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Wh-pronoun and complementizer relative clauses: unintegration features in conversational Polish

Abstract

The paper examines syntactic features of non-canonical relativization in spoken Polish that loosen the structural integration of two types of relative clauses – one introduced by the complementizer *co*, the other by the *wh*-pronoun *który*. The resulting unintegration holds between the head NP and the *co*/*który* clause and contrasts with the integrated structure of canonical relatives. I discuss the range of unintegration features observed for both types in corpus data and indicate the distinct quantitative extents to which the two types are unintegrated. Although the nature of spontaneous conversation is such that it imposes some loosening of structural cohesion in both types, *co* clauses (especially non-subject relative clauses) are far more frequently unintegrated than *który* clauses. Also, *co* clauses depart functionally from the canonical relative structure in that the complementizer *co* serves functions other than that of a straightforward relativizer, namely it has conjunction-like uses (temporal, spatial, and general conjunction), indicating an expansion of the categorial status of *co*. The observed unintegration of Polish conversational relatives is in line with previous analyses of the syntax of unplanned speech (e.g. Miller and Weinert 1998).

Keywords

spontaneous speech, unintegrated syntax, conversational spoken Polish, complementizer relative clauses, *wh*-pronoun relative clauses, non-canonical relativization

Streszczenie

Celem niniejszego artykułu jest analiza dwóch typów zdań względnych w mówionym języku polskim – tj. wprowadzanych przez zaimek względny *któr-y* oraz przez nieodmienny relator *co*. Głównym obszarem zainteresowania są niekanoniczne konstrukcje, w których obserwuje się rozluźnioną integrację akomodacyjną pomiędzy grupą rzeczownikową a zdaniem względnym. Dla obu wskaźników zespolenia (*który* i *co*), tekst omawia poszczególne typy cech formalnych, które powodują taką niezintegrowaną strukturę. Analiza danych korpusowych pozwala również na ilościowe określenie stopnia dezintegracji w obu typach zdań. Mimo że spontaniczny język mówiony wymusza pewną dozę dezintegracji w obu przypadkach, zdania względne z *co* (zwłaszcza te w funkcji innej niż podmiot) znacznie częściej charakteryzują się taką właśnie budową. Zdania z *co* odbiegają od kano-

nicznej relatywizacji jeszcze w innym sensie: oprócz funkcji *relativum generale*, *co* może pełnić inne funkcje semantyczne, takie jak spójniki podrzędne miejsca i czasu (porówny-walne z *gdzie* i *kiedy*) lub spójnik ogólnego zastosowania. Tego rodzaju użycia wskazują na ekspansję statusu kategorialnego *co*. Zaobserwowane zjawiska pokrywają się z doniesie-niami innych autorów badających składnię spontanicznego języka mówionego (Miller and Weinert 1998).

Słowa kluczowe
spontaniczny język mówiony, luźna integracja składniowa, niekanoniczne zdania względne, nieodmienny relator, zaimek względny

1. Introduction[1]

1.1. Unintegration: explaining the term

Unintegration is an important property of spontaneous speech distinguishing it from (formal) written language. Miller (2006: 683) contrasts integrated and unintegrated syntax in the following *wh*-cleft constructions.

(1) What they will do is use this command to save the data (integrated)

(2) right, well, what you're doing is you're drawing a line (unintegrated)

Example (1), Miller explains, is integrated in that the post-copular comple-ment clause (*use this command…*) depends on the *wh*-clause for tense, aspect, and subject NP. On its own, it has none of these. It is thus closely anchored or integrated into the *wh*-clause. On the other hand, example (2) is unintegrat-ed in that the clause following the copula has its own tense, aspect and sub-ject, which need not be identical to those of the *wh*-clause (e.g. *what we can do is you will…*) (Guz 2015). The integrated/unintegrated distinction may be further illustrated with the relative constructions in (3) and (4) (from Miller 2006: 681).

(3) If you've got some eggs **about whose age you're not sure** here's a useful test (inte-grated)

(4) If you've got some eggs **you're not sure about their age** here's a useful test (uninte-grated)

In (3), the relative clause *about whose age you're not sure* is anchored to its head NP, i.e. *some eggs*. It is integrated into the head through a tight network of grammatical relations: *whose* is a relative pronoun referring back to *eggs*, and

through its genitive case it also conveys the genitive idea 'the age of the eggs'; also, *about whose age* is the complement of *sure*.

In (4), the relative clause is not – in Miller's terms – integrated into the head. There is not a relativizer to connect the head and the relative clause, and the latter is a gapless clause complete with its own subject and object. There is no gap normally expected in relatives. Also, the word order of *you're not sure about their age* is that of a complete clause, unlike in (3). All in all, while (3) is integrated, (4) is unintegrated.

Miller and Fernandez-Vest (2006) argue that such unintegrated blocks of syntax found in speech should be treated on their own terms – treated as target structures in spontaneous speech – rather than as degraded realizations of an ideal complex of clauses neatly connected into a sentence such as would be expected in carefully structured written language. This is also the position defended in Enkvist (1982), Miller and Weinert (1998), Hopper and Thompson (2008), and Callies (2012). Hopper and Thompson (2008: 109) argue that instead of viewing non-canonical conversational *wh*-clefts (such as (2)) as a degenerate variety of the canonical *wh*-cleft construction, "linguists would be better advised to consider the written pseudocleft [i.e. *wh*-cleft] construction a normativized version of the *what*-fragment found pervasively in interaction." Miller and Weinert (1998: 293) and Callies (2012: 12) seem to agree with it in that they suggest that the classical integrated pattern may be a special development of written language.

1.2. *Który* and *co* relative clauses in Polish

In Polish, standard relative clauses introduced by the relative *wh*-pronoun *któr-y* 'who/which' (inflected in *któr-a*, *któr-e*, etc.) contrast with a colloquial variety of relative clauses introduced with the uninflected relative marker *co* 'that', as in (5). The head noun may be the subject or object of the relative clause, as in (5) and (6) respectively.

(5) Ci   ludzie,   którzy/co   tu   przychodzą
      these   people   who/CO   here   come-3PL
      'These people who/that come here'

(6) Te   jabłka   które /co   masz   tu   na   stole
      these   apples   which/CO   have-2SG   here   on   table
      'These apples which/that you have here on the table'

The discussion of *co* clauses often revolves 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*. An important fact that underpins perhaps any comparison 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 (7), which is overtly marked for singular number and feminine gender to agree with the head *tą sukienkę* 'this dress'. The *wh*-pronoun is also accusative-marked for the purposes of co-indexation with the trace position in the relative clause.

(7) Pożycz mi tę   sukienkę   którą /   co kupiłaś *t*
     lend   me this dress-ACC-SG-F which-ACC-SG-F/ CO bought-2SG [trace-ACC]
     'Lend me the dress which/that you bought'

The same sentence is still acceptable/grammatical with the uninflected *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. Thus *co* relatives are inherently marked by looser structure compared to their *który* counterparts.

The combination of the loose integration of *co* relatives and the fact that they belong in colloquial style is no coincidence: unplanned speech has been widely reported as marked by a substantial degree of syntactic fragmentation and unintegration (see section 2 for references).

1.3. The purpose of the study

I will argue below that the unintegration of relatives goes beyond the loss of inflection in *co*. It is observed in a range of other structural phenomena, also in *który* clauses, and these will be the focus of the discussion. More specifically, the first set of questions that will be addressed is: To what quantitative extent do *który* and *co* clauses display structural unintegration? Do *który* clauses – inherently better integrated than *co* clauses – display unintegration to a similar extent? The second set of questions is: What formal features of syntactic structure produce unintegration? Do *co* and *który* relatives share the same set of unintegration phenomena that could be jointly associated with unplanned speech?

Keeping these research questions in mind, the approach of the analysis is usage-based and aiming at enriching our knowledge of how canonical syntactic structures of written language or prescribed usage may differ from those observed in spontaneous speech. Analysis of the syntax of spontaneous spoken Polish has so far been very limited. Previous studies of the syntax of relativization in Polish are typically based on introspective data which include regular, integrated relative clauses (e.g. Bondaruk 1995; Mykowiecka 2001; Citko 2004; Szczegielniak 2006; Łęska 2016). While the relevance of introspection is not denied here, the kind of non-canonical constructions/functions that are examined in this paper are difficult to access through introspection; consequently,

some non-canonical uses of Polish relativizers may have gone unnoticed. Namely, as will be argued in section 9, the complementizer *co* serves functions other than that of a straightforward relativizer.

Relativization in Slavic has also been studied largely on the basis of introspective and/or integrated data (e.g. Broihier 1995; Lavine 2003; Bošković 2009). Analyses focusing on authentic or non-standard relatives include Lapteva's (1976) analysis of conversational Russian, Murelli's (2001) analysis of non-standard relativization in European languages (unintegration is not one of the parameters analyzed), Hladnik's (2015) corpus-based study of Slovenian alternative relativization constructions, and Fried's (2010) and (2011) corpus-based analyses of Czech *co* and *který* relative clauses. However, none of these studies are immediately concerned with unintegration in relative clauses. This paper seeks to contribute to previous research into Polish and Slavic relativization by looking into unintegrated relatives in conversational Polish.

The central insight of the present study is that in conversational Polish there are a number of phenomena or features of non-canonical syntax producing structural unintegration in *co* and *który* relative constructions. This finding accords with previous analyses of unplanned speech (sections 1.1 and 2). The following unintegration features are found and discussed:

i) Gapless clauses as relative clauses (both *co* and *który* clauses) (section 4).
ii) Lack of required resumptive pronouns (in *co* clauses) (section 5).
iii) Non-canonical resumption (both *co* and *który* clauses) (section 6).
iv) Long-distance relationship with the head; marked word order (both *co* and *który* clauses) (section 7).
v) Preposition dropping (in *co* clauses) (section 8).
vi) Cline of functions; semantic ambiguity; lack of a nominal head (in *co* clauses) (section 9).
vii) Non-standard or mismatched inflection on the relative pronoun (in *który* clauses) (section 10).

The article is organized as follows. Section 2 reviews the literature on unintegrated relatives; section 3 introduces the Spokes corpus, the data selection criteria and data retrieval; sections 4–10 discuss particular unintegration features in *co* and *który* clauses; section 11 covers the quantitative findings; section 12 presents the conclusions.

2. Previous literature on unintegrated relatives

Fragmented and unintegrated syntax is a major feature distinguishing unplanned speech from written language (e.g. Chafe 1982; Greenbaum and Nelson 1995; Miller and Weinert 1998; Biber et al. 1999: 1140–1144, 1068–1070; Miller 2006; Miller and Fernandez-Vest 2006; 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, i.e. 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, Sornicola (1981) in Italian, Zemskaja (1973) in Russian. With specific reference to relative clauses, Lapteva (1976) finds unintegration in Russian, Deulofeu (1981) in French, Miller and Weinert (1998) in English, German, and Russian, and Fiorentino (2007) in Italian. Below, we review the key points made by Miller and Weinert (1998) and Miller (2011), who make insightful comments about English *that* and *which*. As will be shown, the Polish data fit many of their observations.

Miller and Weinert (1998: 104–111) and Miller (2011: 26–29, 181–183) 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 is a complete gapless clause, as in (8). The entire complex is not bound together by the tight structural network typical of classic *wh*-relative clauses.

(8) 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 (8) is paralleled by the similarly unintegrated *that* relative in (9):

(9) a filing cabinet that you can only open one drawer at a time. (Miller 2011: 28)

Although *which* in examples such as (8) may be seen as a relative pronoun, Miller and Weinert (1998: 110–111) 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*.

Based on such examples, 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.[2] In the same vein, other authors (see section 9 for references) note that in a cross-linguistic historical perspective pronouns are often grammaticalized and develop relativizer, complementizer, and conjunction-like functions.

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[2] *That* is also a complementizer in complement clauses (*the assumption* **that** *the plan will fail*), thus further extending the repertoir of its funtions.

This paper shows that Polish uninflected *co* also seems to be a case of such diachronic change leading to synchronic polyfunctionality (from pronoun to relativizer to conjunction), as illustrated in section 9. The pronoun *który*, while retaining its pronominal status, is also found in loosely integrated relative constructions, although not to an extent which might indicate an expansion towards conjunction-like uses (see section 11 for quantitative information).

3. Corpus and data

The data in this paper come from Spokes (Pęzik 2015) – a corpus of conversational spoken Polish consisting of over 2 million words. Much of the corpus's transcribed material is aligned with audio data and it is only this section of the corpus that was used in the present study. The reason for this is that the audio material was used to verify that the transcripts are accurate and that only relevant tokens of *co* and *który* clauses were taken into account. In sum, approximately 77% of the corpus data were used, which translates into approximately 1.6 million words.

A sample of data was collected from Spokes by an exhaustive search of all occurrences of the words *co* and *któr-y*/-*a*/-*e*/etc. Each occurrence was manually inspected so that only relevant tokens were collected.[3] Included in the sample were subject and object relative clauses (direct and oblique), both canonical (integrated) and non-canonical (unintegrated), as well as other related uses of *co* bordering on the relativizing function (section 9).

A methodological remark is due here. Although the study is based primarily on corpus data, certain points need to be illustrated with constructed examples or modified versions of Spokes data. This is necessary, for example, when we contrast corpus-derived unintegrated relatives with their constructed integrated counterparts. In such cases, the author's native speaker competence is used to provide the required examples. The three types of examples are marked accordingly 'Spokes', 'constructed' and 'modified'. Original spelling and punctuation is preserved.

The discussion to follow addresses the unintegration features listed at the end of section 1.3.

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[3] The elimination process excluded utterances which proved irrelevant upon inspection of the audio. This included analysis of prosodic features to eliminate false starts, reformulations, self-repairs, chunks of language without syntactic connection (e.g. separate conversational turns).

4. Gapless clauses as relative clauses (both *co* and *który* clauses)

This section addresses the first unintegration feature, which is that the relative clause may be a complete clause without a gap normally expected in relatives. This results in looser connectivity in the bipartite relative structure. Also, the relationship of the relative clause with the head NP may not be easily captured with syntactic descriptors such as subject or direct/oblique object. The syntactic and logical relationship is often idiosyncratic and needs to be inferred from the context. Consider example (10).

(10) (Spokes)

że	się	dogadają		o	tych	**o**	**tym**	**terminie**	**co**	**nie**
that	REFL	work.out-3PL-FUT		about	these	about	this	deadline	CO	not

przysyła	**jej**	**tych alimentów**	bo		on mówi	słuchaj	może	do
he sends	her	these alimony	because		he says	listen	maybe	to

tego komornika	nie idź	jakoś	się	dogadamy
this debt collector	not go	somehow	REFL	work.out-1PL-FUT

'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'

Whereas standard *co* clauses have clearly defined nominal heads acting as subjects or direct objects of the relative-internal verbs (e.g. in (7): *sukienkę* 'dress' – *kupiłaś* 'bought-2SG'), the relativized NP in (10) – i.e. *tym terminie* 'this deadline'– is only loosely tied syntactically to the *co* clause, and their relationship cannot be stated in the same object-verb terms as in examples (6–7). The relativized NP is not a core argument of the verb *przesyła* 'sends'; also, the *co* clause contains no gap for which the head would fill in – as would be expected in prototypical relative clauses. As a result, the *co* clause is a loosely connected referential expression specifying the head in more detail and paraphrasable to 'the deadline that he doesn't keep for sending her the alimony'.

Interestingly, although *który* clauses are inherently more integrated, the spoken medium still seems to impose a degree of unintegration in examples such as (11).

(11) (Spokes)

no	grupa	to	moim	zdaniem	z	definicji	**tacy**
well	group	is	my	opinion	from	definition	such-MASC-NOM-PL

którzy		**jedna**	**osoba**	**płaci za**	**ileś**
who-MASC-NOM-PL		one	person	pays for	a number

'Well, in my opinion, a group is by definition such people who one person pays for a number of people'

The relative pronoun is appropriately inflected for number and gender to agree with the same features of its head (*tacy* 'such-MASC-PL', *którzy* 'who-MASC-PL'). Otherwise, however, example (11) is not a standard relative. The head *tacy* is not a core argument of the relative-internal verb *płaci* 'pay-3SG', even though the inflection of *którzy* would suggest a subject or direct object function. Note also that the relative clause has its own internal arguments and no gap. The entire clause complex is more loosely connected than is the case in a canonical *który* clause. In a standard well-integrated *który* clause, example (11) might be paraphrased as (12):

(12) (modified)

grupa	to	**tacy,**	**spośród**	**których**	jedna
group	is	such-MASC-NOM-PL	from among	who-MASC-GEN-PL	one
osoba	płaci
person	pays

'a group is such people from among whom one person pays'

Consider example (13), which illustrates another aspect of loose integration with gapless clauses.

(13) (Spokes)

jak	zobaczyłam	tę	biżuterię	to	mało	że	**rosyjska**
when	I saw	this	jewellery-F-SG	then	not only	that	Russian
która	**słynęła**		w ogóle	**Rosja**	z	biżuterii
which-F-SG	was famous-F-SG	really		Russia	with	jewellery

'When I saw this jewellery, not only was it Russian, which was really famous for jewellery, Russia was'

In (13), the relative-internal verb (*słynęła* 'was famous-F') has an ambiguous dual subject-verb connection to two NPs around it. The speaker starts off with *rosyjska (biżuteria)* 'Russian-F (jewellery)' as the head of the relative but ends up incorporating another NP as a second alternative subject of the verb. In effect, the relative clause *która słynęła* 'which was famous-F' connects back to *biżuteria* 'jewellery' and simultaneously throws a link forward to *Rosja* 'Russia'. As both NPs are feminine, both are co-indexed with the feminine-inflected *wh*-pronoun and verb in *która słynęła* 'which was famous-F'. Thus example (13) has a non-canonical relative structure, in which – instead of the expected gap – an alternative subject NP is provided.

Example (14) with the complementizer *co* features a similar dual backward-and-forward connection.

(14) (Spokes)

nie	no	to	jest	**ta**	**choroba**	co	ojciec	ma	**co**	**ty**	**też**
no	well	this	is	this	disease	co	father	has	co	you	also

nie	**chcesz**	**brać**	**te** y	**plasterki**	co	on	nalepia
not	want	take	these	plasters-NOM	co	he	sticks

'no, this is the disease that father has, which you also don't want to take, those plasters that he sticks on'

In (14), the verb *brać* 'to take' seems to link back to the NP *ta choroba* 'this disease' as the head of the relative, but at the same time the NP does not make sense as the object of the verb ('disease – take'). Instead, the verb throws a link forward to the head of the following *co* clause, i.e. *te plasterki* 'these plasters' in that *te plasterki* seems to be the object of *brać*. Additionally, the object NP *te plasterki* is accusative rather than genitive, as would be expected through the genitive of negation, thus undermining the integrity of the entire utterance even more (see section 10 for discussion of accusative forms replacing the genitive).

To sum up this section, examples (10), (11), (13) and (14) illustrate the absence of the gap normally expected in relative clauses. Instead, complete gapless clauses are found, which results in looser integration. Additionally, these gapless clause complexes may even display ambiguity as to which NP acts as the subject (in (13)) or object (in (14)).

5. Lack of required resumptive pronouns (in *co* clauses)

In this section, I argue that the absence of resumptive pronouns may undermine the integration of a *co* relative clause, especially when their presence would be expected in a given grammatical configuration. Additionally, when resumptives are absent, integration is markedly lower when the case form of the head does not match the case form of the trace.

As is well-known, resumption is used in object *co* relative clauses, but not in subject clauses. However, even among objects, resumption is optional, indeed rare in some contexts, preferred in others, and required in still others. The connectivity of *co* clauses is loosened when the preferred/required resumptives are missing in unplanned speech. In short, the contextual factors favouring resumption include (i) animate antecedents (especially humans), (ii) non-accusative objects (regardless of animacy), and (iii) non-matching (non-identical or non-syncretic) case forms between the head and the object of the relative clause (cf. Hladnik 2015). In these contexts, resumptives are required (examples (15) and (16)),[4] or at least they produce more felicitous results, as in (17):

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[4] The asterisk outside the bracket indicates that the relative is fine with the resumptive, but unacceptable without it.

(15) Ten nauczyciel,   co   *(go)   spotkałeś   *t*   (constructed)
     this teacher   CO   he-ACC   met-2SG   [trace-ACC]
     'This teacher you met'

(16) To pióro   co   *(nim)   pisałam   *t*   (constructed)
     this pen-NOM   CO   he-INSTR wrote-1SG   [trace-INSTR]
     'the pen I wrote with'

(17) Ta sukienka,   co   ? (jej) nie założyłam *t*   (constructed)
     this dress-NOM   CO   she-GEN not put.on-1SG [trace-GEN]
     'This dress I didn't put on'

In (17) there is a case-matching effect whereby the combination of the nominative antecedent and the genitive trace is awkward and less integrated without the resumptive, compared to the modified case-matched version in (18).

(18) Tej sukienki,   co   nie założyłam   *t*   (constructed)
     this dress-GEN   CO   not put.on-1SG   [trace-GEN]
     'This dress I didn't put on'

Note that identical or syncretic case forms are particularly suitable to co-construct a *co* relative clause. Consider (19) from Spokes and (20), which is based on (19). The nominative head in (19) is syncretic with its accusative trace and therefore the construction is well-integrated. In contrast, (20) is slightly unintegrated in the version with the nominative head *ta* because it is not syncretic with the accusative trace. The sentence improves with the accusative-inflected head *tę*.

(19) Te   co   miałam   *t*   na sylwestra   (Spokes)
     these-NOM/ACC   CO   I had   [trace-ACC] on New Year's Eve
     'the ones I had on for the New Year's Eve party'

(20) ?Ta   / tę   co   miałam   *t*   na sylwestra   (modified)
     this-NOM /this-ACC CO   I had   [trace-ACC] on New Year's Eve
     'the one I had on for the New Year's Eve party'

Some *co* relatives found in Spokes do not adhere to the ideal case-matched configuration. Example (21) from Spokes sounds better integrated in its rephrased version in (22), where the resumptive mediates an agreement between the case of the head and the case of the trace, and in (23), where the case of the head has been adjusted to match that of the trace.

(21) to   jest   ta   co   przywiozłam   *t*?   (Spokes, low integration)
     it   is   this-NOM   CO   I brought   [trace-ACC]
     'Is it the one I brought?'

(22) to jest ta   co ją   przywiozłam *t*?   (modified, better integration)
     it is   this-NOM CO she-ACC I brought   [trace-ACC]
     'Is it the one I brought?'

(23) masz   gdzieś   tę   co przywiozłam *t*? (modified, better integration)
     you have somewhere this-ACC-F CO I brought   [trace-ACC]
     'Have you got the one I brought somewhere here?'

Lack of resumption is observed also in relatives with oblique traces, as in (24) and (25), where the awkwardness is even more easily perceived than with accusative traces. The sentences improve greatly with the inclusion of genitive-inflected resumptives (absent in Spokes and added here in parentheses).

(24) może rozbrajaj najpierw te   co [ich]   nie widać   *t* (Spokes)
     maybe disarm   first   these-ACC CO [they-GEN] not be seen [trace-GEN]
     'maybe you should first disarm the ones that cannot be seen'

(25) tamte   co   [ich]   używałaś   *t*   (Spokes)
     those-NOM CO   [they-GEN] you used   [trace-GEN]
     'the ones you used to use'

6. Non-canonical resumption (both *co* and *który* clauses)

In spontaneous speech, non-canonical relative clauses exhibit resumption that may appear excessive or redundant. Thus, in contrast to the preceding section, resumption can also undermine integration. Given that unintegration is common in unplanned speech, resumptives allow precisely this kind of organisation of discourse, i.e. one of loosely connected strings, with resumptives providing explicit reference, for example when the identity of a gapped argument would have been unclear. This will be shown below.

Resumption is associated with complementizer relative clauses and expected especially in specific configurations (see section 6). *Wh*-pronoun relative clauses do not normally trigger resumption. However, in spontaneous speech, anaphoric items may be used even in *wh*-relatives when the reference of a gapped argument would be unclear. This may be the case when the head and the relative clause are separated with intervening material. In such cases, resumption is a strategy of recovering the referent of the head, cf. (26) and (27). In (26), the head (*te generyczne* 'these generic ones') is resumed in the anaphoric *je* 'them', which is the object of the relative-internal verb (*produkują* 'produce-3PL'). In (27), the resumptive *on* is the subject of the relative-internal verb *zdawał* 'took-3SG'.

(26) (Spokes)

jest	szereg	leków	które	można	spokojnie	podawać
is	number	medicines	which	one may	safely	administer

wiesz	troszeczkę	tańsze	polskie	odpowiedniki	to	są	**te**
you know	a little	cheaper	Polish	replacements	it	are	these

wiesz	**generyczne**	**które**	tam	jeszcze	u	nas	ta	ochrona
you know	generic	which	there	yet	at	us	this	protection

patentowa	nie działa	tak	dobrze	i	**je**	produkują.
patent	not works	so	well	and	them	produce-3PL

'There's a range of drugs that you can safely administer, you know, a little cheaper Polish replacements, they are, you know, **those generic ones** which our patent protection laws don't work so well and they produce **them**'

(27) (Spokes)

mieliśmy	**kolegę**	**który**	też	dwa	lata	temu	jak	my	zaczynaliśmy
had-1PL	friend	who	also	two	years	ago	when	we	were starting

pracę	to	**on**	zdawał	egzamin
work	then	he	took	exam

'We had **a friend** who also two years ago when we were starting work **he** took the exam'

In (28) below, there is an embedded clause (*cała Łódź mówi* 'the whole Łódź says'), and in its complement clause (*że taki dobry chleb z tej piekarni jest* 'that the bread from this bakery is so good'), a resumptive nominal is used to clarify the referent of the head NP. As a result, the head NP *chleb* 'bread' is repeated and the integration of the relative is undermined. Further, the prepositional complement *z tej/takiej piekarni* 'from this bakery' is also resumed, which intensifies the effect of separation of the two parts of the sentence. Resumption replaces the canonical structure with gapped sentence constituents. In doing so, *który* is similar to *co*. In a canonical integrated version, a piedpiped preposition might be used instead of resumption, as in (29).

(28) (Spokes)

z	takiej	piekarni	przyniosłem	**chleb**	**który**	cała	Łódź	mówi
from	such	bakery	brought-1SG	bread	which	whole	Łódź	says

że	taki	dobry	**chleb**	z	tej	piekarni	jest!
that	such	good	bread	from	this	bakery	is

'In this bakery I got bread that the whole Łódź says it's such good bread from this bakery'

(29) (modified)

z	takiej	piekarni	przyniosłem	**chleb,**	**o**	**którym**	cała	Łódź
from	such	bakery	brought-1SG	bread	about	which	whole	Łódź

mówi,	że	jest	taki	dobry!
says	that	is	so	good

'In this bakery I got bread about which the whole Łódź says that it's so good'

Analogically, resumptives are also observed in *co* clauses where speakers resume the head in unintegrated clauses, as in (30), where *jakieś* [...] *robaki* 'some bugs' is resumed in the diminutive *te robaczki* 'these bugs-DIM'.

(30) (Spokes)
    jakieś mi się **robaki** wdały   nie wiem   **co tak skakały**
    some me REFL bugs   came.round-3PL I don't know CO so jumped-3PL
    te   **robaczki**   po   tych   listkach
    these worms-DIM over these leaves
    'some bugs came round, I don't know, that jumped about these little bugs all over the leaves'

Although resumption seems justified where the relative clause is substantially removed from the head, the separation is not always the trigger of resumption. Consider the *który* relative in (31), in which *tacy* 'those-NOM' is resumed in *im* 'they-DAT'. As a result, the *który* clause is a gapless one. A classic integrated *który* relative would have a dative-inflected relative pronoun and no resumption.[5]

(31) (Spokes)
    są **tacy**   **którzy**   właśnie nie podoba **im**   się   to za bardzo
    are such-NOM who-NOM precisely not like   they-DAT REFL it too much
    'There are those who they don't like it too much'

7. Long-distance relationship with the head; marked word order (both *co* and *który* clauses)

Another unintegration feature is that both *co* and *który* clauses can be dislocated from the typical head-adjacent position, and appear later in the discourse, thus separating the two elements of the construction (without resumption) and producing unintegration. For example, in (32), the head and the *co* clause appear in different conversational turns, the *co* clause in bold linking back to *to zdjęcie z Madrytu* 'this photo from Madrid'.

(32) (Spokes)
    A: pamiętasz   **to**   **zdjęcie** **z**   **Madrytu** takie   mamy   co tak
       remember-2SG this photo   from Madrid   such have-2PL CO so
       sobie   siedzimy
       REFL   sitting-2PL

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[5] To comment on the use of dative-inflected relative pronouns, Miller and Fernandez-Vest (2006: 50) observe that *whose* and *whom* are a "hallmark of formal written English" and are "absent from most spontaneous spoken English." Instead, unintegrated relatives are common in unplanned speech (e.g. *would those men I call their names step forward*).

B: z   Madrytu   czy   z   Wiednia?
   from   Madrid   or   from   Vienna
A: nie z   Madrytu **co   siedzimy   wcinamy   kanapeczki**
   no from   Madrid co   sitting-1PL   eating-1PL   sandwiches
'Remember this photo from Madrid that we have, that/where we're just sitting'
'From Madrid or from Vienna?'
'No, from Madrid, that/where we're sitting, eating sandwiches'

In (33), the *który* clause – although it seems to be a restrictive relative – is structurally and prosodically separated from its head by a parenthetical question in between.

(33) (Spokes)
mieliście **jakieś meldunki**   chyba   tutaj one były na Legionów tak?
had-2PL   some   registrations   probably   here   they were on Legionów yes
których   się   nie   dało   wymeldować
which   REFL   not   be possible   check out
'Apparently you had resident registrations, over here in Legionów Street, right? which you could not check out'

In (34), the non-canonical word order separates the head and the *który* clause with the main clause verb (cf. the standard word order of 'head+relative clause+main verb' in *jakieś tam normy których przestrzegają muszą być chyba* 'some norms which they adhere to must exist, presumably'). The same word order is used in the *co* clause in (35), where the relative clause falls outside the main interrogative clause both prosodically and in terms of word order. The marked word order of (34) and (35) represents another type of loosening of the ties between the head and the relative clause in spontaneous speech.

(34) (Spokes)
jakieś   tam   normy   muszą   być   chyba   **których   przestrzegają**
some   there   norms   must   be   presumably   which   adhere.to-3PL
'Some norms must exist, presumably, which they adhere to'

(35) (Spokes)
A   co   się   z   **tym   zapasowym   pokojem**   stało?
and   what   REFL   with   this   spare   room   happened
co był   taki   zapasowy   205   czy   coś
co was   such   spare   205   or   something
'What happened to this spare room? that we had this spare one, 205 or something'

8. Preposition dropping (in *co* clauses)

In this section, the ellipsis of prepositions (and of accompanying resumptive pronouns) is shown to be another feature weakening the integration of *co*

relative clauses. This is contrasted with the obligatory pied-piped prepositions in *który* clauses.

 Miller and Weinert (1998: 105–110) note that in spontaneous spoken English the prepositions are frequently omitted in relative clauses, as in (36) and (37), where the reconstructed prepositions are in parentheses:

(36) of course there's a rope **that** you can pull the seat back up [with]

(37) I haven't been to a party yet **that** I haven't got home [from] the same night

Similarly, the omission of prepositions is observed in Polish *co* relative clauses. Additionally, along with the preposition, a resumptive pronoun referring to the relativized head is omitted, as it has no preposition to complement. In (38) and (39) the reconstructed prepositions and resumptive pronouns (absent in Spokes) are inserted in parentheses.

(38) (Spokes)

z	**tym chłopakiem**	mieszkałaś	**co teraz**	[z	nim]	**mieszkasz?**
with	this boy	lived-2sɢ	co now	[with	him]	live-2sɢ

'You were living with this boy that you're now living [with]?'

(39) (Spokes)

nie	jadam	**tych**	**owoców**	przez	te	robale	**co**	**mi**
not	eat-1sɢ	these	fruits	because of	these	worms	co	me

[o	**nich]**	**opowiedziałaś**
[about	them]	told-2ᴘʟ

'I don't eat this kind of fruit, because of the worms you told me [about]'

Note that corresponding *który* relatives with preposition ellipsis are unacceptable, pied-piped prepositions being obligatory with the *wh*-pronoun, cf. (40).

(40) (modified)

z	**tym chłopakiem**	mieszkałaś	*(z)	**którym**	**teraz**	**mieszkasz?**
with	this boy	lived-2sɢ	(with)	whom	now	live-2sɢ

'You were living with this boy *(with) whom you're now living?'

The availability of preposition dropping in *co* clauses, but not in *który* clauses, is related to the distinct statuses of the two relativizers. *Co*, as a complementizer, indicates a subordination link between the head and the relative clause without a gap. This connection is looser, gapless, and linear. The preposition is not pied-piped but (optionally) linked to the resumptive (which is expressed only if the preposition is overtly expressed), and the presence of the preposition introducing the head (*z tym chłopakiem* 'with this boy') is enough to recover the same preposition dropped in the *co* clause. On the other hand,

pied-piping is the only option for *wh*-pronouns. In (40), the instrumental-inflected *który-m* co-occurs with a resumed pied-piped preposition which must be overtly expressed (*z tym chłopakiem, z którym...*). Thus, the *wh*-pronoun relative clause is a tighter structure with a denser network of agreement features, in which preposition dropping is not available.

9. Cline of functions; semantic ambiguity; lack of a nominal head (in *co* clauses)

This section focuses on the semantic ambiguity of some *co* clauses, which is a result of an ambiguous semantic contribution of *co* itself. Underpinning the discussion is the observation that in a cross-linguistic historical perspective pronouns are often grammaticalized and develop other functions: relativizers, complementizers, conjunction-like uses (Citko 2004: 107; Miller 2011: 183; Minlos 2012; Hansen et al. 2016: 205–206; Kehayov and Boye 2016: 860). This is the case with English *that* and *which* (see discussion in section 2) and Croatian *čim* 'when' reported by Minlos (2012: 75).

Co may serve several functions and in some cases it is difficult to say which reading is to be applied. Specifically, *co* may be construed as: (1) a complementizer, (2) a time-reference conjunction similar to English *when*, or (3) a place-reference conjunction similar to English *where*. However, in still other cases, *co* may ambiguously represent all these three functions, thus blurring the contrast between relativizing, spatial, and temporal uses of *co*.

In colloquial Polish there is a time-reference expression – *wtedy, co* 'when' (literally 'then that'), illustrated in (41) – which in colloquial style is often ellipted to *co*, as in (42).

(41) (Spokes)

to	wygląda	prawie	jak	my	startowaliśmy	na Materhorn	**wtedy**	**co**
this	looks	almost	like	we	set.off-1PL	on Matterhorn	then	CO

czekaliśmy	**na**	**okazję**	przy	tej
waited-1PL	on	ride	at	this

'this looks almost like when we set off for the Matterhorn, when we tried to hitch a ride at the'

(42) (Spokes)

A:
w	Sylwestra	to	było?
in	New Year's Eve	it	was

B:
no tak	to	musiało	być	w	Sylwestra	bo	to	było	w
well yes	it	must-PAST	be	in	New Year's Eve	because	it	was	in

nowy rok	**co**	**myśmy**	**na**	**tych**	**tych**	**zjeżdżali**
New Year's Day	CO	AUX	on	these	these	went.sledding-1PL

'Was that on New Year's Eve?'
'Well yes, it must have been the New Year's Eve, because it was on New Year's Day
that we went sledding on those'

While *co* in example (42) may be seen as the elliptic (*wtedy,*) *co*, this is not
clear at all; it may as well be treated as a general conjunction connecting two main
clauses – in these examples with a shade of temporal meaning. 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 hard to dif-
ferentiate *(wtedy,) co* from *co* as a conjunction and from *co* as a relativizer in NP-
headed relative clauses. The ambiguous function of *co* combined with the loose
syntactic and semantic relationship between heads and *co* clauses means that the
ambiguity is a fairly common occurrence. Consider examples (43–45).

(43) (Spokes)

to	było	wtedy	jak	jechałeś	na	**tą**	**imprezę**	**do**	**akademika**
it	was	then	how	went-2SG	on	this	party	to	dorm
co	nie	chciałeś	Reni	powiedzieć
CO	not	wanted-2SG	Renia-DAT	tell

'It was when you went to this party at the dorm that/when you didn't want to tell
Renia'

(44) (Spokes)

teraz	ja	chciałam	już	żebyście	mi	przywieźli	w	**tą**	**niedzielę**
now	I	wanted	already	AUX-2PL	me	brought-2PL	in	this	Sunday

co ostatnio byliście
CO lately   were-2PL
'Now I wanted you to bring (it) to me already on that Sunday that/when you were
here the other day'

(45) (Spokes)

ciekawe	jakbyś	tak	spadła	z	tego	**tego**	**pontona**	**co**	**tak**
interesting	supposing		fell-2SG	from	this	this	inflatable boat	CO	so
pływałaś	jak	byś	ciekawe	jak	by	to	wyglądało	no
floated	how	AUX	interesting	how	AUX	it	looked-3SG	yes

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

In examples (43–45) the *co* clauses are used by speakers as time-reference
devices reminiscent of the *wtedy, co* construction. At the same time, they seem
to be linked to their respective head NPs in a way that resembles the struc-
ture of relative clauses, although with some features typical of spontaneous
speech such as preposition dropping.[6] Given the inherent loose integration of
co clauses, the ambiguity is not to be easily resolved. This is shown in the op-

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   [6] Compare the reconstructed preposition and accompanying resumptive in: *z tego pontona
co [**na nim**] tak pływałaś* 'off that inflatable boat that you floated [**on**]'.

tional English glosses for *co* above in (43–45). The *co* clauses can be interpreted as temporal *when*-clauses (paraphrasable with *wtedy, co*) or unintegrated relative clauses modifying head nouns. On the first reading *co* is a connective element akin to a conjunction, on the second – a relativizing complementizer.

In other cases, *co* seems to perform the function of a place-reference conjunction similar to English *where*, as in (46), although the same example may also be seen as a relative clause introduced by a complementizer and with preposition dropping (cf. *w tym sklepie co* [*w nim*] *są…*).

(46) (Spokes)
    i   **w tym drugim sklepie co są** z kolei **te**   **frotki** i   dzianinki
    and in this second shop   CO are in turn these hair ties and fabrics
    'And in this other shop where/that they have hair ties and fabrics'

In other cases there does not appear to be a head associated with the *co* clause, thus making a relative clause reading untenable in favour of a place-reference conjunction reading. The *co* clause is a loosely structured headless comment intended to help identify the location of a place. In such uses, *co* may be paraphrased with the correlative complex *tam, gdzie* 'where' (lit. 'there where'), as in (47) and (48).

(47) (Spokes)
    a   to   tutaj mieszkają | co   mają | **co taka cysterna**   **stoi?**
    oh it   here live-3pl   CO have-3PL CO such cistern truck   stands
    'Oh, so they live where, where they have, where the cistern truck is?'

(48) (Spokes)
    A: Kawecki ten | wnuk   ten   tej | wiesz   który
        Kawecki this grandson this-NOM-M this-GEN-F know-2sg which
    B: no
        yeah
    A: przed mechanikiem | przed   Borowcem **co ten dom** **jest pobudowany**
        next to garage   next to Borowiec CO this house is   built
    'This Kawecki guy, the grandson of what's-her-name, you know who'
    'Yeah'
    'Next to the garage, next to the Borowiec place, where this house has been built'

All in all, examples (42–48) illustrate a cline of uses of *co* ranging from a straightforward complementizer, through ambiguous temporal-relativizing and locative-relativizing uses, to a time- and place-reference conjunction. The existence of this cline of function fits well the observation that in a diachronic perspective pronouns often develop other complementizer and conjunction-like functions often with an intermediate relativizer stage. Polish uninflected *co* also seems to be a case of such diachronic change leading to synchronic polyfunctionality (from pronoun to relativizer to conjunction).

10. Non-standard or mismatched inflection on the relative pronoun (in *który* clauses)

In spontaneous speech the structural integration of *który* clauses may be compromised through the use of non-standard/mismatched inflections on the *wh*-pronoun. It is difficult to say to what extent these inflections are mere performance disfluencies. At least in some cases, there seem to be patterns which point to broader tendencies rather than just one-off phenomena. One such example is the genitive of negation, whereby accusative objects change into genitive objects in negatives, cf. (49) and (50).

(49) Ten   artykuł,   **który**   czytałeś   (constructed)
     this   article   which-ACC-SG   read-2SG
     'This article which you read'

(50) Ten   artykuł,   **którego** /   ***który**   nie czytałeś   (constructed)
     this   article   which-GEN-SG   which-ACC-SG   not read-2SG
     'This article which you didn't read'

Willis (2013: 361) reports a slight shift towards use of the accusative in modern Polish, especially in contexts of long-distance genitive of negation (also Przepiórkowski 2000), while admitting that it is not clear whether this is due to systematic language change. The non-application of genitive of negation in long-distance cases is illustrated in (51), found in an on-line news service.

(51) (Internet)
     TVP   nie   uważała   za stosowne   dać   transmisję   z
     TVP   not   considered   as appropriate   to give   transmission-ACC   from
     uroczystości
     celebration
     'TVP didn't consider it appropriate to broadcast the celebration'

Thus the genitive-accusative alternation does not seem to have a clear-cut distribution. Aside from long-distance cases, Ilc (2011) observes that in Slovene the genitive of negation, which is otherwise obligatory in standard language, is often replaced by the accusative in colloquial style. The same may be the case in colloquial modern Polish in that the canonical genitive is occasionally replaced by accusative forms, as in (52).

(52) (Spokes)
     najlepsze   są   te   **które**   **on nie robił**
     best   are   those   which-ACC-PL   he not did
     'The best are those which he didn't do'

Also, the genitive may be replaced by the accusative outside the genitive of negation construction. Consider the mismatch between the use of the accusative relative pronoun and the genitive trace in (53), the mismatch being in part due to the growing tendency for the verb *używać* to be used with accusative objects instead of the canonical genitive.

> (53) (Spokes)
> {ja mam wszystkie plastikowe sitka to znaczy}
> takie **które** **ja** **używam** *t* to jest plastikowe
> such which-ACC I use [trace-GEN] it is plastic
> 'All my sieves are plastic, I mean the one I use is plastic'

The genitive may also be used where the accusative would otherwise be expected in standard language, as in (54). Here the mismatch reflects the common confusion of two masculine declensions – masculine animate and masculine inanimate – the former having syncretic genitive and accusative forms, the latter displaying contrast in the two cases.

> (54) (Spokes)
> {mam egzamin zaległy jeszcze z zeszłego roku}
> **którego** muszę zdać *t* teraz
> which-GEN have.to-1SG pass [trace-ACC] now
> 'I have an outstanding exam from last year which I have to pass now'

Above we have noted the mutual replacement of the accusative and the genitive relative pronoun forms. Regardless of whether Polish is undergoing a systematic change in this respect – as indicated in the literature in reference to the genitive of negation – the accusative/genitive mismatch is another factor that compromises the syntactic cohesion of *który* relative clauses.

11. Quantitative information

This section summarizes the quantitative findings on the unintegration features in *co* and *który* relative clauses retrieved from Spokes. As can be seen in Table 1, *który* clauses display unintegration features with a frequency rate of 4.5% and both subject and object relatives contribute to this rate almost equally (4.7% and 4.2% respectively).

Table 1: (Un)integration of *który* clauses in Spokes

	Integrated	Unintegrated	Total
Subject *który* relative clauses	1,235 (95.2%)	61 (4.7%)	1,296 (100%)
Object *który* relative clauses	723 (95.6%)	32 (4.2%)	755 (100%)
Total	1,958 (95.4%)	93 (4.5%)	2,051(100%)

Table 2 represents the more varied situation in *co* clauses. Namely, altogether, *co* clauses display the unintegration features discussed in this paper much more frequently than *który* clauses, as shown in the 32% rate of occurrence. However, there is an important quantitative difference between subject *co* clauses and non-subject *co* clauses (the latter including object relative clauses and clauses introduced by *co* as a conjunction or discourse connective). While subjects exhibit unintegration in 13.5% of cases, the unintegration features are observed in non-subjects with the frequency of 52.6%. Recall that it is often difficult to distinguish relativizing uses of *co* from its conjunction-like uses (section 9) because the cline of functions it serves leads to interpretational ambiguity; therefore, all non-subject *co* clauses are included in this umbrella category.

Table 2: (Un)integration of *co* clauses in Spokes

	Integrated	Unintegrated	Total
Subject *co* relative clauses	365 (86.4%)	57 (13.5%)	422 (100%)
Non-subject *co* relative clauses	180 object relatives (47.3%)	200 object relatives and conjunction-like uses (52.6%)	380 (100%)
Total	545 (67.9%)	257 (32%)	802 (100%)

Based on the information in Tables 1 and 2, we draw the conclusion that *co* clauses are much more likely than *który* clauses to have looser structural integration due to the occurrence of the unintegration phenomena discussed in this paper. While the probability is three times higher for subject *co* clauses, in the case of non-subject *co* clauses, the rate of occurrence of unintegration features is 12.5 times higher than that in *który* clauses. Much of this increase of unintegration is to be attributed to the indeterminate status of *co* as a relativizer or conjunction, with its cline of functions often inviting multiple/ambiguous readings.

12. Conclusion

Co clauses are inherently less integrated than *który* clauses for their lack of the network of agreement features. At the same time, both *co* and *który* clauses are subject to the constraints of real-time speech production, and spontaneous speech is known to be marked by unintegration, fragmentation, and parataxis, compared with the neat organisation of written language. It has been therefore the purpose of this paper to investigate the relative unintegration of these two types of clauses. In spontaneous conversational Polish, both *co* and *który* clauses display unintegration features that loosen the connectivity between the

head and the relative clause. This is in line with what has been reported in the literature on unplanned speech (Miller and Weinert 1998). Some of these features are shared between *co* and *który* clauses, others are only observed in the former, but not the latter (see Table 3 below). Due to specific properties of the two types of clauses, certain features are only applicable to one, but not to the other. The distribution of the features is represented in Table 3.

Table 3: Distribution of unintegration features

Unintegration feature	*który* clauses	*co* clauses
Gapless clauses as relative clauses	+	+
Long-distance relationship with the head	+	+
Marked word order	+	+
Lack of required resumptive pronouns	n/a	+
Non-canonical resumption	+	+
Preposition dropping	–	+
Semantic ambiguity of the relative marker (cline of functions)	–	+
Lack of a nominal head	–	+
Non-standard or mismatched inflection of the relative pronoun	+	n/a

Although there is a degree of overlap in the range of unintegration features in both types of relatives, there is a substantial difference in the quantitative extents to which *co* and *który* clauses display the above unintegration features. While subject *co* clauses exhibit the unintegration phenomena three times as frequently as *który* clauses, non-subject *co* clauses (including object relatives and clauses introduced by *co* as a conjunction or discourse connective) include the unintegration features 12.5 times as often as *który* clauses. Much of this increase of unintegration in non-subject *co* clauses is to be attributed to the indeterminate status of *co*, with its cline of functions as a relativizing complementizer, general conjunction, or time- and place-reference conjunction, often inviting multiple/ambiguous readings. As argued in this paper, this polyfunctionality of *co* is a result of its diachronic development from pronoun to complementizer/relativizer and to conjunction. In contrast, *który* is essentially a *wh*-pronoun with relatively infrequent unintegration in *który* clauses, which may be attributed to the specificity of spontaneous speech rather than seen as an expansion in the pronoun's categorial status.

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