

# Unintegration and Polyfunctionality in Polish *co* Relative Clauses

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*Abstract:* This paper discusses a colloquial variety of Polish relative clauses introduced by the uninflected relative marker *co*. Unlike previous accounts, the analysis concentrates on authentic spoken utterances marked by structural unintegration—a common feature of spontaneous spoken language. As is shown, *co* clauses in unplanned speech depart from the traditional perception of what function they perform and how they do it. The advantage of using corpus data is that they offer insight into a wider range of functions of *co* than previously reported. These functions include a weakly subordinating conjunction, a general discourse connective, and time- and place-reference conjunctions similar to English *when* and *where*. Additionally, some cases are ambiguous as to which of these functions *co* serves. The basic relativizing use of *co* is also revised and its description is enriched by an analysis of *co* clauses in spontaneous speech, in which several unintegration features were observed. They are in general related to the loose syntactic relationship of the head NP to the *co* clause. Specific features of unintegration include (i) *co* clauses as complete clauses with no gaps, (ii) idiosyncrasy and context-dependency of interpretation, (iii) nonmatching case forms and lack of required resumptive pronouns, (iv) preposition ellipsis, (v) long-distance relationship between the head and *co* clause, (vi) ambiguity in the semantic contribution of *co* clauses and of the marker *co* itself, and (vii) lack of a clearly specified nominal head.

## 1. Introduction

In Polish there is a colloquial variety of relative clauses in which the uninflected relative marker *co* ‘that’ is used in place of the standard inflected relative pronoun *który* ‘who/which’, as in (1–3). The head noun may be the subject, as in (1), or object of the relative clause—both accusative and oblique—as in (2) and (3).

- (1) Te panie, *co* / *które* tu przychodzą.  
these ladies *co* who<sub>NOM.F.PL</sub> here come<sub>3PL</sub>  
‘These ladies that/who come here.’

- (2) Te jabłka co / które masz tu na stole.  
 these apples co which<sub>ACC.N.PL</sub> have<sub>2SG</sub> here on table  
 ‘These apples that/which you have here on the table.’

- (3) Ten chłopiec, co mu / któremu dałem książkę.  
 this boy co him<sub>DAT</sub> who<sub>DAT.M.SG</sub> gave<sub>1SG</sub> book<sub>ACC</sub>  
 ‘This boy that/whom I gave the book (to).’

The discussion of *co* clauses has often revolved around the problem of encoding grammatical relations such as case, gender, and number, which can be expressed overtly in the relative pronoun *który* but cannot in the uninflected *co*.<sup>1</sup> An important assumption that underpins perhaps any discussion of *co* and *który* clauses is that the uninflected relative marker makes *co* relatives less integrated than *który* relatives. Consider the load of information encoded in *którą* in (4), which is overtly marked for singular number and feminine gender to agree with the head *ta sukienka*. The *wh*-pronoun is also accusative-marked for the purposes of co-indexation with the trace position in the relative clause.

- (4) To jest ta sukienka którą / co kupiłam.  
 this is this dress<sub>NOM.F.SG</sub> which<sub>ACC.F.SG</sub> co bought<sub>1SG</sub> [trace<sub>ACC</sub>]  
 ‘This is the dress that I bought.’

The same sentence is still acceptable with *co*, but the connectivity and syntactic integration of the two clauses is not as tight as with *którą*. On the replacement of *którą* with *co*, the nuanced network of grammatical connections is gone. This looser integration is inherent to *co* object clauses but is especially visible in still other types of *co* clauses—ones which so far have not been examined in the literature. Consider example (5).

<sup>1</sup> A JSL reviewer has noted that Polish also has *jaki* ‘what’ clauses on top of *co* and *który* clauses. To answer the reviewer’s question, *co* clauses are functionally more closely related to *który* clauses than to *jaki* clauses. It is the primary function of *który* and *co* relatives (excluding other functions of *co*) to identify the referent of the head NP, whereas *jaki* clauses point out certain features of the referent. Cf. *jabłka jakie wyduje to drzewo* ‘the kind of apples brought forth by this tree’ and *(te) jabłka które/co masz tu na stole* ‘these/the apples that you have here on the table’. This identification function of *co* relatives is associated with the fact that their head NPs are very frequently (80% in the Spokes corpus) introduced by demonstratives explicitly marking the NPs as definite. Also, 85% of the NPs refer to specific entities, thus combining the concepts of definiteness and specificity in a typical head of a *co* relative. *Jaki* clauses, on the other hand, seem to assign certain qualities to their indefinite and nonspecific heads. Note that a demonstrative is unacceptable (or infelicitous at best) in the head of a *jaki* clause (cf. *jabłka, jakie* vs *\*te jabłka, jakie*).

- (5) (The Spokes corpus)<sup>2</sup>  
 to jest ten farsz co jedliście kotlety  
 this is this stuffing co ate<sub>2PL</sub> cutlets  
 ‘This is the stuffing that you ate the cutlets’

Whereas the *co* clauses in sentences (2–4) have clearly defined nominal heads acting as object complements of the relative-internal verbs (*jabłka – masz, sukienka – kupiłam*), the relativized NP in (5)—i.e., *ten farsz*—is only loosely tied syntactically to the following *co* clause, and the connection cannot be stated in the same object–verb terms as in (2–4). Instead, the *co* clause has its own complete set of internal arguments; there is no gap for which the head noun would fill in—as would be expected in prototypical relative clauses—and it follows that the relative marker has no trace to be co-indexed with. Recall that the marker itself is uninflected and is not eligible for co-indexation at any rate. As a result, the *co* clause is a loosely connected piece of information helping to identify the referent of the head (i.e., the stuffing is somehow related to the cutlets). Note that the exact connection is not clear: the stuffing may have been used to stuff the cutlets with (*farsz, który jedliście w kotletach* ‘the stuffing that you ate in the cutlets’) or the cutlets may have been made of (leftover) stuffing (*farsz z którego jedliście kotlety* ‘the stuffing that the cutlets that you ate were made of’). Perhaps other interpretations are also conceivable, and the intended meaning should be inferred from situational context.

This paper addresses *co* relative clauses such as (5), that is, those which are neither subject nor straightforward object clauses, the latter to be understood as those in which the nominal head is the object of the relative-internal verb. This analysis focuses on more loosely integrated utterances in which *co* is not necessarily a straightforward relativizer and in which the *co* clause often departs from the traditional perception of what function *co* clauses perform and how they do it. This is related in particular to the loose syntactic relationship of the head noun (if there is one) to the *co* clause. The nature and different types of this loose relationship will be discussed in section 6. The distinct functions of *co* itself will be discussed in section 5.

Two broad conclusions are made. Firstly, *co* performs other functions besides its basic use as a relativizer. These functions include weakly subordinating conjunction-like uses, the function of a general discourse connective, and time- and place- reference conjunctions similar to English *when* and *where*. It will be argued also that these various functions are often difficult to distinguish and form a cline of uses of *co*. Secondly, the basic relativizing use of *co* is also revised and its description is enriched by an analysis of several unintegration features that go beyond the mere absence of overt marking of case,

<sup>2</sup> The Spokes corpus (Pęzik 2015) is introduced in section 4.

number, and gender in the network of grammatical relations connecting the head, the relativizer, and the trace.

## 2. The Categorical Status of *co*

The categorial status of *co* has been a matter of dispute in the literature. The debate leans towards treating *co* as a complementizer rather than a relative pronoun (Fisiak et al. 1978; Kardela 1986; Bondaruk 1995; Broihier 1995; Psetsky 1998; Lavine 2003; Citko 2004; Hladnik 2015). This is because of the following reasons. Firstly, it is uninflected, unlike *wh*-pronouns, which contrast in form according to gender (*któr-y/-a/-e*) and case (*któr-y/któr-ego/etc.*). This is paralleled in English in the contrast between the invariant complementizer *that* and the *wh*-pronouns *which/who* (animacy), and *who/whom/whose* (case). Secondly, unlike the relative pronoun *któr-y*, *co* cannot be accompanied by pied-piped prepositions; instead, prepositions appear later in the clause and are paired with an anaphoric pronoun co-indexed with the nominal head, cf. (6) and (7). By contrast, pied-piping is the only option with *któr-y/-a/-e*, cf. (8) and (9). Again, this is paralleled in English in the contrast between *that* vs. *which/who*.

(6) (Spokes)

jest **jedno konto** **co** się nie płaci **za nie**  
 is one account CO REFL not pays<sub>3SG</sub> for it

‘There’s one account that you don’t pay for’

(7) (modified)

\*jest **jedno konto** **za co** się nie płaci<sup>3</sup>  
 is one account for CO REFL not pays<sub>3SG</sub>

(8) (modified)

jest **jedno konto**, **za które** się nie płaci  
 is one account for which REFL not pays<sub>3SG</sub>

‘There’s one account for which you don’t pay’

(9) (modified)

\*jest **jedno konto**, **które** się nie płaci **za nie**  
 is one account which REFL not pays<sub>3SG</sub> for it

<sup>3</sup> The pied-piped preposition is incorrect in the relative function in question here, that is, with *co* modifying the head NP (*one account that...*), but is in fact correct for *co* modifying a whole antecedent clause (*there is one account, which...*).

Resumptives may also occur in nonprepositional positions (as in example (3)) and such occurrence of an inflected resumptive in the complex ‘*co*+resumptive’ suggests that *co* itself is not a pronoun. Also, *co* plays no role in assigning case to the trace or resumptive in the *co* clause (Bondaruk 1995; Kardela 1986; Citko 2004). Thirdly, Bondaruk argues that *co* does not (normally)<sup>4</sup> introduce nonrestrictive clauses, unlike *wh*-pronouns (cf. *that* vs. *which/who*), as in (10).

- (10) Ewa, \**co/która* właśnie wróciła ze szkoły, odrabia  
 Ewa *co* who just returned<sub>3SG</sub> from school do<sub>3SG</sub>  
 teraz lekcje. (Bondaruk’s asterisk)  
 now homework  
 ‘Ewa, who has just returned from school, is doing her homework  
 now.’

Similarly, other authors analyzing parallel relatives in other Slavic languages consider *co/što/čto* (in Czech,<sup>5</sup> Slovak, Bulgarian, Macedonian, Russian, and Serbo-Croatian) to be complementizers (Rudin 1986; Goodluck and Stojanović 1996; Bošković 2009; Hladnik 2015).

In a slightly different approach, informed by the common diachronic development of complementizers from pronouns, the picture is a little less clear-cut. Given the fact that complementizers often develop diachronically from pronouns (and these are often polysemous themselves), Minlos (2012) argues that the Slavic *co/što/čo* may retain some properties of both complementizers and pronouns. Namely, when it appears in the construction with a resumptive pronoun (which Minlos considers the more innovative pattern), it acts more as a complementizer; when it appears in the more conservative construction without the resumptive, it retains some pronominal traits (Minlos 2012: 74).

Citko (2004) notes that although *co* is a complementizer in headed relatives, in light-headed relatives<sup>6</sup> (e.g., *to, czemu sie przyglądasz* ‘what you are looking at’) *co* is inflected, which argues against treating it as a complementizer. She suggests that this double status is a result of homophony, which is common between *wh*-pronouns and complementizers (cf. Miller 2011 for a similar treatment of homophonous uses of *that* and *which*). Similarly, Minlos (2012) assumes that there are two types of Slavic *co/što/čo*—uninflected

<sup>4</sup> Nonrestrictives with *co* are attested (although marginal) in informal style, see below.

<sup>5</sup> Fried (2010) evades assigning an explicit label to Czech *co*, but she admits that in its relativizing function it can no longer be considered a pronoun.

<sup>6</sup> In her category of light heads, Citko includes morphologically light elements such as demonstratives (*to, co* ‘that which’), indefinites (*coś, co* ‘something that’), negatives indefinites (*nic, co* ‘nothing that’), and universals (*wszystko, co* ‘everything that’).

and inflected—the former used in noun-headed relatives and the latter in light-headed relatives (Citko’s example above), as well as in clauses without an overt head (*nie znalazł, czego szukał* ‘he didn’t find what he was looking for’) and with antecedent clauses (*spotkanie zostało odwołane, czego prezydent nie aprobuje* ‘the meeting has been cancelled, which the president doesn’t approve of’). Note in (11) that with the inflected *co*, pied-piped prepositions are allowed, and pairing *co* with an anaphoric pronoun is not—a pattern typical of *wh*-pronouns.

- (11) (constructed)  
 to, **do czego** zmierzał / \*to, **co** zmierzał  
 this to which he.was.getting this co he.was.getting  
**do** czego  
 to which  
 ‘what he was getting at’

Also, nonrestrictive relative clauses with *co*—although rare and nonstandard—are attested in informal style.<sup>7</sup> The Spokes corpus used in this study records a few examples such as (12).

- (12) (Spokes)  
 a wiecie że Seba / **co** te zdjęcia ma z Aśką /  
 and you.know that Seba co these photos has with Aśka  
 {on ich nie usunął / on cały czas je ma}  
 ‘and do you know that Seba, who has these photos with Aśka, he  
 hasn’t deleted them, he still has them’

In (12) *co* may be replaced with the *wh*-pronoun *który*, which is used in standard nonrestrictives. This nonrestrictive use is another sign of the indeterminate status of *co* and the existence of two homophonous types, one of which exhibits some pronominal properties.

This study assumes, after Minlos (2012), that there are two types of *co*—inflected (pronominal) and uninflected. The uninflected *co* is a complementizer that in its basic relativizing function resembles English *that*. More importantly for this study, the uninflected *co* serves several uses that together constitute a cline of functions. Namely, the complementizer has a straightforward relativizing function in standard integrated *co* clauses (to the extent that they can be considered integrated). These have been investigated in the literature. However, less integrated examples have evaded analysis so far, perhaps be-

<sup>7</sup> Cf. Fried (2011) for a discussion of Czech *co* relatives in nondeterminative and nonrestrictive contexts, and Sonnenhauser (2013: 173) for *ki* in Slovene.

cause they are difficult to access through introspection. Corpus data offer this opportunity, and on closer analysis, a substantial number of unintegrated *co* clauses offer insight into other functions that the uninflected *co* serves. These functions include a weakly subordinating conjunction, a general discourse connective, and time- and place-reference conjunctions similar to English *when* and *where*. As will be shown, these various functions are often difficult to distinguish. They form a cline of uses of *co*. Underpinning the whole discussion is the observation (Citko 2004; Miller 2011; Minlos 2012; Hansen et al. 2016; Kehayov and Boye 2016) that in a cross-linguistic historical perspective pronouns are often grammaticalized and develop other relativizer, complementizer, or conjunction-like functions, such as English *which* (Miller 2011: 26–29, 181–83) and Croatian *čim* ‘when’ reported by Minlos (2012: 75). We merely note this common cross-linguistic development here as a possible grammaticalization path of *co*. The matter is not pursued in the present paper.

### 3. Previous Literature on Unintegrated Relative Clauses

Fragmented and unintegrated syntax is a major feature distinguishing unplanned speech from written language (see Kroll 1977; Chafe 1982; Greenbaum and Nelson 1995; Miller and Weinert 1998; Biber et al. 1999: 1140–44, 1068–70; Quaglio and Biber 2006). Miller (2011: 22) argues that “the assignment of syntactic structure to spontaneous speech is far from straightforward”. Clauses are often combined into clause complexes, rather than classical sentences. That is, they are simply juxtaposed in information blocks which are interrelated, but the structure of these complexes is less clear and less hierarchical than that of written sentences. For instance, subordination is often replaced by simple juxtaposition or parataxis. This has been shown to be the case cross-linguistically. For example, Miller and Weinert (1998) and Miller (2011) find unintegration and fragmentation in spoken English, German, and Russian, Zemskaja (1973) in Russian, Sornicola (1981) in Italian, and Austin (1981), Morphy (1983), and Macgregor (1988) in Australian Aboriginal languages. With specific reference to relative clauses, Lapteva (1976) and Minlos (2012) find unintegration in Russian, Deulofeu (1981) finds it in French, Fiorentino (2007) in Italian, Fried (2010) in Czech, and Murelli (2011) in a number of European languages. Besides relative clauses, studies such as Hopper and Thompson (2018) and Miller (2011) find unintegration in other spoken structures: *wh*-clefts, *th*-clefts, complex NPs, NPs + complement clauses, the ‘thing-is’ construction, and various types of amalgam syntax constructions.

Analysis of the syntax of spontaneous spoken Polish, however, has so far been very limited if not virtually nonexistent. Studies such as Gołąb and Friedman 1972, Bondaruk 1995, Lavine 2003, and Szczegieliński 2004 are largely based on introspective data which include regular, integrated *co* clauses. However, as indicated in section 2, such regular *co* relative clauses

represent the complementizer *co* in its basic relativizing function, and other uses indicated in section 2 have been largely overlooked. This paper seeks to fill this research gap by looking into naturally occurring unintegrated relative clauses to illustrate these other functions. In a wider perspective, the syntax of spoken discourse is shown to be different than the syntax of written language. Specifically, it is structurally less integrated (*co* clauses are less integrated than the standard *który* clauses) but at the same time more complex in the sense that *co* clauses and the word *co* itself have a wider range of functions in speech. It is important to note that these properties of spontaneous speech are not to be seen as mere disfluencies; they should rather be seen as properties of the syntax of unplanned speech, which in many respects is different from written language, as shown by the studies cited above. As will be shown, the Polish data fit many of the observations made by others on relative clauses in other languages. Below, we review the key points made by Miller and Weinert (1998) and Miller (2011), who make insightful comments about English *that* and *which*.

Miller (2011: 183) argues that both *that* and *which* diachronically developed from pronouns to conjunctions, with *which* still retaining its parallel pronominal use and *that* losing all of its pronominal features along the way. *That* is different from *which* and other true pronouns in that (1) it is invariable in form as opposed to personal pronouns (*he-him*) and relative pronouns (*who, which, whose, whom*), (2) it does not introduce nonrestrictive relatives, and (3) it cannot occur with pied-piped prepositions, which must be postposed at the end of the clause (e.g., *the book that I found the quote in* vs. *the book in which/\*that I found the quote*). Keeping in mind these differences between *that* and *which*, the two share similar additional uses in spontaneous speech, which are discussed below.

Miller and Weinert (1998: 104–11) and Miller (2011: 26–29, 181–83) argue that in spontaneous spoken English *which* can be used in unintegrated relative structures in which it is associated with an antecedent NP but without the expected gap in the *which* clause—instead, the *which* clause has a complete set of arguments, as in (13). The entire complex is not bound together by the tight structural network typical of classic *wh*-relative clauses.

- (13) You have a little keypad down here **which** you can use your mouse to click on the keys. (Miller 2011: 28)

This use of *which* in (13) is paralleled by the similarly unintegrated *that* relative in (14):

- (14) a filing cabinet **that** you can only open one drawer at a time (Miller 2011: 28)

Although *which* in examples such as (13) may be seen as a relative pronoun introducing an unintegrated relative clause, Miller and Weinert (1998: 110–11) and Miller (2011: 29) suggest that it might be better treated as a general conjunction or discourse connective linking chunks of discourse in a way similar to the conjunction *and*. Another example of such use is in (15). A parallel example with *that* is in (16).

(15) put little bits of bacon on **which** the fatter they are the better  
(Miller 2011: 27)

(16) some people lift the phone **that** you think you've interrupted a suicide attempt  
(Miller and Weinert 1998: 110)

Miller and Weinert propose that the *that* clause in (16) may not be a relative clause at all, and *that* may not be a straightforward complementizer; rather, *that* may be seen as a general conjunction signalling some type of general subordination link. In this respect, the use of *that* in (16) is parallel to the connective use of *which* in (17).

(17) A: this was what I wondered if it was basically these families that were still in the dumbiedykes  
B: no well actually there's one or two that went in **which** so happens that I'm a member of the kirk just locally here the kirk o'field church which is the parish of the dumbiedykes area  
(Miller 2011: 28)

The chunks of syntax following *that/which* may be syntactically independent, Miller and Weinert write, but they are interpreted as expressing properties of the referent from the previous chunk. In information processing terms, the head noun establishes a referent—or cues the listener to open an information file about a specific referent—and the following *that/which* informs the listener to add to this file information supplied in the relative clause (examples (13) and (14)). In cases like (16) and (17), however, there is no specific referent that *which* and *that* point to; instead, *that* and *which* signal a general subordination/coordination link. The nature of the relationship between the two chunks of a sentence may vary. Miller (2011: 183) argues that the connectives *which* and *that* may be seen as weak subordinating conjunctions indicating roughly 'what I'm about to say follows from what I've just been saying'.

To sum up and foreshadow our discussion of Polish *co* clauses: in spontaneous speech, *which* and *that* are often better analyzed as general conjunctions or discourse connectives, which also appear in structures without a clear referent expressed by a preceding NP. As we will see, such unintegrated uses

of *that* and *which* as conjunctions and discourse connectives are paralleled in many ways in Polish *co* clauses.

#### 4. The Corpus and Data

The data in this paper come from Spokes (Pęzik 2015), which is a corpus of conversational spoken Polish consisting of over two million words. Much of the corpus's transcribed material is aligned with audio data, and it is only this section of the corpus that has been used in the present study. The reason for this is that the audio material has been used to verify that the transcripts are accurate and to ensure that only relevant tokens of *co* are taken into account. In sum, audio material is available for approximately 77% of the corpus texts, which translates into approximately the 1.6 million words which were used in this study.

A sample of data was collected from Spokes by an exhaustive search of all occurrences of the word *co*. Each occurrence was manually inspected and only relevant tokens of *co* were collected. The results obtained in the search were divided into three groups, as presented in Table 1.

**Table 1:** *co* clauses in Spokes

	<i>co</i> clauses
Subject clauses	422 (51.9%)
Integrated object clauses	180 (22.1%)
<b>Unintegrated clauses</b>	<b>211 (25.9%)</b>
<b>Total</b>	<b>813 (100%)</b>

Of the relevant items observed, 422 are subject clauses such as that in example (1), and 180 are straightforward object clauses (accusative and oblique) such as those in examples (2) and (3), in which the head nouns are syntactic and logical complements of the relative-internal verb. Neither of these are the subject of this analysis. Our focus is on the remaining 211 unintegrated *co* clauses—represented by example (5)—which display different syntactic functions of *co* and a number of distinct unintegration features.<sup>8</sup> In such cases, the word *co* may be better seen as something else rather than a complementizer. For such uses of *co*, alternative treatment is suggested in section 5. The relevant un-

<sup>8</sup> Subsumed under the 211 unintegrated items are all the clause types discussed below representing the different functions (section 5) and unintegration features (section 6) except the minor unintegration effect represented in examples (36) and (37) in section 6.2.

integration features, which are in one way or another related to particular functions of *co*, are illustrated and discussed in section 6.

Corpus material is cited in this article in the original spelling and punctuation. One exception is the occasional use of the hash mark (#) to indicate breaks between intonational units in examples which otherwise would have been difficult to understand in writing. While the majority of language data discussed below come from Spokes, certain points are made with constructed or modified sentences (i.e., modified Spokes examples). Accordingly, examples are marked ‘Spokes’, ‘constructed’, or ‘modified’.

## 5. The Syntactic Functions of *co*

This section discusses four functions of *co* besides the function of a straightforward relativizer (in a gapped relative structure), which is not discussed. The following uses are presented: a weakly subordinating conjunction, a general discourse connective (i.e., a weakly coordinating conjunction), a time-reference conjunction, and a place-reference conjunction. The four uses may be seen as functional extensions of the relativizer, although two of them—the place- and time-reference conjunctions—are semantically richer because of the added spatial and temporal dimensions.

### 5.1. *Co* as a Weakly Subordinating Conjunction

Consider example (18).

- (18) (Spokes)
- |           |            |                             |                    |                |                  |                       |           |             |
|-----------|------------|-----------------------------|--------------------|----------------|------------------|-----------------------|-----------|-------------|
| że        | się        | dogadają                    | o                  | tych           | #                | o                     | tym       | terminie    |
| that      | REFL       | work.out <sub>3PL.FUT</sub> | about              | these          |                  | about                 | this      | deadline    |
| <b>co</b> | <b>nie</b> | <b>przysła</b>              | <b>jej</b>         | <b>tych</b>    | <b>alimentów</b> | <b>bo</b>             | <b>on</b> | <b>mówi</b> |
| CO        | not        | sends <sub>3SG</sub>        | her <sub>DAT</sub> | these          | alimony          | because               | he        | says        |
| słuchaj   | może       | do                          | tego               | komornika      | nie              | idź                   |           |             |
| listen    | maybe      | to                          | this               | debt.collector | not              | go <sub>2SG.IMP</sub> |           |             |
| jakoś     | się        | dogadamy                    |                    |                |                  |                       |           |             |
| somehow   | REFL       | work.out <sub>2PL.FUT</sub> |                    |                |                  |                       |           |             |
- ‘that they can work it out with those, with this deadline that he doesn’t send her the alimony, because he says, listen, perhaps you shouldn’t go to this debt collector, we can work it out’

In terms of syntactic structure, example (18) is not a typical relative, as there is no gap normally expected in relatives (cf. the gapped *ten termin co ustaliliśmy o* ‘the deadline that we set o’). The *co* clause supplies information relevant to the

referent expressed in the relativized noun, but the nature of this relationship cannot be stated in object-verb terms as *tym terminie* is not a structural argument of the verb *przesyłać* 'send'. However the two are to be interpreted as related in a way akin to subordination (i.e., the utterance should be interpreted as *o tym terminie, którego nie dotrzymuje przysyłając jej alimenty* 'the deadline that he doesn't keep for sending her the alimony'). In this sense then, *co* acts here as a weakly subordinating conjunction.

In the original utterance, there is no 'keep' to go with 'the deadline', the keeping of the deadline is not overtly expressed. Instead, the speaker effectively says 'the deadline that he doesn't send her the alimony by'. Syntactically, the utterance is unintegrated; conceptually, the message that is conveyed is marked by a certain type of mental shortcut or conceptual ellipsis on the part of the speaker. Both the syntactic unintegration and conceptual simplification are realized through *co* used as a weakly subordinating conjunction. The pragmatic advantage of *co* in this function over a *który* clause is precisely the ease of putting together loose pieces of discourse, thus overcoming the real-time production constraints on such relatively complex constructions as full-blown *który* relative clauses.

Consider also the exchange in (19), in which speaker A says she is glad to have guessed correctly her (presumably) grandson's sock size.

(19) (Spokes)

- A: *trafiłam Stasiowi dwadzieścia pięć # no przecież nie*  
 guessed<sub>1SG</sub> Staś<sub>DAT</sub> twenty-five PART but not  
*wiedziałam jaki ma rozmiar.*  
 knew<sub>1SG</sub> what has<sub>3SG</sub> size
- B: *a buty mu też kupowałaś?*  
 and shoes him<sub>DAT</sub> too bought<sub>3SG</sub>
- A: *a nie no te skarpetki co dwadzieścia pięć*  
 well no PART these socks CO twenty-five  
***trafiłam.***  
 guessed<sub>1SG</sub>
- A: 'I guessed correctly/found twenty-five for Staś, I mean I didn't know his size.'
- B: 'Did you buy him shoes too?'
- A: 'No, I mean these socks that I guessed correctly/found twenty-five.'

Although *te skarpetki* 'these socks' may seem to be the head NP, the following chunk *co dwadzieścia pięć trafiłam* 'that I guessed correctly/found twenty-five' is an unusual modifier of the head. At first glance, *te skarpetki* may seem to

be the object complement of the verb *trafiłam* ‘I found’, and on this analysis, the utterance may be interpreted as ‘she was lucky to find socks’. This leaves the awkwardly unintegrated *dwadzieścia pięć* ‘twenty-five’ in the middle of the clause. The numeral is poorly integrated into the entire structure, and its communicative contribution to the utterance is unclear. It is also difficult to account for its status in terms of canonical syntactic structure. The context suggests that the numeral is to be interpreted as contributing the idea of ‘she was lucky to find socks in size 25’; this, however, is doubtful against the context of the first line, which is very similar to the third. In it there is a different object for the same verb—it is *dwadzieścia pięć*, that is, the size rather than the socks. An alternative reading presents itself—one that is supported by the fact that the verb *trafiłam* is here ambiguous between ‘be lucky to find (a bargain)’ and ‘be lucky to guess (the size)’. Each of these paraphrases invites a different interpretation of what constitutes the object complement of the verb. This is a situation in which a loose and ambiguous structure offers only a vague clue as to the correct reading; the position of *te skarpetki* suggests that this is the object of the verb, but instead, the preceding discourse (*no przecież nie wiedziałam jaki ma rozmiar*) is a more useful indication. Given that the third line is a slightly modified repetition of the first line, *dwadzieścia pięć* is likely to be the object of the verb *trafiłam*, and the utterance is to be interpreted as ‘she was lucky to guess the size of the socks to be 25’. In a more integrated relative clause, the last line in (19) might be rephrased as (20).

(20) (modified)

Te skarpetki, **których** rozmiar trafnie zgadłam jako 25.  
 these socks whose size correctly guessed<sub>1SG</sub> as 25  
 ‘These socks whose size I guessed correctly to be 25.’

Examples (18) and (19) show that *co* may act as a link between syntactic chunks which are not connected by a straightforward relative structure because the head NP does not fill in an empty slot in the *co* clause. This linear gapless structure often results in interpretational ambiguity. Note that *co* as a relativizer and *co* as a weakly subordinating conjunction may offer different readings, as in example (21).

(21) (Spokes)

ma jedno zdjęcie **co** tam niby jest na wystawie  
 has<sub>3SG</sub> one photo **co** there as.if is on display  
 jakiejś w sklepie  
 some in shop

‘She has one photo in which apparently she is in a shop display’

On a simple relative reading, the sentence means (*ona*) *ma jedno zdjęcie, które jest na wystawie jakiejś w sklepie* ‘she has one picture that is in a shop display’. However, on an alternative reading involving a less integrated structure with *co* as a weakly subordinating conjunction, the sentence may also mean (*ona*) *ma jedno zdjęcie, na którym ona jest na wystawie jakiejś w sklepie* ‘she has one photo in which she is in a shop display’. In fact, this is the intended meaning of the original utterance in Spokes.

In examples (18), (19), and (21), the function of the *co* clauses may be seen as essentially convergent with the basic function of a relative clause (i.e., to modify the relativized noun and to identify its referent).<sup>9</sup> However, the examples depart not only from the standard *który* clause but also from those *co* clauses in which the relativized noun is the subject or object of the *co* clause (as in (1) and (2)), and in which there is a gap where the NP was ellipsed, (*te jabłka co masz ø na stole* ‘the apples that you have ø on the table’). Instead, the *co* clauses are complete clauses with no gaps, and they have some relevance to the referent expressed in the head. The preceding NP is not the structural object of the main clause (there is no gap), and the syntactic and semantic relationship between the two is idiosyncratic and context-dependent, especially in (18) and (19).

## 5.2. *Co* as a General Discourse Connective (Indicating a General Coordination/Subordination Link)

*Co* may also act as a general discourse connective or a weakly coordinating conjunction in the sense that the *co* clause is loosely connected to the preceding discourse rather than to a clearly specified antecedent. Consider example (22):

- (22) (Spokes)
- |                      |                                   |               |                     |                       |
|----------------------|-----------------------------------|---------------|---------------------|-----------------------|
| szyła                | pamiętam                          | tylko że      | ojciec za           | bardzo się            |
| sewed <sub>3SG</sub> | remember <sub>1SG</sub>           | only that     | father too          | much REFL             |
| jakby                | nie wrywał                        | żeby to       | wiesz               | wozić                 |
| kind.of              | not jumped.forward <sub>3SG</sub> | to it         | know <sub>2SG</sub> | transport             |
| i                    | rozprowadzać #                    | <b>co tam</b> | <b>była wojna</b>   | <b>na ten temat #</b> |
| and distribute       | co there                          | was war       | on this             | subject               |
|                      | zrezygnowała                      |               |                     |                       |
|                      | gave.up <sub>3SG</sub>            |               |                     |                       |

<sup>9</sup> Example (21) may alternatively be seen as representing the characterization function of relative clauses rather than the identification function, as distinguished by Fried (2011).

- (22) ‘She did sew, I remember, only father wasn’t really eager to, you know, transport and distribute it, which/and there was a war about this issue. She gave up.’

In (22), the *co* clause does not serve to identify the referent of a preceding NP. Instead, it is a comment relevant to the entire preceding discourse. Namely, the first part of the utterance introduces a situation that led to conflict between the speaker’s parents, and the *co* clause supplies the comment: the parents warred with each other because of the situation. *Co* may be paraphrased here simply as *and* or *so* and thus may be seen not as a relativizer but as a general connective combining two chunks of discourse. It has the semantics of a vague coordinating/subordinating conjunction, and it is structurally dissociated from an antecedent (even a clausal proposition) which it might be said to relativize. Note that the *co* clause is not gapped, as would be expected in prototypical relatives modifying propositions such as (23).

- (23) (modified)  
 Ojciec się nie wyrywał żeby to wozić i  
 father REFL not jumped.forward<sub>3SG</sub> to it transport and  
 rozprowadzać, *co* spowodowało wojnę.  
 distribute *co* caused<sub>3SG</sub> war  
 ‘Father wasn’t eager to transport and distribute it, which caused a war.’

Another example is in (24).

- (24) (Spokes)  
 tam nie szło przekroić marchwi i ziemniaka żeby  
 there not went<sub>3SG</sub> to.cut carrot and potato so.that  
 nie pękło # to samo się zaczyna z marchwią  
 not cracked<sub>3SG</sub> it same REFL begins with carrot  
 robić tu w Polsce nie # *co* jeszcze w zeszłym roku  
 to.make here in Poland no *co* still in last year  
 się dziwiłam to teraz kurwa za każdym razem  
 REFL was.surprised<sub>1SG</sub> PART now fuck every.time  
 when cut<sub>1SG</sub>  
 jak przekrajam [incomplete]  
 ‘Over there you couldn’t cut a carrot or potato without cracking it, the same thing is beginning to happen to carrots here in Poland, right? While only last year I would be surprised, now every fucking time I cut [incomplete]’

In (24), the *co* clause does not relativize an antecedent: it does not modify a nominal head, and it does not modify the proposition expressed by the preceding clause, at least not by way of the structure typical of relativization. Note that the corresponding relative clause modifying the preceding proposition would be the gapped *co* *mnie dziwiło* ‘which surprised me’ while the original has the gapless *co* [...] *się dziwiłam* ‘which/while I was surprised’. Further, the *co* clause seems to have a connection to the following clause in that the two are conjoined by the connectives *co* and *to*, the combination of the two expressing concessive meaning (*while A, B*). In sum, the *co* clause indirectly comments on the proposition of the preceding clause but is connected by means of conjunctions to the following clause. As for the function of *co*, it is better seen here not as a relativizer but as a general discourse connective. Also, in combination with *to*, the correlative *co...to...* forms a concessive element.

In the function of a general connective, *co* is paralleled by English *that* and *which* (see section 3). Examples (15–17) illustrate such uses of *that* and *which*, and examples (22) and (24) illustrate a similar phenomenon for Polish *co*.

### 5.3. *Co* as Time- and Place-Reference Conjunctions; No Head NP

In colloquial Polish there is a time-reference expression—*wtedy, co* ‘when’ (literally ‘then that’), illustrated in (25)—which in spontaneous speech is often ellipted to *co*, as illustrated in (26).

- (25) (Spokes)  
 jak my startowaliśmy na Materhorn **wtedy co** czekaliśmy  
 when we started<sub>1PL</sub> on Matterhorn then co waited<sub>1PL</sub>  
 na okazję  
 on ride  
 ‘When we set off for the Matterhorn, when we tried to hitch a hike’

- (26) (Spokes)  
 Jak byliśmy na piwie **co** była ta Magda  
 when were<sub>1PL</sub> for beer co was<sub>3SG</sub> this Magda  
 ‘When we went for a beer, when this Magda came’

While *co* in (26) may be seen as the ellipted (*wtedy,*) *co*, this is not clear at all; it may well be treated again as a general-purpose conjunction connecting two clauses—this time with the temporal meaning of ‘when’. Note that there is no head NP which might point to a relative clause interpretation.<sup>10</sup>

<sup>10</sup> Cf. Fried’s (2011: 70–71) discussion of temporal *co* clauses in Czech, although her examples are more relative-like in that they are clearly headed by nominal temporal

*Co* may also be used as a place-reference marker—a conjunction akin to English *where*. This locative *co* is typically paired with the locative adverbs *tu/tutaj* ‘here’ and *tam* ‘there’, as in (27).

- (27) (Spokes)  
 tam co są okulary też z boku  
 there co are glasses too beside  
 ‘Where there are glasses next door’ (=‘Where they sell glasses next door’)

The use of *co* as a locative conjunction is best visible in cases where it stands on its own without a head element. In example (28), *co jest szafka* ‘where the cabinet is’ is a headless clause intended to help identify the location of an item. In this example, *co* acts as a place-reference conjunction and may be replaced with the correlative complex *tam, gdzie* ‘where’ (lit. ‘there where’).

- (28) (Spokes)  
 potem te rzeczy które są w szafce # tam gdzie  
 then these clothes which are in cabinet there where  
 kiedyś była wiera to pod spodem **co jest**  
 once was stereo.system PART below co is  
**szafka** to są takie rzeczy  
 cabinet PART are these clothes  
 ‘Then the clothes which are in the cabinet. Where the stereo system once was, below that, where the cabinet is, there are these clothes.’

#### 5.4. Interim Summary: The Functions of *co* and Unintegration

The strength of the ties between the head and the corresponding *co* clause decreases along the scale relativizer > weakly subordinating conjunction > discourse connective/time- and place-reference conjunctions. In this sense then, unintegration increases along the same scale. At the same time, of the three functions, it is the weakly subordinating conjunction that is associated with the highest degree of idiosyncrasy and context-dependency when it comes to the exact semantic relationship between the head and the *co* clause. The reason is that in this function and unlike the discourse connective, there is still some subordination connection—however ambiguous—between the relativized head and the *co* clause. This is illustrated in examples (5), (18), and (19).

At the same time, as will be shown below, the relativizer function is not completely free of unintegration, although the unintegration features ob-

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expressions (*doba* ‘time period’ and *neděle* ‘Sunday’).

served are of a different kind. They include nonstandard resumption (or lack thereof)—the subject of section 6.2. Another type of unintegration feature common to the relativizer and the weakly subordinating conjunction functions is preposition ellipsis (section 6.3) and a long-distance relationship between the head and the *co* clause (section 6.4). On the other hand, the time- and place-reference conjunctions are associated with a degree of semantic ambiguity—taken here to be another unintegration feature (section 6.5). A final summary of the association of the different functions of *co* with the degree of unintegration is offered in the Conclusion.

## 6. Unintegration Features

Below we review specific unintegration properties of *co* clauses. Note that one major feature has already been noted in virtually all the examples so far: the lack of the gap normally expected in relatives. We have also indicated another one: the idiosyncratic and context-dependent relationship between the head and the *co* clause, which is most common with *co* acting as the weakly subordinating conjunction. This is illustrated further in section 6.1. Other unintegration features include resumption-related phenomena (section 6.2), preposition ellipsis (section 6.3), a long-distance relationship between the head and the *co* clause (section 6.4), and semantic ambiguity of the time- and place-reference conjunction (section 6.5).

### 6.1. Interpretational Idiosyncrasy and Context-Dependency

As indicated in section 5.1, the relationship between the referent expressed in the head and the *co* clause may be ambiguous, idiosyncratic, or context-dependent. This is common when *co* acts as a weakly subordinating conjunction. Consider example (29).

- (29) (Spokes)  
 to pytanie co pani się zdenerwowała i wyszła  
 this question CO you<sub>HON</sub> REFL got.upset and left  
 ‘This question that you got upset and left’

In a more integrated version, (29) might be rephrased as *to pytanie, które panią zdenerwowało* ‘this question which upset you’ or *to pytanie, z powodu którego pani się zdenerwowała* ‘this question because of which you got upset’. In both paraphrases, the question is the cause of upset. However, the original utterance has looser syntax that is potentially ambiguous. Because of the lack of case marking on *co* (cf. the inflected forms of *któr-e* and *któr-ego*) and because of the reflexive form *się zdenerwowała* ‘became upset’, it is possible to interpret

the utterance in such a way that the question was not the cause of upset but is only used here as a frame of reference for the event. For example, it is possible that it was the woman who asked the question and was then upset by the interlocutor's answer. On such an interpretation, *to pytanie* 'this question' would be a reference to the situation when the question was asked rather than the question itself (note that *co* can be replaced in (29) by *kiedy* 'when'). The ambiguity cannot be resolved on the sole basis of the linguistic context of the utterance.

## 6.2. Nonmatching Case Forms and Lack of Required Resumptive Pronouns

The discussion of *co* clauses has often revolved around the problem of encoding grammatical relations such as case, gender, and number, which cannot be expressed overtly in the uninflected *co*. Consequently, the use of resumptive pronouns for this purpose has been a major consideration in the literature (Gołąb and Friedman 1972; Kardela 1986; Schlonsky 1992; Bondaruk 1995; Broihier 1995; Lavine 2003; Szczegielniak 2004; McCloskey 2006; Bošković 2009; Fried 2010; Gračanin-Yuksek 2010; Minlos 2012; Chidambaram 2013; Hladnik 2015).

Resumption is relevant to this study in that it is another factor affecting the (un)integration of *co* relative clauses. In Polish, resumptives are usually used for animate referents (with exceptions found in the corpus data). But they are frequently not used for inanimates in the accusative, for example, *ten co (go) helikopterem wozili* 'the one they carried in a helicopter' (if present, *go* implies an animate referent, the absence of *go* suggests an inanimate referent; cf. Guz 2017). However, the omission of resumptives may undermine integration, especially when nonaccusative positions are not overtly resumed; cf. examples (30) and (31).

(30) (Spokes, low integrity)

Tamte co używałaś {to tak pachniało jak się go wycierało}  
 those<sub>NOM</sub> CO used<sub>2SG</sub> [trace<sub>GEN</sub>]

'The ones you used to use, such a nice smell when you cleaned him'

(31) (modified, improved integrity)<sup>11</sup>

Tamte co **ich** używałaś {...}  
 those<sub>NOM</sub> CO they<sub>GEN</sub> used<sub>2SG</sub>

'The ones you used to use'

<sup>11</sup> For these considerations of the relative acceptability or felicitousness of the presence or absence of resumptives, I resort to my judgment as a native speaker. This approach combines the use of corpus data and introspection, which complement each other.

Note that in (30) the nominative head does not match the genitive trace, producing a somewhat discordant combination. The genitive resumptive in example (31) mediates to resolve the mismatch and improve integration. The same is the case in (32), where the genitive of negation requires a genitive object and is mismatched with the accusative head *te*. The problem is resolved with the inclusion of an appropriately inflected resumptive in (33).

- (32) (Spokes, low integration)
- |       |                       |          |                      |    |     |                             |
|-------|-----------------------|----------|----------------------|----|-----|-----------------------------|
| może  | rozbrajaj             | najpierw | te                   | co | nie | widać.                      |
| maybe | disarm <sub>IMP</sub> | first    | these <sub>ACC</sub> | co | not | be.seen [t <sub>GEN</sub> ] |
- ‘Maybe you should first disarm the ones that cannot be seen’

- (33) (modified, improved integration)
- |       |                       |          |                      |    |                     |     |
|-------|-----------------------|----------|----------------------|----|---------------------|-----|
| może  | rozbrajaj             | najpierw | te                   | co | <b>ich</b>          | nie |
| maybe | disarm <sub>IMP</sub> | first    | these <sub>ACC</sub> | co | they <sub>GEN</sub> | not |
- widać.  
be.seen
- ‘Maybe you should first disarm the ones that cannot be seen.’

Note that the omission of the resumptive is more felicitous and does not compromise clause integration when the head NP is appropriately inflected for the same case as that of the trace (i.e., genitive in both examples).

- (34) (modified, based on example (30))
- |     |         |          |                      |    |                              |
|-----|---------|----------|----------------------|----|------------------------------|
| Nie | mamy    | już      | <b>tamtych</b>       | co | używałaś                     |
| not | we.have | any.more | those <sub>GEN</sub> | co | you.used [t <sub>GEN</sub> ] |
- ‘We no longer have the ones you used’

- (35) (modified, based on (32))
- |       |     |                       |                      |    |     |                             |
|-------|-----|-----------------------|----------------------|----|-----|-----------------------------|
| Może  | nie | rozbrajaj             | <b>tych</b>          | co | nie | widać                       |
| maybe | not | disarm <sub>IMP</sub> | these <sub>GEN</sub> | co | not | be.seen [t <sub>GEN</sub> ] |
- ‘Maybe you should not disarm the ones that cannot be seen’

To a lesser degree, the same case-matching effect is also observed with accusative forms when they are not syncretic with the corresponding nominative forms. For example, with Polish feminine nouns, nominative and accusative forms are contrastive and so a pairing of the nominative (in the head) with the accusative (in the trace) produces a slightly less integrated result than when the head and trace are both in the accusative (cf. (36) vs. (37)).<sup>12</sup>

<sup>12</sup> Examples (36) and (37) are shown here to illustrate the case-matching effect. The resulting unintegration, however, is minimal, and these kind of examples are not

- (36) (Spokes, integration lower than in (37))  
 to jest ta co przywiozłam?  
 it is this<sub>NOM.F</sub> co brought<sub>1SG</sub> [t<sub>ACC</sub>]  
 'Is it the one I brought?'
- (37) (modified, improved integration)  
 masz gdzieś tę co przywiozłam?  
 you.have somewhere this<sub>ACC.F</sub> co brought<sub>1SG</sub> [t<sub>ACC</sub>]  
 'Have you got the one I brought somewhere here?'

To conclude this section, resumption is a factor relevant in the integration of *co* relative clauses. Namely, structural integration improves when nonaccusative positions are overtly resumed in clauses where the case of the head does not match that of the trace. The omission of resumptives in nonaccusative positions produces more felicitous results when the cases match.

### 6.3. Preposition Ellipsis

Miller and Weinert (1998: 105–10) report that in spontaneous spoken English most relative clauses are introduced by *that* or zero. Since *that* is uninflected, resumptives are commonly used to express, for example, possessives or oblique objects as in *the girl that her eighteenth birthday was on that day* and *the girl that I gave her the book*, which are equivalent to *the girl whose eighteenth birthday was on that day* and *the girl to whom I gave the book*. When prepositions are used, pied piping is impossible with *that*, and prepositions appear at the end of the clause (*the book that I found the quote in*). The authors also note that the prepositions are frequently omitted, as in (38) and (39), where the reconstructed prepositions are in parentheses:

- (38) of course there's a rope **that** you can pull the seat back up [with]
- (39) I haven't been to a party yet **that** I haven't got home [from] the same night

Similarly, the omission of prepositions is common in Polish *co* relative clauses.<sup>13</sup> Additionally, along with the preposition, a resumptive pronoun referring to the relativized head is omitted. Although the resumptive pronoun is obligatory when it is a prepositional complement—as in (40)—the preposition can be

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counted in our sample of 211 unintegrated *co* clauses.

<sup>13</sup> Minlos (2012: 80–81) also gives examples of preposition dropping in Russian.

dropped—as in (41–44)—and so can the resumptive, as there is no preposition for it to complement.

(40) (Spokes)

to Gula ten **co** Paweł z Ewą opowiadali **o**  
 it Gula this **co** Paweł with Ewa<sub>INS</sub> told<sub>3PL</sub> about  
**nim** ostatnio  
 he<sub>LOC</sub> recently

‘It’s Gula, the one that Paweł and Ewa talked about recently’

(41) (Spokes)

nie jadam tych owoców przez te robale **co**  
 not eat<sub>1SG</sub> these fruits because.of these worms **co**  
 mi opowiedziałaś # koniec  
 me<sub>DAT</sub> told<sub>2SG</sub> end

‘I don’t eat this kind of fruit, because of the worms you told me about. No more!’

(42) (Spokes)

ale to już wcześniej z tym chłopakiem mieszkałaś  
 but it already earlier with this boy lived<sub>2SG</sub>  
**co** teraz mieszkasz?  
**co** now live<sub>2SG</sub>

‘So you were already living with that guy that you’re now living (with)?’

(43) (Spokes)

pochodziłem po ludziach **co** byłem wcześniej poumawiany  
 went<sub>1SG</sub> over people **co** was<sub>1SG</sub> earlier arranged

‘I dropped by on the people that I had made arrangements (with)’

(44) (Spokes)

pożyczyłam sobie taką kaczkę **co** się wkłada rękę i  
 borrowed<sub>1SG</sub> REFL such duck **co** REFL put<sub>3SG</sub> hand and  
 ona gada niby  
 she talks as.if

‘I borrowed this duck that you put your hand (in) and it sort of talks’

A more integrated version of (41) might be *przez te robale o których mi opowiedziałaś*—with the *wh*-pronoun *któr-y* and the pied-pied preposition *o*—or *przez te*

*robale co mi o nich opowiedziałaś*—with *co* and a postposed preposition accompanied by the resumptive pronoun *nich*. Examples (42–44) can be rephrased in an analogical fashion to improve their structural cohesion.

Compared to the highly unintegrated examples in section 5.1, in which the relationship between the relativized head and the *co* clause is context-specific and cannot be easily expressed with traditional syntactic descriptors such as ‘direct/oblique object’, the data in this section are relatively transparent for syntactic analysis. In examples (41–44), the relativized NPs are oblique objects of the (underlyingly) prepositional verbs, although the prepositions themselves are omitted. In other words, in these examples the *co* clauses are not complete gapless clauses; in each there is a trace position—typical of relative clauses—that is co-referential with the head noun; cf. the co-referentiality of the heads and the parenthesized traces in *te robale co mi opowiedziałaś (o tych robalach)* and *z tym chłopakiem mieszkalaś co teraz mieszkasz (z tym chłopakiem)*. This points to the conclusion that examples (41–44), despite the degree of unintegration produced by preposition omission, are closer to classic relative clauses than the examples from section 5.1, which arguably represent a different type of construction—one that is without a gap and in which *co* is a weakly subordinating conjunction. With reference to these facts, I propose the following scale of decreasing integration (version 1):

- (1) regular *co* relative clause > (2) *co* relative clause with preposition (and resumptive) omission > (3) *co* + gapless clause (head noun is not the subject/object of the *co* clause)

It seems that another factor relevant to the fluctuation in the degree of unintegration is the presence of another preposition in front of the head. Consider example (45).

- (45) (Spokes)  
 Karolina mówiła że **na to wesele co pojedziemy** mówi  
 Karolina said that on this wedding *co* *go*<sub>IPL.FUT</sub> *say*<sub>3SG</sub>  
 trzeba jakąś *holbkę* załatwić nie?  
 aux some *holbka*<sub>ACC</sub><sup>14</sup> arrange no  
 ‘Karolina said that to this wedding we’re going (to), she says we should take some *holbka*’

In (45) the preposition *na* in front of the head is identical to the one that has been dropped in the *co* clause, cf. *na to wesele co (na nie) pojedziemy* ‘to this wedding we’re going (to)’. When this is the case, the dropped preposition is

<sup>14</sup> In the reported speaker’s idiolect, *holbka* is some type or brand of vodka.

more readily recoverable and consequently the utterance is better integrated than it would have been otherwise. Consider the modified version of (45) in (46), in which a different preposition is introduced while retaining the same (phantom) preposition *na* in the *co* clause. The combination of nonidentical prepositions produces a less felicitous result.

- (46) (modified)  
**przed** tym weselem **co** pojedziemy  
 before this wedding *co* *go*<sub>IPL.FUT</sub>  
 ‘before this wedding we’re going (to)’

Let us run the same test of preposition compatibility with examples (41–43). The relevant clauses are reproduced below along with their modified versions.

- (47) (Spokes)—based on (41)  
**przez** te robale **co** mi opowiedziałś  
 ‘because of the worms you told me’
- (48) (modified; better integration)—based on (42)  
**o** tych robalach **co** mi opowiedziałś  
 ‘about those worms you told me’
- (49) (Spokes; better integration)—based on (43)  
**z** tym chłopakiem mieszkałaś **co** teraz mieszkasz  
 ‘with that guy that you’re now living (with)’
- (50) (modified)  
**za** tym chłopakiem się uganiałaś **co** teraz mieszkasz  
 ‘you were chasing after that guy that you’re now living (with)’
- (51) (Spokes)  
**po** ludziach **co** byłem wcześniej poumawiany  
 ‘on people I had arranged to meet (with)’
- (52) (modified; better integration)  
**z** ludźmi **co** byłem wcześniej poumawiany  
 ‘with people I had arranged to meet (with)’

In each case, integration improves when identical prepositions are paired. I conclude that relative clauses with preposition omission have looser integration when the preposition governing the head is different from the one that is

dropped in the *co* clause. This finding is added to the scale of decreasing integration proposed above in the revised version (2) below. On top of that, the observation from section 6.2 pertaining to the lack of resumption is also added.

- (1) regular *co* relative clause > (2) omission of resumptives in nonmatching case form configurations > (3) *co* relative clause with preposition (and resumptive) omission; (3a)  $\text{prep}_1 = \text{prep}_2$  > (3b)  $\text{prep}_1 \neq \text{prep}_2$  > (4) *co* + gapless clause (head noun is not the subject/object of the *co* clause)

In Spokes preposition ellipsis is evident in 37 (17%) straightforward cases, represented above in examples (41–45). However, there are 26 (12%) other cases which are less straightforward to analyse. Consider example (53), in which *co* may be seen as a result of preposition ellipsis (ellipted from *co w nim* ‘that in it’) or as a place-reference conjunction similar to *gdzie* ‘where’ (see section 6.5 for a discussion of such ambiguity).

- (53) (Spokes)
- |       |      |           |                      |       |    |       |            |       |
|-------|------|-----------|----------------------|-------|----|-------|------------|-------|
| tam   | jest | w         | Toruniu              | sklep | co | można | wszystko   | kupić |
| there | is   | in        | Toruń <sub>LOC</sub> | shop  | co | AUX   | everything | buy   |
|       | co   | potrzeba  |                      |       |    |       |            |       |
|       | co   | one.needs |                      |       |    |       |            |       |
- ‘There’s a shop in Toruń that (in it)/where you can buy everything you need’

#### 6.4. Long-Distance Relationship with the Head

Another unintegration property of some *co* clauses is their long-distance relationship with the head. The *co* clause can be separated from it and appear in a subsequent conversational turn. In example (54), a series of three *co* relative clauses is scattered over multiple turns and even across the speakers, both of whom connect their *co* clauses back to the same relativized NP in the first line.

- (54) (Spokes)
- A: cekaes czy coś takiego # jakiś to program jest  
 CKS or something such some it program is
- o tych żołnierzach co to  
 about these soldiers CO PART
- B: y y jak to się nazywa  
 uhm how it REFL call<sub>3SG</sub>
- A: co oni # co niektórzy # zawodowi  
 co they co some<sub>M.PL</sub> professional<sub>M.PL</sub>

- (54) B: marynarka y to jest kawaleria powietrzna  
 navy uhm it is cavalry air<sub>ADJ</sub>
- A: no **co oni ćwiczą** no jakieś tam jest to właśnie  
 PART CO they exercise PART some there is it just  
 tam  
 there
- B: kawaleria powietrzna # **co oni biegną i śpiewają**  
 cavalry air<sub>ADJ</sub> CO they run<sub>3PL</sub> and sing<sub>3PL</sub>
- A: 'CKS or something, there's this program about those soldiers  
 that'
- B: 'Mm, what is it called?'
- A: 'Where they, where some of them, professional ones'
- B: 'The navy, I mean, air cavalry'
- A: 'Yeah, where they go into training, yeah, this kind of thing'
- B: 'Air cavalry, where they run and sing'

Although the *co* clauses are formally disconnected from the head, there is also a cohesion effect that holds the entire exchange together. It is created collectively by the series of the *co* clauses that all connect back to the same head noun. The discourse is co-constructed by the speakers with this network of *co* clauses, all going back to the same head.

There is, however, a degree of ambiguity as to what exactly the head NP is. It can be construed as either the soldiers themselves (*tych żołnierzach*) or the program about the soldiers (*program...o tych żołnierzach*). The *co* clauses are unintegrated enough to allow for this ambiguity. There is one clue though: as subject NPs are not resumed in relatives in Polish (*o tych żołnierzach, co (\*oni) ćwiczą*), the pronoun *oni* 'they' seems to point to *program* as the head, and *oni* is another argument involved in the construction. At the same time, it is clear from the mention of the soldiers that *oni* refers to the soldiers. In the exchange, the speakers try to remember the name of the program, and to do so, they describe to each other what happens in it, what the soldiers do—they exercise, run, and sing. Therefore, the *co* clauses in the fifth and sixth turns are best interpreted as in (55) and (56). Note also the ellipsis of the preposition and accompanying resumptive (*co oni [w nim] ćwiczą*), as discussed in the previous section.

- (55) jakiś program [...], *co oni ćwiczą* = jakiś program, w którym oni  
 ćwiczą  
 'some program in which they exercise'

- (56) jakiś program [...], co oni biegają i śpiewają = jakiś program, w którym oni biegają i śpiewają  
 ‘some program in which they run and sing’

However, the fragmented third turn (*co oni, co niektórzy, zawodowi*) is more complex in that it includes incomplete *co* clauses referring back to one or the other antecedent: the first chunk with the pronoun *oni* is similar to (55) and (56) in that *program* seems to be the head. On the other hand, in the speaker’s subsequent reformulation, *niektórzy* ‘some<sub>M.PL</sub>’ and *zawodowi* ‘professional<sub>M.PL</sub>’ make more sense when construed as connecting back to *żołnierzach* as the head (cf. *o tych żołnierzach, co niektórzy, zawodowi* vs. *?jakiś program, co niektórzy, zawodowi*).

The use of *co* clauses with their inherent unintegration has some advantages over the more integrated *który* clauses. Because of real-time production limitations, the physical separation and long-distance relationships would be rather difficult to handle with *który* clauses. Speakers would have to deal with case and number marking, and additional items would be necessary. Assuming the reading in which the program is the head, *który* would have to be appropriately inflected for masculine gender, locative case, and singular number, and it would have to be accompanied by the anaphoric pronoun *ten* ‘the one’ and the preposition *w* ‘in’ (*ten, w którym oni ćwiczą; ten w którym biegają i śpiewają*). The *co* clause offers a convenient alternative in which no additional adjustments have to be made or additional elements added. The ambiguity that comes with it (i.e., the question of what exactly should be seen as the head) is part and parcel of unintegrated *co* clauses.<sup>15</sup>

Consider also example (57) with two *co* clauses, the second of which is delayed in the discourse.

- (57) (Spokes)

A: pamiętasz    to    zdjęcie    z    Madrytu    takie    mamy  
 remember<sub>2SG</sub>    this    photo    from    Madrid    such    have<sub>1PL</sub>  
 co    tak    sobie    siedzimy  
 CO    SO    REFL    sit<sub>1PL</sub>

B: z    Madrytu    czy    z    Wiednia  
 from    Madrid    or    from    Vienna

<sup>15</sup> Murelli (2011: 385) makes similar observations about German *wo* relative clauses: “*Wo* allows joining the two clauses without the need of immediately specifying which syntactic position is being relativized [...] it is then up to the hearer to disambiguate the role of the relativized item in the RC [...] In short, *wo*-RCs prove to be flexible tools to link an MC and an RC without forcedly specifying the nature of the relativized item.”

- (57) A: nie # z Madrytu # **co siedzimy wcinamy kanapeczki**  
 no from Madrid co sit<sub>1PL</sub> eat<sub>1PL</sub> sandwiches  
 A: 'Remember this photo from Madrid that we have, where we're just sitting'  
 B: 'From Madrid or from Vienna?'  
 A: 'No, from Madrid, where we're sitting, eating sandwiches'

Unintegrated *co* clauses work well when separated from their head, as their unintegration renders them particularly suitable for it. On the other hand, for *który* clauses such separation from the head would mean the addition of anaphoric elements. While the first *co* clause in (57) could simply be replaced by *na którym siedzimy* 'in which we're sitting', the relative clause in the third line—because of its distance from the head—would have to be replaced by the complex: correlative + preposition + relative pronoun (*to, na którym siedzimy*).

In Spokes 11 examples are marked by a significant separation of the head and *co* clause. The exact number, however, is difficult to ascertain, as quite a few cases invite alternative readings. Consider example (58).

- (58) (Spokes)  
 A: nie ma bezpośredniego do Zakopca teraz?  
 not is direct<sub>GEN</sub> to Zakopane now  
 B: mam nadzieję że ten o dwunastej taki co był  
 have<sub>1SG</sub> hope that this at twelve such co was  
 ze Skarżyska to był wygodny # bo **tamten**  
 from Skarżysko PART was comfortable because that  
 to był koło wpół do drugiej **co jechaliśmy**  
 PART was around half to two co went<sub>1PL</sub>  
**latem** nie?  
 summer<sub>1NS</sub> no  
 A: 'Isn't there a direct one to Zakopane now?'  
 B: 'I hope (there's) the one at twelve, the one from Skarżysko, it was comfortable, because the other one was around half past one, **in which/when** we went in the summer, right?'

In the relative clause reading, the clause *co jechaliśmy latem* appears outside the main clause *tamten to był koło wpół do drugiej*. The two chunks are clearly separate and unintegrated by the standards of relative clauses. However, in another reading *co* may be construed as a time-reference conjunction similar to *when* (see section 5.3), as indicated in the alternative English translations for *co*. The subject of such alternative readings is the focus of the next section.

Note that a corresponding *który* clause (*tamtę [...] którym jechaliśmy latem* ‘the one by which we went in the summer’) would only have the relative-clause reading, and the time-reference interpretation would not be available.

### 6.5. Ambiguous Readings: Relativization vs Time/Place Reference

This section focuses on the semantic ambiguity of some *co* clauses—another consequence of their unintegration. Three scenarios will be considered: (1) *co* may be construed as a relativizer, a time relative adverb, or conjunction similar to English *when*; (2) *co* may be used and/or interpreted as a relativizer, a place relative adverb, or conjunction similar to *where*; (3) *co* may ambiguously act as a relativizer, or a place- or time-reference conjunction, thus further blurring the contrast between NP-based, spatial, and temporal uses of *co*. Consider example (59), in which *co* is a time-reference conjunction similar to *when*; note that the two *co* clauses are not associated with head NPs.

- (59) (Spokes)
- |               |           |                     |                     |           |              |                     |
|---------------|-----------|---------------------|---------------------|-----------|--------------|---------------------|
| potem         | jak       | przyjechali         | do                  | mnie      | znajomi      | z                   |
| then          | when      | came <sub>3PL</sub> | to                  | me        | friends      | from                |
| mikrobiologii | <b>co</b> | <b>imprezkę</b>     | <b>robiłem</b>      | <b>co</b> | <b>wtedy</b> | <b>dzwoniłeś</b>    |
| microbiology  | co        | party               | made <sub>1SG</sub> | co        | then         | rang <sub>2SG</sub> |
- ‘And later when my friends from the microbiology department came by when I threw the party, when you rang me’

In other examples, the same meaning of a temporal conjunction is detectable in *co* clauses following NPs which may be construed as relativized heads. In such cases it is often hard to differentiate *co* as a temporal conjunction from *co* as a relativizer in NP-headed relative clauses. Given the ambiguous status of *co* and the loose syntactic integration and semantic relationship between head nouns and *co* clauses, the ambiguity is a fairly common occurrence. Consider examples (60–62).

- (60) (Spokes)
- |                  |           |            |                       |                      |                   |      |                |           |
|------------------|-----------|------------|-----------------------|----------------------|-------------------|------|----------------|-----------|
| to               | było      | wtedy      | jak                   | jechałeś             | na                | tą   | <b>imprezę</b> | <b>do</b> |
| it               | was       | then       | when                  | went <sub>2SG</sub>  | on                | this | party          | to        |
| <b>akademika</b> | <b>co</b> | <b>nie</b> | <b>chciałeś</b>       | <b>Reni</b>          | <b>powiedzieć</b> |      |                |           |
| dorm             | co        | not        | wanted <sub>2SG</sub> | Renia <sub>DAT</sub> | tell              |      |                |           |
- ‘It was when you were going to this party at the dorm that/when you didn’t want to tell Renia’

(61) (Spokes)

chciałam już żebyście mi przywieźli w tą  
 wanted<sub>1SG</sub> already AUX<sub>2PL</sub> me<sub>DAT</sub> bring on this

**niedzielę co ostatnio byliście**

Sunday co recently were<sub>2PL</sub>

'I wanted you to bring (it) to me on that Sunday that/when you were here recently'

(62) (Spokes)

ciekawe jakbyś tak spadła z tego tego pontona  
 wonder<sub>1SG</sub> COND<sub>2SG</sub> so fell off this this inflatable.boat

**co tak pływałaś** jak byś ciekawe jak by to  
 co so floated<sub>2SG</sub> how COND<sub>2SG</sub> wonder<sub>1SG</sub> how COND it

wyglądało no

look yeah

'I wonder, if you'd fallen off that inflatable boat that/when you floated there, I wonder what that would look like'

In examples (60–62) the *co* clauses are used by speakers as time-reference devices. At the same time, they seem to be linked to their respective head NPs in a way that resembles the structure of relative clauses (note also the preposition dropping).<sup>16</sup> Given the inherent loose integration of *co* clauses, the ambiguity is not to be easily resolved. This is shown in the optional English glosses for *co* above in (60–62). The *co* clauses can be construed as temporal *when* clauses or unintegrated relative clauses modifying head nouns. On the first reading, *co* is a connective element akin to a conjunction, on the second—a relative clause complementizer. One factor favoring the relative clause reading is that in all three examples the head nouns are premodified by demonstratives, which is a very frequent feature of *co* relative clauses in Spokes, also of integrated ones.

Another type of *co* clauses is illustrated in examples (63) and (64), where *co* is unmistakably linked to a head NP and acts as a temporal complementizer. It modifies NPs in such time-reference phrases as *tego dnia*, *co* 'on the day when', *w tym tygodniu*, *co* 'in the week when', etc. In such phrases, *co* is replaceable by the standard relative *wh*-word *kiedy* 'when' (i.e., *w tym dniu*, *kiedy...*).

(63) (Spokes)

w tym dniu co my mieliśmy mieć imprezę  
 in this day co we AUX<sub>1PL</sub> have party

'on the day that/when we were supposed to have a party'

<sup>16</sup> Compare the reconstructed prepositions and accompanying resumptives in: *na tą imprezę*, *co nie chciałeś o niej Reni powiedzieć*; *z tego pontona co na nim tak pływałaś*.

- (64) (Spokes)  
zarejestrował go na te dwa miesiące co był  
registered<sub>3SG</sub> him<sub>ACC</sub> for these two months co was<sub>3SG</sub>  
**w Niemczech**  
in Germany  
‘He registered him for the two months that/when he was in Germany’

All in all, examples (59–64) illustrate a cline of uses of *co* ranging from a temporal conjunction to ambiguous temporal-relativizing uses to a relativizer associated with nominal time expressions. In Spokes this cline of time-related uses is observed in 64 cases (30%).

Consider example (65), in which *co* is a place-reference conjunction similar to *where*. Note that the *co* clause is not associated to a head NP.

- (65) (Spokes)  
A: Kawecki ten # wnuk ten tej # wiesz który  
Krawecki this grandson this<sub>NOM.M</sub> this<sub>GEN.F</sub> know<sub>2SG</sub> which  
B: no  
yeah  
A: przed mechanikiem # przed Borowcem co ten dom  
before garage before Borowiec<sub>INS</sub> co this house  
**jest pobudowany**  
is built  
A: ‘This Kawecki guy, the grandson of what’s-her-name, you know who’  
B: ‘Yeah’  
A: ‘Next to the garage, next to the Borowiec place, where the house was been built’

In other cases, there is clearly a head noun with which a *co* clause is associated, as in (66) and (67). The association is easily detected despite the fact that the *co* clauses are complete gapless clauses. This is sometimes made explicit by the use of the resumptive adverb *tam* ‘there’ referring back to the head noun (cf. *ta wioska* ‘this village’—*tam* in example (66)). *Tam* fills in the gap in the *co* clause in the same way as resumptive pronouns often do (see section 6.2), which means that the *co* clause is gapless and has the word order of a regular declarative statement.<sup>17</sup> In other cases, as in (67), there is no resumptive

<sup>17</sup> Miller and Weinert (1998: 108) argue this has the advantage of speakers being able to accommodate more complex information about the head noun than they would otherwise be able to handle in spontaneous speech.

adverb, and in such examples, the functions of *co* overlap: *co* may be seen as the place-reference conjunction or—because of the association with a nominal head—as a spatial-relativizing element.

(66) (Spokes)

jak się nazywa **ta wioska** tam w Austrii **co tam**  
 how REFL call<sub>3SG</sub> this village there in Austria co there  
 były te mistrzostwa świata  
 were these championships world<sub>GEN</sub>

‘What’s the name of that village in Austria where/that the world championship was held there?’

(67) (Spokes)

i w **tym drugim sklepie** **co** są z kolei te  
 and in this second shop co are in turn these  
 frotki i dzianinki  
 hair.ties and fabrics

‘And in this other shop where/that they have hair ties and fabrics’

In Spokes, 53 (25%) examples of *co* clauses can be interpreted as place-reference devices with varying degrees of unintegration and a range of functions of the *co* element. Some examples may ambiguously represent the three readings of relativizer and place- and time-conjunctions, thus blurring even the contrast between the temporal and spatial uses of *co*. Consider examples (68–70).

(68) (Spokes)

A: jaki talerzyk?  
 what plate

B: a plastikowy czerwony nie ma tu u ciebie?  
 and plastic red not is here at you

A: no ja mam takich dużo to # a duży czy mały?  
 well I have<sub>1SG</sub> such many so and big or small

B: mały # **co ci wtedy te ryby przywiozłam**  
 small co you<sub>DAT</sub> then these fish<sub>PL</sub> brought<sub>1SG</sub>

A: ‘Which plate?’

B: ‘The red plastic one, isn’t it here?’

A: ‘Well, I have lots of those so, is it big or small?’

A: ‘Small, (the one) when/that I brought you fish back then’

- (69) (Spokes)  
 wie pan co # została im ta siatka od  
 know<sub>2SG</sub> you<sub>HON</sub> what stayed<sub>3SG</sub> them<sub>DAT</sub> this net from  
 tego z tyłu tam od tego styropianu **co ta zaprawa**  
 this in back there from this Styrofoam co this mortar  
**była robiona** wie pan  
 was made know<sub>2SG</sub> you<sub>HON</sub>

‘You know what, there’s some plaster net left from the, in the back there, from that Styrofoam where/when the mortar was made, you know’

- (70) (Spokes)  
 A: widziałeś ten ostatni wypadek co się stał?  
 saw<sub>2SG</sub> this last accident co REFL happened  
 B: y **co ciężarówka wjechała?**  
 uh co truck went.in  
 A: ‘Have you seen that last accident that happened?’  
 B: ‘Where/when/the one in which the truck crashed?’

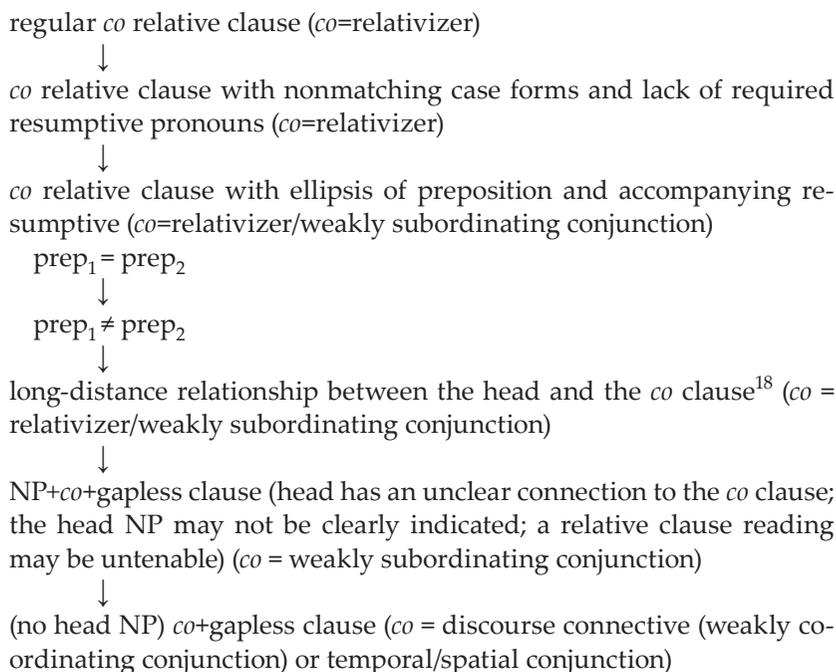
In (68), *co* may be construed as a relative clause complementizer (*co = ten, w którym* ‘the one in which’) or a time conjunction (*co = wtedy, co* ‘when’). In (69), *co* is ambiguous between a time conjunction (*co = wtedy, co* ‘when’) and a place conjunction (*co = tam, gdzie* ‘where’). In (70), *co* may be interpreted in three different ways as a relative clause complementizer (*co = ten, w którym* ‘the one in which’), a time conjunction (*co = wtedy, co* ‘when’) or a place conjunction (*co = tam, gdzie* ‘where’).

As shown in this section, besides the prototypical modification of head nouns, *co* relative clauses can be used to provide a frame of spatial or temporal reference. In such cases *co* replaces the conjunctions *gdzie* (‘where’) or *kiedy* (‘when’) or the correlative time- and place-reference phrases *wtedy, co* (‘when’, lit. ‘then that’) and *tam, gdzie* (‘where’, lit. ‘there where’). The different readings (i.e., relativizing, temporal, and spatial) are often difficult to distinguish. Sometimes even the place/time contrast is unclear, perhaps irrelevant, because *co* is used as a general-purpose conjunction and may cover any kind of reference by introducing information that pertains in one way or another to entities or propositions commented on. This polyfunctionality of *co* seems to accord with the common diachronic scenario whereby pronouns are grammaticalized into relativizers and further into conjunction-like elements (Miller 2011; Minlos 2012; Hansen et al. 2016; Kehayov and Boye 2016), although the present study does not aim to prove this for *co*.

## 7. Conclusion

This paper has addressed *co* clauses in spontaneous spoken Polish and contributes the following insights. The first one concerns the categorial status of *co* and its various uses. I have argued that the uninflected *co* performs several other functions besides the basic function of a relativizer. These functions include a weakly subordinating conjunction, a general discourse connective, and time- and place-reference conjunctions similar to English *when* and *where*. These various functions are often difficult to distinguish, and they form a cline of uses of *co*. Thus *co* clauses provide a range of uses in varied syntactic structures of greater or lesser structural integration. In structures less integrated than regular relative clauses, loose syntax may involve interpretational ambiguity and/or context-dependency which need to be made sense of by the listener.

The second insight concerns the set of unintegration features observed in various uses of *co*—including the basic relativizing use—in spontaneous speech. These unintegration features go beyond the mere absence of overt marking of case, number, and gender in the network of grammatical relations connecting the head, the relativizer, and the trace. In several respects the Polish data fit the observations made by other analysts (especially Jim Miller and Regina Weinert) working with unintegrated relative clauses in other languages. Namely, the connective *co* often conjoins two chunks of discourse, but there is no gap typical of relative clauses (complete clauses are common to the right of *co*). Head NPs are often not core arguments of the *co* clauses, and the logical connection between the head and the *co* clause can be idiosyncratic and context-dependent. The head NP itself may not be easy to identify or missing altogether, and a relative clause reading may be untenable. Other formal features noted in Spokes are nonmatching case forms with the concomitant lack of required resumptive pronouns, ellipsis of prepositions and accompanying resumptives, and long-distance relationships between the head and the *co* clause. In preposition ellipsis, the dropping of a preposition that is not easily recoverable (as when it is different than the preposition heading the relativized NP) produces more unintegration than the dropping of a preposition that is recoverable from the preceding discourse. The formal unintegration features and the corresponding functions of *co* may be represented on the following scale of decreasing integration.



Clauses introduced by the uninflected *co* are by definition less integrated than clauses introduced by the *wh*-pronoun *który*. In the Spokes corpus, this looser connectivity of *co* clauses is further loosened in 25% of cases due to the unintegration features and distinct functions of *co* listed above.

## References

- Austin, Peter. (1981) *A grammar of Diyari, South Australia*. Cambridge: Cambridge University Press.
- Biber Douglas, Stig Johansson, Geoffrey Leech, Susan Conrad, and Edward Finegan. (1999) *Longman grammar of spoken and written English*. London: Pearson Education Limited.
- Bondaruk, Anna. (1995) "Resumptive pronouns in English and Polish". Edmund Gussmann, ed. *Licensing in syntax and phonology*. Lublin: Folium, 27–55. [*PASE studies and monographs*, 1.]

<sup>18</sup> The relative ranking of preposition ellipsis and long-distance relationship is based on the finding that Spokes examples of long-distance relationship are additionally marked by ellipsis of prepositions and any accompanying resumptives (e.g., examples (54) and (57)). Therefore preposition ellipsis is ranked above long-distance relationship.

- Bošković, Željko. (2009) "On relativization strategies and resumptive pronouns". Gerhild Zybatow, Uwe Junghanns, Denisa Lenertova, and Petr Biskup, eds. *Studies in formal Slavic phonology, morphology, syntax, semantics, and information structure. Proceedings of FDSL 7*. Frankfurt am Main: Peter Lang, 79–92.
- Broihier, Kevin. (1995) *Optimality-theoretic rankings with tied constraints. Slavic relatives, resumptive pronouns, and learnability*. Ph.D. dissertation, Massachusetts Institute of Technology.
- Chafe, Wallace. (1982) "Integration and involvement in speaking, writing, and oral literature". Deborah Tannen, ed. *Spoken and written language: Exploring orality and literacy*. Norwood, NJ: Ablex, 35–53.
- Chidambaram, Vrinda. (2013) *On resumptive pronouns in Slavic*. Ph.D. dissertation, Princeton University.
- Citko, Barbara. (2004) "On headed, headless, and light-headed relatives". *Natural language and linguistic theory* 22(1): 95–126.
- Deulofeu, José. (1981) "Perspective linguistique et sociolinguistique dans l'étude des relatives en français". *Recherches sur le français parlé* 3: 135–94.
- Fiorentino, Giuliana. (2007) "European relative clauses and the uniqueness of the relative pronoun type". *Rivista di linguistica* 19(2): 263–91.
- Fisiak, Jacek, Maria Lipińska-Grzegorek, and Tadeusz Zabrocki. (1978) *An introductory English-Polish contrastive grammar*. Warsaw: PWN.
- Fried, Mirjam. (2010) "Accusative resumptive pronoun in Czech relative clauses with absolute relativizer *co*". *Korpus, gramatika, axiologie* 1(1): 16–29.
- . (2011) "Grammatical analysis and corpus evidence". Marek Konopka, Jacqueline Kubczak, Christian Mair, Frantisek Štícha, and Ulrich H. Waßner, eds. *Grammar and Corpora 3*, Mannheim: Narr Verlag, 63–86.
- Gołąb, Zbigniew and Victor A. Friedman. (1972) "The relative clause in Slavic". Paul M. Peranteau, Judith N. Levi, and Gloria C. Phares, eds. *The Chicago which hunt: Papers from the relative clause festival*. Chicago: Chicago Linguistics Society, 30–46.
- Goodluck, Helen and Danijela Stojanović. (1996) "The structure and acquisition of relative clauses in Serbo-Croatian". *Language acquisition* 5: 285–315.
- Gračanin-Yukse, Martina. (2010) "On a matching effect in headed relative clauses". Wayles Browne, Adam Cooper, Alison Fisher, Esra Kesici, Nikola Predolac, and Draga Zec, eds. *Formal approaches to Slavic linguistics: The Cornell meeting*. Ann Arbor: Michigan Slavic Publications, 193–209.
- Greenbaum, Sidney and Gerald Nelson. (1995) "Clause relationships in spoken and written English". *Functions of language* 2: 1–21.
- Guz, Wojciech (2017) "Resumptive pronouns in Polish *co* relative clauses". *Journal of Slavic linguistics* 25(1), 95–130.
- Hansen, Bjorn, Alexander Letuchiya, and Izabela Błaszczuk. (2016) "Complementizers in Slavonic (Russian, Polish, and Bulgarian)". Kasper Boye and

- Petar Kehayov, eds. *Complementizer semantics in European languages* Berlin: Mouton de Gruyter, 175–223. [*Empirical approaches to language typology*, 57.]
- Hladnik, Marko. (2015) *Mind the gap: Resumption in Slavic relative clauses*. Ph.D. dissertation, Utrecht University. [*LOT dissertation series*, 390.]
- Hopper, J. Paul and Sandra A. Thompson. (2008) "Projectibility and clause combining in interaction". Ritva Laury, ed. *Crosslinguistic studies of clause combining. The multifunctionality of conjunctions*. Amsterdam: John Benjamins, 99–124.
- Kardela, Henryk. (1986) *Wh-movement in English and Polish. Theoretical implications*. Lublin: UMCS.
- Kehayov, Petar and Kasper Boye. (2016) "Complementizer semantics in European languages: Overview and generalizations". Kasper Boye and Petar Kehayov, eds. *Complementizer semantics in European languages* Berlin: Mouton de Gruyter, 809–78. [*Empirical approaches to language typology*, 57.]
- Kroll, Barbara. (1977) "Combining ideas in written and spoken English: A look at subordination and coordination". Elinor O. Keenan and Tina Bennett, eds. *Discourse across time and space*. Los Angeles: University of Southern California, 69–108. [*Southern California occasional papers in linguistics*, 5.]
- Lapteva, Olga A. (1976) *Russkij razgovornyj sintaksis*. Moscow: Nauka.
- Lavine, James E. (2003) "Resumption in Slavic. Phases, cyclicity, and case". Wayles Browne, Ji-Yung Kim, Barbara Partee, and Robert Rothstein, eds. *Formal approaches to Slavic linguistics: The Amherst meeting*. Ann Arbor: Michigan Slavic Publications, 355–72.
- MacGregor, William B. (1988) "Mood and subordination in Kuniyanti". Peter Austin, ed. *Complex sentence constructions in Australian languages*. Amsterdam: John Benjamins, 37–67.
- McCloskey, James. (2006) "Resumption". Martin Everaert and Henk van Riemsdijk, eds. *The Blackwell companion to syntax*. Oxford: Blackwell, 94–117.
- Miller, Jim. (2011) *A critical introduction to syntax*. London: Continuum.
- Miller, Jim and Regina Weinert. (1998) *Spontaneous spoken language: Syntax and discourse*. Oxford: Clarendon Press.
- Minlos, Philip R. (2012) "Slavic relative čto/co: between pronouns and conjunctions". *Slověne. International journal of Slavic studies* 1(1): 74–91.
- Morphy, Frances. (1983) "Djapu, a Yolngu dialect". Dixon, R. M. W. and Barry J. Blake, eds. *Handbook of Australian languages* (vol. 3). Canberra: Australian National University Press, 1–188.
- Murelli, Adriano. (2011) *Relative constructions in European nonstandard varieties*. Berlin: Mouton de Gruyter. [*Empirical Approaches to Language Typology*, 50.]
- Pesetsky, David. (1998) "Some optimality principles of sentence pronunciation". Pilar Barbosa, Danny Fox, Paul Hagstrom, Matha McGinnis, and

- David Pesetsky, eds. *Is the best good enough? Optimality and competition in syntax*. Cambridge, MA: MIT Press, 337–83.
- Peżik, Piotr. (2015) “Spokes—a search and exploration service for conversational corpus data”. Jan Odiijk, ed. *Selected papers from the CLARIN 2014 Conference, October 24–25, 2014, Soesterberg, The Netherlands*. Linköping: Linköping University Electronic Press, 99–109. [*Linköping electronic conference proceedings*, 116.]
- Quaglio, Paulo and Douglas Biber. (2006) “The grammar of conversation”. Bas Aarts and April McMahon, eds. *The handbook of English linguistics*. Malden, MA: Blackwell, 692–723.
- Rudin, Catherine. (1986/2013) *Aspects of Bulgarian syntax: Complementizers and WH constructions*, 2nd ed. rev. Bloomington, IN: Slavica.
- Schlonsky, Ur. (1992) “Resumptive pronouns as a last resort”. *Linguistic inquiry* 23(3): 443–68.
- Sonnenhauser, Barbara. (2013) “Relative clauses in Slovene: Diachronic puzzles, synchronic patterns”. *Vienna Slavic yearbook* 1, 150–87.
- Sornicola, Rosanna. (1981) *Sul parlato*. Bologna: Il Mulino.
- Szczegielniak, Adam. (2004) *Relativization and ellipsis*. Ph.D. dissertation, Harvard University.
- Zemskaja, Elena A. (1973) *Russkaja razgovornaja reč*. Moscow: Nauka.

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