c. My z Marią, jak wszyscy rodzice, jesteśmy przeciwnikami przemocy w grach komputerowych dla dzieci. 
we with Maria.INSTR like all parents are.1ST.PL objectors violence in games computer for children

`Maria and I, like all parents, object to violence in computer games for children.'

d. My czterej włącznie z Janem jesteśmy przeciwnikami przemocy w grach komputerowych dla dzieci. 
we four including with Jan.INSTR are.1ST.PL objectors violence in games computer for children

`We four including Jan object to violence in computer games for children.'
Reciprocals

(12)  
a. *[Jan z Marią]_{i} pomaga [sobie nawzajem]_{i}.  ACC\nl. Jan.SG with Maria.INSTR.SG helps.SG REFL.PRN mutually\n  ‘Jan and Maria help each other.’

b. [Jan z Marią]_{i} pomagają [sobie nawzajem]_{i}.  CCC\nl. Jan.SG with Maria.INSTR.SG help.PL REFL.PRN mutually\n  ‘Jan and Maria help each other.’

c. [My_{i} z Marią]_{i}, jak każde małżeństwo, pomagamy\n  we with Maria.INSTR.SG like every married couple help.1ST.PL\n  [sobie nawzajem]_{i}.\n
  ICCC\n  REFL.PRN mutually\n  ‘Maria and I, like every married couple, help each other.’

d. [[My czterej]_{i} włącznie z Janem]_{i} pomagamy [sobie\n  we four including with Jan.INSTR.SG help.1ST.PL REFL.PRN\n  nawzajem]_{i}.

  IOCC\n  mutually\n  ‘We four including Jan help each other.’
The Prefix *roz-*

(13) a. *Jan z Marią rozjechał się po przyjęciu każde Jan.SG with Maria.INSTR.SG went different ways.SG.M1 RM after party each w swoją stronę.
in POSS.REFL.PRN direction

‘Jan and Maria went their own separate ways after the party.’

[intended]

b. Jan z Marią rozjechali się po przyjęciu każde Jan.SG with Maria.INSTR.SG went different ways.PL.M1 RM after party each w swoją stronę.
in POSS.REFL.PRN direction

‘Jan and Maria went their own separate ways after the party.’

c. My z Marią jako jedynie małżeństwo tego wieczoru, we with Maria.INSTR.SG as only married couple this evening rozjechaliśmy się po przyjęciu każde w swoją stronę.
went different ways.1ST.PL RM after party each in POSS.REFL.PRN direction ICCC

‘Maria and I, as the only married couple this evening, went our own separate ways after the party.’

d. My czterej włącznie z Janem rozjechaliśmy się po we four including with Jan.INSTR.SG went different ways.1ST.PL RM after przyjęciu każdy w swoją stronę.
party each in POSS.REFL.PRN direction IOCC

‘We four including Jan all went our own separate ways after the party.’
The Distributive *po*

(14) a. *Jan z Marią otrzymał od szefa po Jan.SG with Maria.INSTR.SG got.SG.M1 from boss.GEN po samochodzie.*
     'Jan and Maria got from their boss a car apiece.' [intended]

b. Jan z Marią otrzymali od szefa po Jan.SG with Maria.INSTR.SG got.PL.M1 from boss.GEN po samochodzie.
     'Jan and Maria got from their boss a car apiece.'

c. *My z Marią, jak każde młode małżeństwo w tym kraju, otrzymaliśmy od państwa po samochodzie.*
     'Maria and I, like every young married couple in this country, got from the government a car apiece.'

d. *My czterej włącznie z Janem otrzymaliśmy od szefa we four including with Jan.INSTR.SG got.1ST.PL.M1 from boss.GEN po samochodzie.*
     'We four including Jan got from our boss a car apiece.'
Distributive Adjectives

(15) a. *Jan z Marią przyjechał oddzielnymi samochodami.
Jan.SG with Maria.INSTR.SG arrived.SG.M1 separate cars
ACC
‘Jan and Maria arrived in different cars.’ [intended]

b. Jan z Marią przyjechali oddzielnymi samochodami.
Jan.SG with Maria.INSTR.SG arrived.PL.M1 separate cars
CCC
‘Jan and Maria arrived in different cars.’

c. My z Marią, jako jedynie małżeństwo tego wieczoru,
we with Maria.INSTR.SG as only marriage this evening
przyjechaliśmy oddzielnymi samochodami.
arrived.1ST.PL.M1 different cars
ICCC
‘Maria and I, as the only married couple this evening, arrived in different cars.’

d. My czterej włącznie z Janem przyjechaliśmy oddzielnymi
we four including with Jan.INSTR.SG arrived.1ST.PL.M1 different
samochodami.
cars
‘We four including Jan arrived in different cars.’
(16) a. *Jan z Marią wyszedł z imprezy osobno. ACC
Jan.SG with Maria.INSTR.SG left.SG.M1 from party separately
‘Jan and Maria left the party separately.’ [intended]
b. Jan z Marią wyszli z imprezy osobno. CCC
Jan.SG with Maria.INSTR.SG left.PL.M1 from party separately
‘Jan and Maria left the party separately.’
c. My z Marią, jako jedyne małżeństwo na tej imprezie,
we with Maria.INSTR.SG as only married couple at this party
wyszliśmy osobno. ICCC
left.1ST.PL.M1 separately
‘Maria and I, the only married couple at this party, left separately.’
d. My czterej włącznie z Janem wyszliśmy z imprezy
we four including with Jan.INSTR.SG left.1ST.PL.M1 from party
osobno. IOCC
separately
‘We four including Jan all left the party separately.’
Conclusions: Aggregational Properties

On the basis of the examples providing clear collective and distributive contexts, the conclusion can be made that

- CCCs, ICCCs and IOCCs can all be interpreted both as collective and distributive expressions (have aggregational / plural denotations),

- while neither a collective nor a distributive context is possible for ACCs (no aggregational / plural denotation is available for Polish ACCs).
Presuppositional Effects

Denotational differences between ICCs on the one hand and CCCs and ACCs on the other hand can also be demonstrated by presuppositional effects:

(17) Cała UE z Polską i Słowenią skorzysta na rozszerzeniu whole EU with Poland and Slovenia will profit.sg on enlargement strefy euro. ICC (uttered after May 01, 2004)
Eurozone
‘The whole EU, including Poland and Slovenia, will profit from the enlargement of the Eurozone.’
P = 26 countries will profit from the enlargement of the Eurozone.

(18) Cała UE z Polską i Słowenią skorzysta na rozszerzeniu whole EU with Poland and Slovenia will profit.sg on enlargement strefy euro. ACC (uttered before May 01, 2004)
Eurozone
‘The whole EU, including Poland and Slovenia, will profit from the enlargement of the Eurozone.’
P = 28 countries will profit from the enlargement of the Eurozone.
Coreference and Focalization

There are also discrepancies between ACCs, CCCs and ICCs regarding:

- assignment of contrastive focus,
- control of
  - personal pronouns,
  - relative pronouns,
  - reflexive pronouns,
  - possessive pronouns,
  - possessive reflexive pronouns,
  - PRO subjects.
Set-Theoretical Interpretation

Given these observations, denotational differences between the particular CC types arise which can be described as follows:

- **ACC:** \([\text{NP1} \circ \text{NP2}] = \{x_1\}\)
- **CCC:** \([\text{NP1} \circ \text{NP2}] = \{x_1, x_2\}\)
- **ICC:** \([\text{NP1} \circ \text{NP2}] \equiv [\text{NP1}] = \{x_2, x_0, \ldots, x_n\}\)
Theoretical Framework

We will use Head-Driven Phrase Structure Grammar in the tradition of Pollard and Sag (1994) as a theoretical framework.

Advantages of HPSG: HPSG is a

- lexicalist (it offers the possibility to determine the properties of both words and phrases on the word level),
- comprehensive (it is possible to encode generalizations about all linguistic representation levels simultaneously, thereby accounting for a possible interaction between the particular levels),
- fully formalized (cf. Richter (2004)),
- computer-applicable

linguistic formalism.

Crucial property of HPSG: It is a non-derivational constraint-based grammar framework.
The Architecture of Words in Terms of HPSG

[Diagram of word architecture with categories such as phonological structure, part of speech, valence, semantic structure, pragmatic structure, non-local dependencies, and argument structure.]
The Architecture of Phrases in Terms of HPSG

\[
\text{phrase} \quad \text{PHONOLOGY} \quad \text{phonological structure}
\]

\[
\begin{align*}
\text{PHONOLOGY} & \quad \text{PHONOLOGY} \\
\text{SYNSEM} & \quad \text{SYNSEM} \\
\text{LOCAL} & \quad \text{LOCAL} \\
\text{CONTENT} & \quad \text{CONTENT} \\
\text{CONTEXT} & \quad \text{CONTEXT} \\
\text{NONLOCAL} & \quad \text{NONLOCAL} \\
\text{DAUGHTERS} & \quad \text{DAUGHTERS}
\end{align*}
\]

\[
\begin{align*}
\text{CATEGORY} & \quad \text{CATEGORY} \\
\text{HEAD} & \quad \text{part of speech} \\
\text{VALENCE} & \quad \text{valence} \\
\text{semantic structure} & \quad \text{semantic structure} \\
\text{pragmatic structure} & \quad \text{pragmatic structure} \\
\text{non-local dependencies} & \quad \text{non-local dependencies} \\
\text{extraction} & \quad \text{extraction}
\end{align*}
\]

\[
\text{constituent structure}
\]
Basic Theoretical Assumptions

To account for all types of CCs, we make the following theoretical assumptions:

- All types of CCs should be uniformly analyzed in terms of syntactic adjunction (also proposed by Ladusaw (1989), Aissen (1989a,b), Lichtenberk (2000), Ionin and Matushansky (2002), McNally (1993), Trawiński (2005)).

- Each CC type is licensed by a different lexical entry of the comitative preposition z ‘with’.

- The semantic representation of nominals involves information about all referents in the denotation of these nominals.

- The syntactic structure of all CCs is described by the same set of constrains on phrase structures.

- The instantiation of the semantic representation of CCs, however, results from different semantic constraints in ACCs and ICCs, on the one hand, and in CCCs, on the other hand. In contrast to ACCs and ICCs, CCCs are treated to be semantic semi-constructions.
The LE of an exemplary noun

[Diagram of syntactic and semantic structures with annotations for word, PHON list, CAT, HEAD, MS, noun, npro, extended-index, VAR, index, person, number, gender, relation, INST, REFERENTS, nset, CONX, BACKGROUND, set, SYNSEM, LOC, CONT, INDEX, PHI, RASTR, NUCL].
The LE of an Exemplary Preposition Heading Modifying PPs
The LE of the Accompanitive \( z \) ‘with’
The LE of the Conjunctive z ‘with’
The LE of the Inclusive ę ‘with’
Licensing ACCs
Licensing CCCs
Licensing ICCs
Summary and Outlook

A semantic typology of Polish CCs, motivated and supported by empirical data, has been proposed.

A uniform HPSG-based analysis of all types of CCs in terms of syntactic adjunction has been introduced. Thereby, each CC type has been assumed to be licensed by a different lexical entry of the comitative preposition `with’.

In future work, CCs involving other categories, such as numerals or clausal expressions such as free relative clauses, will be examined.

To verify the HPSG theory of Polish CCs proposed here, the developed grammar may be implemented using one of the available systems for formalization and visualization HPSG-style grammars, and subsequently, if needed, evaluated.
References


