Coordinated *Wh*-words in Polish: Monoclausal or Multiclausal?

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1   Introduction

This paper discusses the issue of how conjuncts in constructions known as lexico-semantic or hybrid coordination should be represented in Polish.[1] It concentrates on examples featuring *wh*-words such as (1), while examples where conjuncts are non-adjacent (as in *Kto zaufał i komu?* where the last conjunct is placed after the verb) remain outside of its scope.

(1)   Kto   i   komu   zaufał?
      who_{NOM} and who_{DAT} trusted
      'Who trusted whom?'

Monoclausal analyses argue that conjuncts belong to the same clause, which means that (1) is treated similarly to multiple questions (as in (2)). By contrast, multiclausal analyses (often referred to in the literature as biclausal, though more than two clauses may be involved) treat (1) as consisting of two different clauses, as in (3) which consists of two distinct questions (see § 2 for discussion of different analyses).

(2)   Kto komu zaufał?

(3)   Kto ~~zaufał~~ i komu zaufał?

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[1] This paper is a revised and extended version of Patejuk and Przepiórkowski 2014.

A range of tests proposed for languages which use lexico-semantic coordination (these include, apart from Polish, also Hungarian, Romanian and Russian) is presented and the possibility of applying these tests to Polish is discussed. It is perhaps worth noting that this paper is largely based on authentic data – the National Corpus of Polish (NKJP; http://nkjp.pl/; Przepiórkowski et al. 2011, 2012), the largest annotated corpus of Polish containing over 1.8 billion segments, served as the main source of data for discussing representation tests.

2   Multiclausal Analyses

This paper takes into consideration two recent multiclausal analyses of lexico-semantic coordination, namely that of Tomaszewicz 2011a and Citko and Gračanin-Yüksek 2013. These analyses were chosen because they were originally applied to Polish data and they were also accompanied by an explanation of the resulting representation.

Although the analyses of Tomaszewicz 2011a and Citko and Gračanin-Yüksek 2013 differ with respect to formal devices they use – Tomaszewicz 2011a operates with the notion of deletion (under identity) while Citko and Gračanin-Yüksek 2013 use multidominance (sharing certain branches by clauses) – the intuition behind these analyses is strikingly similar: both offer two-fold analyses which cover nearly equivalent cases.

The first case in Tomaszewicz 2011a (T_1) is the one where two conjuncts belong to two distinct clauses and missing arguments (if any) are filled using implicit pronouns – the representation provided in (5)[2] corresponds to (4), more precisely to its single pair reading, while the interpretation accompanying this analysis is provided in (6).

(4)   Kto i   co   kupił?
       who and what bought

                                  (Tomaszewicz 2011a: ex. (1))

(5)   [who [$_{TP}$ ~~who~~ bought something]] & [what [$_{TP}$ *pro* bought ~~what~~]
                                  (Tomaszewicz 2011a: ex. (4a))

(6)   Who bought something? And what did they buy?
                                  (Tomaszewicz 2011a: ex. (4b))

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[2] Mismatched brackets (closing bracket missing) in (5) following Tomaszewicz 2011a.

&P

CP   CP

wh$_1$ C′   wh$_2$ C′

C^0 TP   TP

subj   T′   T′

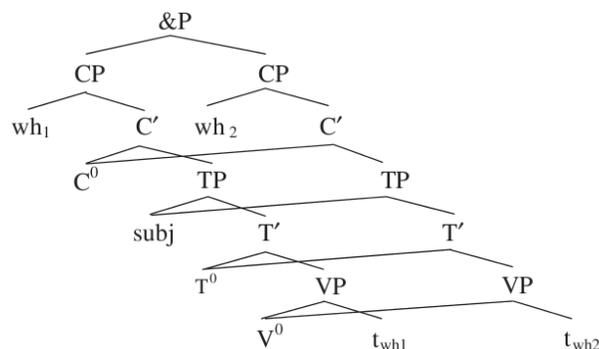T^0 VP   VP

V^0 t$_{wh1}$ t$_{wh2}$

Figure 1: non-bulk sharing structure (Citko and Gračanin-Yüksek 2013: ex. (6c))

While pair list readings are typical of multiple questions (such as 'Who left when?') which ask about more than one variable (subject, time) and expect answers consisting of a list of pairs ('Mary left yesterday, John left two days ago.'), single pair readings are typical of single questions which ask about only one variable ('Who left yesterday?') and require single answers ('Mary left yesterday.'). Since both questions in (5) are single questions (this is reflected in the interpretation in (6)), Tomaszewicz 2011a uses this strategy for obtaining the single pair reading.

The counterpart of this strategy is what Citko and Gračanin-Yüksek 2013 call the non-bulk sharing strategy (CGY$_1$) where "*wh*-words are NEVER shared between the two CPs (while everything else in the structure is)" – their representation is shown in Figure 1.

The second case used by Tomaszewicz 2011a (T$_2$) involves a coordination of two questions: a single question in the first clause (containing the *wh*-word corresponding to the first conjunct of lexico-semantic coordination) and a multiple question in the second clause (containing both *wh*-words). As explained in Tomaszewicz 2011a "the two identical wh-phrases in the two conjuncts undergo ATB movement", while the second *wh*-phrase stays in the second clause. (7) provides the representation (including implicit pronouns) of the pair list reading of (4), its interpretation is provided in (8). Please note that both include two questions:
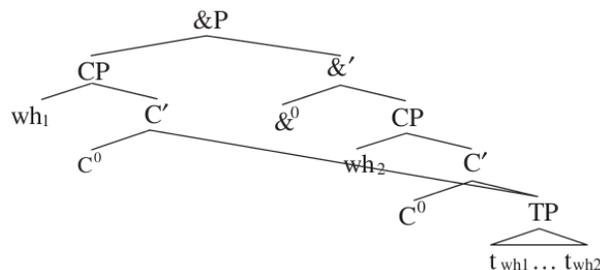
Figure 2: bulk sharing structure (Citko and Gračanin-Yüksek 2013: ex. (6b))

(7) [who [~~who~~ [$_{TP}$ ~~who~~ bought something]] & [~~who~~ what [$_{TP}$ ~~who~~ bought ~~what~~]]]   (Tomaszewicz 2011a: ex. (6a))

(8) Who bought something? And who bought what?
                                          (Tomaszewicz 2011a: ex. (6c))

Citko and Gračanin-Yüksek 2013 use the bulk-sharing strategy (CGY$_2$) which is a near counterpart of the pair list multiclausal analysis of Tomaszewicz 2011a. Under this analysis "there IS a point in the derivation when the two *wh*-phrases belong to both CPs, even though in the final representation each *wh*-phrase occupies a specifier of a different CP", see Figure 2 for an illustration. The difference with respect to the analysis of Tomaszewicz 2011a is that only one of the clauses, the second one, contains a multiple question, while in the analysis of Citko and Gračanin-Yüksek 2013 this is the case with both clauses. As a consequence, the multidominance bulk sharing analysis does not use implicit arguments as there are no missing arguments.

3   Representation Tests

3.1   Sentence-level Adverbs

Tomaszewicz 2011a claims that lexico-semantic coordination is multiclausal due to the fact that it is possible to split the conjuncts using a sentence-level adverbial. After providing examples from Bulgarian, she notes: "In Polish the facts are exactly the same as in Bulgarian and the speaker-oriented adverbs include: *najważniejsze* 'most importantly',

zwłaszcza 'importantly', *niestety* 'unfortunately', *na szczęście* 'fortunately', *o dziwo* 'surprisingly'."

For each of the "sentence-level adverbials" listed above, a counterexample was found in NKJP – examples provided below feature such adverbs inside plain NP coordination:

(9)   Zdemontowane zostały [piece,   maszyny i   co   najważniejsze
       removed   were   furnaces machines and what most important
       pompy].
       pumps
       'Furnaces, machines and, what is most important, pumps were removed.'   (NKJP)

(10)   W domu po prostu zamęczał [matkę i   zwłaszcza ojca] [...]
        at home simply   pestered   mother and especially father
        'At home he would simply pester his mother and especially his
        father.'   (NKJP)

(11)   Z   tego tytułu zachowanie [posłów SLD i   niestety   posłów
        for this reason behaviour   MPs   SLD and unfortunately MPs
        PSL] jest wyjątkowo złe, naganne   [...]
        PSL is   particularly bad reprehensible
        'For this reason the behaviour of SLD MPs and, unfortunately, PSL
        MPs is particularly bad, reprehensible.'   (NKJP)

(12)   Dali mi [trochę forsy i   na szczęście samochód]
        gave me some money and fortunately   car
        'They gave me some money and, fortunately, a car.'   (NKJP)

(13)   [Włochy, Grecja, Francja, Niemcy i   o dziwo   Węgry
        Italy   Greece France   Germany and surprisingly Hungary
        wraz ze Słowacją] są   nastawione prorosyjsko.
        with   Slovakia are disposed   pro-Russian
        'Italy, Greece, France, Germany and, surprisingly enough, Hungary
        with Slovakia have pro-Russian attitude.'   (NKJP)

Examples provided above contain precisely the "sentence-level adverbials" listed by Tomaszewicz 2011a – they clearly can occur in plain coordination where particular conjuncts correspond to the same grammatical function.

It is dubious whether these examples should be analysed as multiclausal simply because a "sentence-level adverbial" is present – examples where such adverbials are placed between conjuncts of the coordinate subject seem to provide strong counterevidence to such claims as the verb displays plural agreement, which would be unexpected under the multiclausal analysis. Examples where the subject is split using such adverbials include (9) and (13), though an example with singular conjuncts could make a stronger argument, see constructed (14), a modified version of (13):

(14) [Francja i   o dziwo   Słowacja] są nastawione prorosyjsko.
       France$_{SG}$ and surprisingly Slovakia$_{SG}$ are disposed$_{PL}$ pro-Russian

It seems more likely that "sentence level adverbials" may split conjuncts, making coordination discontinuous. The adverb placed between conjuncts may be analysed as a modifier of the relevant verb.

3.2   Clausal Coordinators

Tomaszewicz 2011a claims that *a* is a strictly clausal coordinator in Polish ("*a* never conjoins constituents smaller than a full clause") and provides the following examples in support of this claim:

(15) Kto a   najważniejsze   co   mówił o   tobie?
       who and most importantly what said   about you
       'Who said something about you and what did they say?'

                                   (Tomaszewicz 2011a: ex. (11))

(16) Jan i/*a Maria
       Jan and Maria

                                   (Tomaszewicz 2011a: ex. (12a))

(17) wąski i/*a długi mostek
       narrow and long bridge

                                   (Tomaszewicz 2011a: ex. (12b))

First, please note that (15) is ungrammatical without *najważniejsze* – Tomaszewicz 2011a mentions in footnote 3 that "the adverb is needed here since "a" is contrastive, and the adverb provides the needed contrast".

(18) Kto a   *(najważniejsze)   co   mówił o   tobie?
       who and   most importantly what said   about you

If so, the judgement in (16) is controversial – the isolated fragment does not prove that NPs cannot be coordinated using *a*. Maybe it could be improved using some adverbials, as in constructed (19) and authentic (20):

(19) Jan i/*a zwłaszcza Maria głośno chrapią.
Jan and especially Maria loudly snore
'Jan and especially Maria snore loudly.'

(20) Życie, a   zwłaszcza śmierć Angeliki de Sancé
life   and especially death   Angelika de Sancé
'Life and especially death of Angelika de Sancé'   (Google)

Secondly, the judgement provided in (17) seems to be wrong when confronted with corpus data – there are numerous examples in NKJP where it is used to coordinate adjectives in a constrastive manner, so again it does not follow that *a* is an exclusively clausal coordinator:

(21) Latem   umarł ksiądz   Józef Tischner – piękny   człowiek
summer died   reverend Józef Tischner   beautiful human
i   piękny   mężczyzna: [[wrażliwy i   delikatny] a   mocny],
and beautiful man   sensitive and delicate   but strong
[uśmiechnięty a   poważny], [[bardzo mądry] a   prosty].
 smiling   but serious   very   wise   but simple
'This summer reverend Józef Tischner passed away – a beautiful human and a beautiful man: sensitive and delicate yet strong, smiling yet serious, very wise yet simple.'   (NKJP)

(22) [. . .] padł ofiarą sprytnego podstępu i   przy pomocy [zręcznych
        fell victim cunning   trick   and with help   clever
a   fałszywych] argumentów został nakłoniony do udziału   [. . .]
but false   arguments was   persuaded   to participation
'He fell victim to a cunning trick and using clever yet false arguments he was persuaded to take part. . . '   (NKJP)

The examples provided above show that the conjunction *a* may be used in Polish in plain AP coordination – there is no reason to claim that such examples are multiclausal. As a result, such examples provide evidence against the claim that *a* is a strictly clausal coordinator in Polish and that structures which contain it, such as the lexico-semantic coordination example in (15), must be multiclausal.

3.3 Distribution of Question Particles

Tomaszewicz 2011a mentions a test based on the distribution of question particles and discusses it using data from Romanian, cited after Raţiu 2009:

(23) Oare cine ce   va spune?
      PART who what will say

(Tomaszewicz 2011a: ex. (13a))

(24) Oare cine *(şi) oare ce   va spune?
      PART who   and PART what will say
      'Who will say something and what will he say?'

(Tomaszewicz 2011a: ex. (13b))

As the examples show, in Romanian the question particle *oare* can be used only once with multiple *wh*-questions, but it can be used with each conjunct under lexico-semantic coordination. This suggests that while multiple *wh*-questions are monoclausal, the structure of lexico-semantic coordination of *wh*-words is multiclausal in Romanian.

While the test itself seems convincing, it cannot be applied directly to Polish as it does not use any question particle which could be a counterpart of the Romanian one. However, it is possible to consider the distribution of other elements which may occur only once per clause in Polish. Potential candidates include mood markers such as BY (conditional) and NIECH (imperative), the reflexive marker SIĘ, the negative particle NIE and agglutinate forms of the verb BYĆ 'be' (such as -*ś* in *Coś zrobił?* 'What have you done?'). To verify whether items listed above may be used with each *wh*-word conjunct under lexico-semantic coordination, the following base query was used for searching NKJP:

(25) ```
      [base="kto|co|gdzie|jak|kiedy"
       & (case=$1 | case!=".*")] VAR i
      [base="kto|co|gdzie|jak|kiedy"
       & (case!=$1 | case!=".*")] VAR
      ```

VAR is a variable which is to be substituted (twice) for a relevant query element from the list provided above (mood marker, reflexive marker, negative particle, agglutinate verb form). The query fragment `[base="kto|co|gdzie|jak|kiedy" & (case=$1 | case!=".*")]` matches a segment whose base form is KTO

'who', CO 'what', GDZIE 'where', JAK 'how' or KIEDY 'when' (`base="kto|co|gdzie|jak|kiedy"`), its case value is assigned to the $1 variable (`case=$1`) or it has no case at all (`case!=".*"`). While [`base="kto|co|gdzie|jak|kiedy" & (case!=$1 | case!=".*")`] matches the same base forms, it requires that the case of this segment is not the same as the one assigned to the variable $1 (`case!=$1`) or that the segment has no case whatsoever (`case!=".*"`).

A sample query resulting from substituting by for `VAR` in (25) is provided below:

(26)   `[base="kto|co|gdzie|jak|kiedy"`
     `& (case=$1 | case!=".*")] by i`
     `[base="kto|co|gdzie|jak|kiedy"`
     `& (case!=$1 | case!=".*")] by`

Some constructed examples that would match the query in (26):

(27) *Kto      by    i    kogo     by     uderzył?
     who$_{NOM}$ COND and who$_{ACC}$ COND hit
     'Who would hit whom?'                         (intended)

(28) *Kto by i kiedy by uderzył?

(29) *Gdzie by i kiedy by uderzył?

The following table provides a short summary of the results of relevant NKJP queries (the entire corpus, NKJP1800M, was searched for results):

(30)

| variable used in (25) | by | niech | się | nie | [pos=aglt] |
|---|---|---|---|---|---|
| NKJP results | 0 | 0 | 0 | 0 | 0 |

The results summarised in (30) show that there is no evidence that it is possible to use elements which normally occur only once per clause (markers, particles, clitics) in Polish with each element of questions featuring lexico-semantic coordination. This suggests that there is no evidence supporting the multiclausal analysis.

While it might be the case that counterexamples exist in larger text collections, constructed examples, such as in (27)–(29), are unacceptable.

### 3.4   Auxiliary between *Wh*-phrases

Bîlbîie and Gazdik 2012 advance an argument based on the following example from Hungarian:

(31)  Mit  akarunk és  hol    vacsorázni?
      what want$_3$   and where eat for dinner
      'What do we want to eat for dinner and where?'

<div align="right">(Bîlbîie and Gazdik 2012: ex. (48))</div>

They claim that "it can be argued that *akar* 'want' is an auxiliary in Hungarian" because "it can interrupt the infinitive following it and appear between the verbal particle (if there is one) and the verbal stem" – if it is assumed, the argument goes, that the auxiliary and the main verb must belong to the same clause, it follows that the structure of such examples must be monoclausal.

  Let us see how this test can be applied to Polish:

(32)  Kto       będzie komu   pomagać?
      who$_{NOM}$ AUX    who$_{DAT}$ help

(33)  Komu    będzie kto     pomagać?
      who$_{DAT}$ AUX    who$_{NOM}$ help

(34) *Kto       będzie i   komu   pomagać?
      who$_{NOM}$ AUX    and who$_{DAT}$ help

(35) *Komu   będzie i   kto      pomagać?
      who$_{DAT}$ AUX    and who$_{NOM}$ help

Judgements for sentences (32)–(35) seem to find support in NKJP: the query `[base=kto & case=$1] [pos=bedzie] i [base=kto & case!=$1]` matches the coordination of two *wh*-words whose lemma is KTO 'who', requiring that the case of the first conjunct (assigned to the variable $1: `case=$1`) must be different than the case of the second conjunct (`case!=$1`). This query yielded 0 results in the entire corpus. By contrast, its modified version with the conjunction removed did return one good result (more were found using Google), supporting judgements which accept splitting multiple *wh*-questions with an auxiliary:

(36)  [...] chodzi jednak o    to, kto      będzie komu    służył
            matters still    about this who$_{NOM}$ AUX    who$_{DAT}$ serve
      'It's more about who will serve whom.'          (NKJP)

(37)  Pytanie kto      będzie kogo    spłacał. ?
      question who$_{NOM}$ AUX    who$_{ACC}$ pay
      'The question is who is going to pay whom.'          (Google)

It is not clear, however, how the results of this test should be interpreted, especially when other contexts are considered with respect to whether they allow being split with an auxiliary:

(38)  Janek i   Marysia będą    biegli.
      Janek and Marysia AUX$_{3.PL}$ run$_{3.PL.M1}$
      'Janek and Marysia will run.'

(39) *Janek będą    i   Marysia biegli.
      Janek AUX$_{3.PL}$ and Marysia run$_{3.PL.M1}$

Taking these examples into consideration, it seems to be the case that coordinate phrases in Polish do not allow being split by an auxiliary in general. Lexico-semantic coordination also features a coordinate phrase, so the fact that splitting these with an auxiliary results in ungrammaticality is expected and it is caused by reasons independent of whether such constructions are monoclausal or multiclausal.

### 3.5  Overt Pronouns

Kazenin 2001 advances an argument in favour of the monoclausal analysis on the basis of coreference effects with overt pronouns:

(40)  [Kogo$_i$ Petja izbil] i   [za čto   Petja ego$_i$/??pro$_i$ izbil]?
       whom Peter beat  and  for what Peter him       beat
      'Whom did Peter beat and what for did Peter beat him?'

                                                      (Kazenin 2001: ex. (50))

(41) *Kogo$_i$ i   za čto   Petja ego$_i$ izbil?
      whom and for what Peter him beat

                                                      (Kazenin 2001: ex. (52))

Kazenin 2001 notes that under a coordination of two questions such as in (40) the *wh*-word in the first clause (*Kogo*) may be coreferential with an implicit pronominal (pro) or an overt pronoun (*ego*) in the second clause. By contrast, an overt pronoun coreferential with one of the conjuncts cannot be used under lexico-semantic coordination, as shown in (41). According to Kazenin 2001, this suggests that the structure of such examples is monoclausal – unlike in (40), *Kogo* and *za čto* belong to the same clause, which makes it impossible to use an overt pronoun as the object of *izbil* – this argument position is already filled by *Kogo*.

This test is applicable to Polish and the facts are similar to Russian:

(42)  Kogo    i    za co    Piotr (*go)    zbił?
      who$_{ACC}$ and for what Piotr    he$_{ACC}$ beat
      'Who did Piotr beat and what did Piotr beat him for?'

However, this test does not exclude multiclausal analyses (see § 2): under $T_1$ and $CGY_1$ null pronouns could be claimed to block the use of lexical pronouns, while under $T_2$ there is a multiple *wh*-question in the second clause and $CGY_2$ uses multidominance with two multiple *wh*-questions. On the other hand, there seems to be no constructive evidence which would support using these multiclausal analyses instead of the monoclausal one.

## 3.6  Left Branch Extraction (LBE)

Tomaszewicz 2011b proposes a syntactic argument in support of the multiclausal analysis based on the unavailability of a certain type of extraction in this environment. The argument is that while left branch extraction is grammatical with multiple questions (see (43)) which are monoclausal, Tomaszewicz 2011b claims that such extraction is ungrammatical when lexico-semantic coordination is involved (compare (44)) and attributes this alleged contrast in grammaticality to the fact that the structure of lexico-semantic coordination is multiclausal.

(43)  Jaki      kto      kupił  samochód swojej    żonie?
      which$_{ACC}$ who$_{NOM}$ bought car$_{ACC}$    SELF$_{DAT}$ wife$_{DAT}$
                                                (Tomaszewicz 2011b: ex. (27a))

(44) *Jaki      i    kto      kupił  samochód swojej    żonie?
      which$_{ACC}$ and who$_{NOM}$ bought car$_{ACC}$    SELF$_{DAT}$ wife$_{DAT}$
                                                (Tomaszewicz 2011b: ex. (27b))

However, judgements in Tomaszewicz 2011b are dubious – counterexamples may be found in the literature discussing similar phenomena:

(45)  Jakie    i    skąd      zdobywał informacje?
      what$_{ACC}$ and from where obtained   information$_{ACC}$
      'What information and where from did he obtain?'
                                                (Kallas 1993: p. 141, ex. (108))

Moreover, numerous attested examples may be found:

(46) Jakie   i   kto   miał rzucane kłody   pod   nogi?
what$_{ACC}$ and who$_{NOM}$ had  thrown  logs$_{ACC}$ under legs
'Who has been put what obstacles in their way?'        (NKJP)

(47) Czy   wiadomo   jaki   i   kto   będzie   grał
PART   known   what$_{ACC}$ and   who$_{NOM}$   AUX   play
schwarzcharakter?
villain$_{ACC}$
'Do we know who is going to play which villain?'        (NKJP)

(48) Jakie   i   kto   podjął w tej  sprawie działania?
what$_{ACC}$ and who$_{NOM}$ took   in this matter   actions$_{ACC}$
'Who took what action in this matter?'        (Google)

(49) Jakie   i   kto   może ponieść konsekwencje?
what$_{ACC}$ and who$_{NOM}$ can   bear   consequences$_{ACC}$
'Who can suffer what consequences?'        (Google)

Since the examples listed above provide rich counterevidence to the judgements of Tomaszewicz 2011b, the conclusion drawn on the basis of her judgements does not hold – there is no contrast in grammaticality between LBE with multiple *wh*-questions and under lexico-semantic coordination. Therefore there is no reason to claim that the latter is multiclausal.

It must be noted, however, that undermining the argument of Tomaszewicz 2011b does not provide strong, constructive evidence in support of the monoclausal representation of lexico-semantic coordination: LBE is possible in this environment, whatever the representation.

### 3.7   Stranding

An argument in favour of the monoclausal analysis advanced by Paperno 2012 is based on the fact that there is a Russian pronoun, namely *čto*, which requires adjectival modifiers to appear in a non-agreeing genitive case form, unlike other nominals which take adjectival modifiers fully agreeing in case. Paperno 2012 offers a test based on the phenomenon of stranding, a kind of "partial *wh*-movement", and illustrates it using the following example from Russian:

(50) Čto   i   komu   on xorošego sdelal?
what$_{ACC}$ and who$_{DAT}$ he good$_{GEN}$ did
'What good did he do, and to whom?'        (Paperno 2012: ex. (49))

Paperno 2012 argues that the structure of this example must be non-elliptical (monoclausal) due to the fact that the adjectival modifier *xorošego* must depend on – and hence belong to the same clause as – the first conjunct, *Čto*. He provides the following example to demonstrate that the modifier cannot occur in the non-agreeing genitive form on its own:

(51) *Komu     on xorošego sdelal?
     who$_{DAT}$ he good$_{GEN}$ did
     'To whom did he do good?'                  (Paperno 2012: ex. (50))

Furthermore, Paperno 2012 shows that this argument is immune to those multiclausal analyses which claim that there is ellipsis in one of the conjuncts coupled with the use of an indefinite pronoun (as in T$_1$, for instance):

(52)  Komu     on čto-libo     xorošee  sdelal?
      who$_{DAT}$ he something good$_{ACC}$ did
      'To whom did he do something good?'      (Paperno 2012: ex. (51))

This example features an indefinite pronoun, *čto-libo*, which triggers full modifier agreement. The multiclausal analysis of Tomaszewicz 2011a features an indefinite pronoun represented as *something*, see (5) and (7) which correspond to (4). However, assuming that the indefinite pronoun of Tomaszewicz 2011a behaves in the same way as *čto-libo*, (50) could not be an instance of ellipsis of an indefinite pronoun – if this was the case, the modifier would be expected to appear in the agreeing form, as in (52).

The facts in Polish are similar: while Polish adjectival modifiers usually fully agree in case with their nominal heads, there are pronominal forms ((non-)agreement depends on the case of the head) which require the modifier to appear in a non-agreeing case, namely genitive. The following example is analogous to the one provided in (50):

(53)  Co       i   komu    ona ciekawego/*ciekawe powiedziała?
      what$_{ACC}$ and who$_{DAT}$ she interesting$_{GEN/ACC}$   said
      'What interesting did she say, and to whom?'

There are, however, certain differences with respect to facts from Russian as Polish has more pronouns which display the (non-)agreement pattern shown above for the interrogative *co*. This class also includes elements such as *coś* (indefinite), *cokolwiek* (*any*-type pronoun) and *nic* (*n*-word). Since, unlike in Russian, such (non-)agreement is possible in Polish with

the indefinite pronoun (*coś*, see (54)), this test is vulnerable to claims that one of the conjuncts features an implicit indefinite pronoun (as in $T_1$).

(54) *(Coś)      ciekawego    się  stało.
     something$_{NOM}$ interesting$_{GEN}$ REFL happened
     'Something interesting happened.'

While this test does not provide a definite argument against multiclausal analyses (it seems that at least $T_2$ and $CGY_2$ would be technically able to account for such data), there, again, seems to be no motivation to use such accounts instead of the monoclausal analysis.

## 3.8 Governing Numerals

Examples such as the following might provide new evidence supporting monoclausal analyses of lexico-semantic coordination:[3]

(55)  Kto, ile         i   kiedy dostał unijnych dotacji?
      who how much$_{ACC}$ and when got   EU       subsidies$_{GEN}$
      'Who got how much EU subsidies and when?'            (NKJP)

(56)  Nie  wiem w ogóle, ile         i   kiedy dostanę pieniędzy  na
      NEG know at all    how much$_{ACC}$ and when get$_{FUT}$   money$_{GEN}$ for
      naszą działalność.
      our   operation
      'I have no idea how much money I will get for our operation and
      when.'                                              (NKJP)

Both examples provided above contain governing numeral forms – the distinctive feature of such forms is that they assign genitive case to the accompanying nominal: the head numeral *ile* is marked for accusative case (structural case assigned by the verb) while its nominal object bears genitive case: *dotacji* in (55) and *pieniędzy* in (56).

This feature of governing numerals makes it is difficult to argue that ellipsis is at work in such examples because their hypothetical multiclausal base sentences would lack identity across clauses, as shown in (57), a multiclausal paraphrase of (56):

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[3] This argument is, however, similar to modifier stranding presented in § 3.7.

(57) Nie wiem w ogóle, ile      pieniędzy dostanę i kiedy
    NEG know at all   how much$_{ACC}$ money$_{GEN}$ get$_{FUT}$ and when
    dostanę pieniądze.
    get$_{FUT}$ money$_{ACC}$
    'I have no idea how much money I will get and when I will get the
    money.'

(57) shows that ellipsis analyses which postulate deletion under identity in the first clause (such as $T_1$) are impossible in such cases due to the fact that the case found in the second clause (accusative *pieniądze* required by the verb as structural case in this context) does not match the case found in the first clause (genitive *pieniędzy* required by the numeral head *ile*). If the example using lexico-semantic coordination, (56), were multiclausal, the genitive *pieniędzy* would be unexpected as the numeral (*ile*) would be placed in the first clause, while the verb in the second clause requires an object marked for accusative case (*pieniądze*, as in (57)).

Finally, though theoretically the verb DOSTAĆ 'get' can assign genitive case (as a realisation of structural case) to its object under the partitive reading, it does not seem to be an option in (55)–(56). Such interference can be eliminated by using predicates where such a reading is unavailable, as in the example below with ROZWIĄZAĆ 'solve':

(58) Ile      i kto      rozwiązał zadań?
    how many$_{ACC}$ and who$_{NOM}$ solved    tasks$_{GEN}$
    'How many tasks did who solve?'

While other multiclausal accounts such as $T_2$ and $CGY_2$ could probably handle such data technically, there seems to be no reason which would justify adopting these accounts instead of the monoclausal analysis.

### 3.9 Coordination with *Yes/No* Question Particle

Polish *yes/no* question particle CZY can be coordinated with *wh*-words:

(59) Tytuł brzmiał prosto i uczciwie: "Czy i jaki jest Bóg"
    title sounded simply and honestly PART and what is God
    'The title sounded simple and honest: "Does God exist and what is
    he like?"'                                         (NKJP)

(60)  Nie  wiemy  wreszcie,  czy    i    co        kto      chowa  w
      NEG  know   besides   PART  and  what$_{ACC}$  who$_{NOM}$  hides  in
      rękawie.
      sleeve
      'Besides, we don't know if they got something up their sleeves and
      who keeps what up their sleeve.'                        (NKJP)

While such examples are common and their grammaticality is rather un-
controversial, it is worth noting that removing the conjunction results in
ungrammaticality:[4]

(61) *Czy  co        kto      chowa  w  rękawie?
      PART  what$_{ACC}$  who$_{NOM}$  hides  in  sleeve

This suggests that the question particle CZY cannot be used with *wh*-words
as dependents of the same predicate.[5] However, sentences where *wh*-words
depend on a different predicate are grammatical, as shown below:

(62)  Czy  wiesz, co        jesz?
      PART  know   what$_{ACC}$  eat
      'Do you know what you are eating?'                        (NKJP)

(63)  Kto      wie,  czy   Abraham  nie  był  czarny?
      who$_{NOM}$  knows  PART  Abraham  NEG  was  black
      'Who knows whether Abraham was not black?'                (NKJP)

In these examples the question particle CZY and *wh*-words belong to dis-
tinct clauses. In (62) *Czy* is placed in the main clause where WIEDZIEĆ
'know' is the main verb, while *co* is the object of JEŚĆ 'eat' in the sub-
ordinate clause. By contrast, in (63) *Kto* is the subject of the main verb
(WIEDZIEĆ), while the question particle *czy* belongs to the subordinate
clause (featuring BYĆ 'be'). As a result, these examples satisfy the re-
quirement that there be no *wh*-words in the clause which contains CZY.

   If this constraint is accepted, it follows that the structure of lexico-
semantic coordination featuring CZY as one of the conjuncts cannot be

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[4] (61) can be judged as grammatical under the reading where *co* and *kto* are interpreted as
indefinite pronouns (existential). This, however, does not affect the presented argument,
since it is concerned with the interpretation where these are *wh*-words.

[5] This observation was also made by Tomaszewicz 2011a: "In Polish the clause-initial
marker *czy* cannot co-occur with wh-phrases, yet it is allowed in Coordinated-WHs, which
provides evidence for the clausal character of the conjuncts."

monoclausal. However, this constraint is satisfied under multiclausal analyses where CZY and *wh*-words never belong to the same clause (these include $T_1$ and $CGY_1$ discussed in § 2).

Lexico-semantic coordination with CZY is a special case due to the fact that removing the conjunction in other lexico-semantic environments does not lead to ungrammaticality – the result of such an operation with coordinated *wh*-words is a monoclausal structure, a multiple question. However, this is not possible with CZY, which provides the only constructive argument in favour of adopting a multiclausal analysis – it is at the same time the only environment where the monoclausal analysis is not appropriate.

## 4    Conclusion

This paper provided a critical review of 9 selected arguments arguing for monoclausal or multiclausal representation of lexico-semantic coordination applied to Polish. It showed that while there is evidence suggesting that structures with CZY should be analysed as multiclausal in Polish (see § 3.9), there is no evidence supporting such an analysis when CZY is not involved in such coordination. On the other hand, while it was demonstrated that some multiclausal analyses could not account for some phenomena (see § 3.7, § 3.8 and § 3.9), there is no evidence which would make it possible to reject the remaining multiclausal accounts.

Some multiclausal analyses use ellipsis (such as $T_1$ and $T_2$), but it is possible to argue against them since they postulate ellipsis under identity. However, if the identity requirement is abandoned, ellipsis becomes an extremely very powerful operation, which is starkly visible when considering phenomena such as gapping – for instance, the head of a clause may be removed and there seems to be no requirement of strict identity of verb forms (singular *lubi* vs plural *lubią*); besides, the dependent of the gapped clause may bear different case than in the full clause (accusative *Marysię* vs genitive *Marysi*, triggered by negation):

(64)    Janek lubi       Marysię,      a     jego rodzice nie   (lubią    Marysi).
        Janek like$_{3.SG}$ Marysia$_{ACC}$ and his   parents NEG like$_{3.PL}$ Mary$_{GEN}$
        'Janek likes Marysia, but his parents don't (like Marysia).'

The example featuring gapping serves to show that multiclausal analyses assuming ellipsis can be saved by stipulating the use of extra devices (such as the use of implicit pronouns) to account for relevant data.

While both analyses, monoclausal and multiclausal, are available in theory, it seems preferable to choose the more economic and simple analysis if there is no reason to do otherwise. As a consequence, the monoclausal analysis emerges as the default analysis – it does not require the use of implicit pronouns and coindexing, it does not use ellipsis mechanisms which are hard to justify in other syntactic contexts, it does not require multidominance. The multiclausal analysis seems to be motivated only for cases when one of the conjuncts is the *yes/no* question particle CZY.

Such a split analysis of Polish lexico-semantic coordination (formalised in Lexical-Functional Grammar (LFG, Bresnan 1982, Dalrymple 2001)) is presented in Patejuk and Przepiórkowski 2012: the multiclausal analysis is only used for coordination with CZY as one of the conjuncts, while the monoclausal analysis is used elsewhere.

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