Resumptive Pronouns in Polish *co* Relative Clauses

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Abstract: This paper discusses the problem of resumptive pronouns in Polish object relative clauses introduced by the relative marker *co*. It does so through the use of corpus data, thus contributing to previous literature, which has been largely based on introspection. In the literature, different accounts vary significantly as to the basic question of when the resumptive pronoun is expected. The present study addresses this matter by means of qualitative and quantitative analysis of conversational spoken Polish—the language variety in which *co* relatives typically occur. As is shown, the relatives are used in two broad configurations—unmarked (with null resumptives and inanimate referents) and marked (with overt resumptives and human referents). Both scenarios are linked to distinct strategies of case recovery. The presence of the pronoun itself is one such strategy. In contrast, the omission of the pronoun is often accompanied by case-matching effects that facilitate the omission. Another typical property of *co* relatives is their preference for encoding definiteness of referents, whereby *który* clauses tend to signal indefiniteness. This is evidenced by the frequent cooccurrence of *co* clauses with head-internal demonstratives. Interestingly, these head-internal demonstratives can also render resumptive pronouns unnecessary, thus constituting another factor relevant in resumption.

1. Introduction

The object of this study is a colloquial variety of Polish relative clauses in which the uninflected relative marker *co* is used in place of the standard relative pronoun *który*. Examples (1) and (2) contrast the two varieties.

(1) ludzie, którzy tu   przychodzą
     people   who   here come

     'people who come here'

(2) ludzie, co   tu   przychodzą
     people   co   here come

     'people that come here'

There is general agreement that example (2) represents a colloquial style especially characteristic of spoken language, and some speakers find it "slightly substandard" (Fisiak, Lipińska-Grzegorek, and Zabrocki 1978: 173, fn. 16), especially when the relativized noun is the object of the relative clause, as in (3). Its grammaticality/acceptability Fisiak, Lipińska-Grzegorek, and Zabrocki (1978: 163) and Broihier (1995: 24) evaluate with a question mark.

(3) ?Ten samochód, co Janek widział wczoraj, zniknął
      this car   co Janek saw   yesterday disappeared

     tajemniczo.
     mysteriously

     'The car (that) Janek saw yesterday has mysteriously disappeared.'

Opinions are divided as to the acceptability of *co* relative clauses (henceforth *co*-RCs). On the one hand, they have long been recognized as a legitimate alternative to the *który* clause. For example, grammar textbooks going back to Krasnowolski (1897: 248) and Stein and Zawiliński (1907: 43–44) acknowledge the use of *co* as a relative pronoun alternating with *który*. Both sources cite classical literary works with examples of the use. On the other hand, the treatment of the *co*-RCs is often accompanied by assurances of their grammaticality, as if the authors felt obliged to prove a point. Likewise Nitsch (1931: 29) in reply to a reader's letter quotes widely from literary classics to dispel the normative doubts of his contemporaries as to the legitimacy of *co*-RCs. Similarly, Buttler, Kurkowska, and Satkiewicz (1973) cite the literary tradition to support the legitimacy of the construction. This no doubt reflects the fact that *co* relatives have often been considered substandard compared to *który* relatives. For instance, Mykowiecka (2001: 152) notes that their acceptability varies among speakers. Others, like Fisiak, Lipińska-Grzegorek, and Zabrocki (1978) and Broihier (1995), draw the line of acceptability between subject and object clauses and argue that the acceptability of object *co*-RCs may depend on the presence or absence of an anaphoric (or resumptive) pronoun that explicitly marks the head noun as the object of the relative clause. Consider example (4) from Kardela (1986: 90–91), who argues that the presence of the resumptive saves an otherwise ungrammatical sentence.

(4) ten kot, co *(go)   widziałeś wczoraj
     this cat co he$_{ACC}$ saw$_{2SG}$ yesterday

     'the cat (that) you saw yesterday'

There is a general consensus that resumptive pronouns are ungrammatical in subject *co*-RCs.[1] However, there is no consensus as to when the resumptive pronoun is to be expected (or required) in object *co*-RCs (henceforth *co*-ORCs). Statements regarding its occurrence range from definitive assertions that it is obligatory in all *co*-ORCs, to indications of a mere preference for its presence, to fine-tuned observations that the animacy of referents plays a role in whether the resumptive is required to ensure acceptability (see references in section 5). In any case, to the best of my knowledge, no empirically based account of the problem is available,[2] and much of the discussion so far has been based solely on constructed examples and the analysts' own acceptability judgments. Therefore, this study seeks to contribute to the discussion by drawing on a sample of authentic material collected from spontaneous spoken Polish—a language variety in which *co*-RCs can be expected to be especially common—to address the following questions:

(i) When can one expect the resumptive pronoun in *co*-ORCs?

(ii) Is the occurrence of the resumptive consistently tied to the same contexts?

(iii) If the omission of the resumptive is possible, when does it occur?

(iv) In quantitative terms, what is the rate of occurrence of the resumptive in *co*-ORCs?

These questions delimit the goals of the present study, which sets out to discover and describe patterns of usage rather than propose a formal theory of the distribution of resumptive pronouns.

2. The Corpus

The data in this paper come from SPOKES (Pęzik 2015), which is 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 the relative use of *co* were taken into account.

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[1] More specifically, resumptives are banned in the subject position of the highest clause (Bondaruk 1995), also paralleled crosslinguistically in the Highest Subject Restriction (Shlonsky 1992; McCloskey 2006).

[2] In a more general Slavic perspective, Hladnik (2015: section 4.4) offers a corpus-based study of Slovenian *kateri* and *ki* relatives, although the discussion focuses on the choice between the complementizer and the relative pronoun rather than resumption.

In sum, approximately 77% of the corpus data was used, which translates into approximately 1.6 million words.

3. The Data and Methodology

A sample of data was collected from SPOKES by an exhaustive search of all occurrences of the word *co*. Each occurrence was inspected and tokens of the relative-marker use of *co* were collected. Many occurrences were excluded, e.g., the homophonous interrogative pronoun *co* ('what') used in questions as well as the obligatory *co* in light-headed relatives such as *to*, *co mówisz* ('what you say').[3] In the latter, *co* is not replaceable by *który* and is inflectable (cf. *to, czego nie mówisz* 'what you don't say'). Another use of *co* that was excluded is a variety of semirelative use that is not directly relevant to the purposes of this study. The use is illustrated in the second turn of the exchange in (5):

(5) – widziałeś ten ostatni wypadek co się stał?   (SPOKES)
         saw$_{2SG}$ this   last   accident co REFL happened

     – **co** ciężarówka wjechała?
        co truck   went in

     '"Did you see that last accident that happened?"
      "(The one) where the truck crashed?"'

The use of *co* in *co ciężarówka wjechała*, although similar to classic relatives, would be difficult to include in the kind of analysis attempted in this study. The clause is a main clause with its own subject (*ciężarówka*) and is only loosely connected to the (putative) head NP *wypadek*. There is no gap typical of relative clauses, and the head NP is neither the subject nor object of the *co* clause. The construction is thus marked by a structural nonintegration typical of spoken relative clauses (Miller and Weinert 1998: 105–20) and is not suitable for an analysis in which unambiguous recognition of the object function is vital. For this reason, such *co* constructions were also excluded.

The search and elimination process yielded 424 subject clauses and 204 *co*-ORCs, the latter constituting the focus of this study. Of the 204 items, in 19 the resumptive pronoun is obligatory as it is a prepositional complement (see section 6.3). In the remaining 185 instances, the presence or absence of the resumptive is a matter of other factors that will be of interest to us in the following sections.

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[3] Following Citko (2004), light-headed relatives include morphologically light heads such as demonstratives (*to, co* 'that which'), indefinites (*coś, co* 'something that'), and negative indefinites (*nic, co* 'nothing that').

A methodological remark is in order here. Although the study is based primarily on corpus data, certain points need to be illustrated with invented examples and modified versions of SPOKES examples. This is necessary, for example, when we consider the relative acceptability or felicitousness of the presence or absence of resumptives. In such cases, the author's judgment and native-speaker competence is used to evaluate acceptability. Thus the approach here is one that combines corpus data and introspection, the two reinforcing and complementing each other. The use of authentic data has the obvious advantage of accurate and unbiased insight, which is especially important in discovering and describing patterns of usage. On the other hand, introspection complements corpus analysis in the sense that corpora cannot tell us (directly) what is acceptable/unacceptable or which variant of a particular construction is more or less felicitous. Therefore, both methods are useful, and in pursuing the goals of this study, the joint application of corpus analysis and introspection seems sensible. Accordingly, when SPOKES examples are contrasted with invented/modified examples in the discussion to follow, the SPOKES examples are marked (SPOKES) and invented/modified examples are marked (Invented)/(Modified). Corpus examples are cited 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 would otherwise have been difficult to understand.

4. *co*-ORCs and Definiteness

The question of the presence or absence of resumptive pronouns in *co* relatives is often treated in the literature in an all-too-clear-cut dichotomy: resumptives are assumed to be obligatory in object relatives and impossible in subject relatives. For example, Kardela (1986) argues that if *co* has its trace in object position, it must obligatorily be followed by a resumptive pronoun. Based on this assumption, the author correctly predicts that example (6) is ungrammatical because it lacks an appropriate resumptive:

(6) *Ta dziewczyna, co zaprosiłeś do domu.
    this girl   co invited$_{2SG}$ to home
    Intended: 'This girl (that) you invited home.'

However, another of Kardela's examples is puzzling, given the author's line of argumentation. Sentence (7) is marked by the author with a question mark, indicating its doubtful grammaticality, but based on the author's claims, the sentence should be downright ungrammatical, given that *co* in an object clause must be followed by a resumptive pronoun.

(7) $^?$Przeczytałem gazetę,   co kupiłem   wczoraj.
      read$_{1SG}$ newspaper co bought$_{1SG}$ yesterday

      'I have read a/the paper (that) I bought yesterday'

The problem accounting for the slight awkwardness of (7) is not that a re-sumptive pronoun is missing, but that such relatives are most frequently com-plete with a demonstrative pronoun preceding the head noun and indicating the referent as a definite item, in the case example (7), *the newspaper*, as opposed to *a newspaper*. The referent of the noun is then further specified in the *co* clause: *the newspaper that I bought*. The demonstrative is frequently ob-served in authentic *co* relatives precisely to make reference to specific items. In SPOKES, demonstratives are used in 173 (84.8%) out of 204 relevant items.[4] Compare the improved sentence (8):

(8)   Przeczytałem tę   gazetę,   co kupiłem   wczoraj.
      read$_{1SG}$ this newspaper co bought$_{1SG}$ yesterday

      'I have read the paper (that) I bought yesterday'

Given this definiteness effect, it comes as no surprise that *co* relatives with the nonspecific pronoun *jakiś/jakaś/jakieś*, etc. 'some' are awkward, as in (9). Also, nonrestrictive relative clauses are unacceptable, even if a resumptive is introduced, as in (10). The reason is clear: the job of a *co* relative is to specify the referent, not to give additional information about it. Note that the use of a standard *który* relative clause in (11) eliminates the awkwardness.[5]

(9)   Przeczytałem tę # $^{??}$jakąś gazetę,   co   mi   dałeś.
      read$_{1SG}$ this #   some   newspaper co   I$_{DAT}$ gave$_{2SG}$

      'I have read the # $^{??}$some paper that you gave me.'

(10)   *Kupiłem   jakąś gazetę,   co (ją)   przeczytałem w
       bought$_{1SG}$ some newspaper co   it$_{ACC}$ read$_{1SG}$ in

       całości.
       entirety

       Intended: 'I bought some newspaper (that) I read in its entirety.'

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[4] Interestingly, demonstratives tend to occur even with proper nouns, such as peo-ple's names, as in *ten Daniel co tam mówiłam o nim wcześniej* ('this Daniel I was talking about earlier').

[5] As pointed out by one of the reviewers, this also has parallels in the availability of definite/indefinite referents in English *wh-* relatives vs. *that* relatives (cf. *John gave me a book, which I read* vs. $^?$*John gave me a book that I read*).

(11) Kupiłem   jakąś   gazetę, którą   przeczytałem w   całości.
     bought*1SG* some   paper   which   read*1SG*   in   entirety

'I bought some paper, which I read in its entirety.'

McDaniel and Lech (2003: 70) state that *co* relatives in general are ungrammatical for some speakers—with or without resumptives—and cite the following examples marked with question marks:

(12) ?To   jest jabłko, co chłopiec je.
      this is   apple   co boy   eats

'This is an/the apple that a/the boy eats/is eating.'

(13) ?To   jest kredka co chłopiec nadepnął na   nią.
      this is   crayon co boy   stepped   on   her*ACC*

'This is a/the crayon that a/the boy has stepped on.'

Once again, the problem with (12) and (13) is that such relatives sound much better when both referents are given definiteness, as through the use of definite articles or demonstratives. As Polish has no articles, demonstratives can provide the required definiteness. In the case of *chłopiec*, replacing it with a proper noun would have a similar effect of adding definiteness. Consider the improved versions:

(14) To   jest to   jabłko, co ten   chłopiec # Paweł je.
     this is   this apple   co this boy   Paweł eats

'This is the apple that the boy # Paweł is eating.'

(15) To   jest ta   kredka, co ten   chłopiec # Paweł na   nią
     this is   this crayon co this boy   Paweł on   her*ACC*

nadepnął.
stepped

'This is the crayon that the boy # Paweł has stepped on.'

Note that no resumptives have been introduced or deleted. Sentence (14) still has none, and sentence (15) still has one, although it has been moved to preverbal position, where it sounds more natural. The improved acceptability of (14–15) over (12–13) suggests that *co* relatives are better suited for definite rather than indefinite reference, the latter of which can be signalled by *który*

relatives.[6] Consider the distinct effects produced by a *co* relative and a *który* relative in (16) and (17). The position of the verb *je* relative to the noun *chłopiec*/ *Paweł* may vary for topicality purposes.

(16) To   jest jabłko, które je   chłopiec.
     this is   apple   which eats   boy

'This is an apple which is being eaten by a boy.'

(17) To   jest to   jabłko, co Paweł je.
     this is   this apple   co Paweł eats

'This is the apple that Paul is eating.'

With these changes in definiteness, sentences (8), (14), and (15) are per- fectly acceptable. Indeed, they follow a very common pattern found in corpus data in which inanimate head nouns are used in *co*-ORCs without resumptive pronouns. However, before considering the SPOKES data, let us briefly review some of the previous accounts of the problem.

5. The Resumptive in *co*-ORCs: Previous Accounts

As has been indicated above, there is much uncertainty as to when the re- sumptive pronoun is to be expected (or required) in *co*-ORCs. Some accounts of Polish *co* relatives take a superficially clear-cut approach in that they as- sume that resumptives are obligatory in object clauses (Giejgo 1981; Kardela 1986; Bondaruk 1995; Mykowiecka 2001; Skwarski 2010). Consequently, the *co* relative clause is assumed to contain no gap, as is filled in by the obligatory resumptive, which echoes the relativized NP (Mykowiecka 2001: 151). Other sources do not explicitly state the obligatoriness of the resumptive, but they do assert broadly that object relatives are accompanied by resumptives[7] (Gołąb and Friedman 1972: 35;[8] Topolińska, Grochowski, and Karolak 1984: 345).

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[6] An anonymous reviewer points out that definiteness interacts with relative clause types in similar ways crosslinguistically. See Bošković 2009 for similar definiteness effects in Serbo-Croatian *što* relatives, *što* being a relative complementizer. Also, par- allels can be seen in *deto* relatives in Bulgarian (Rudin 1986/2013; Krapova 2010) and *co* and *který* relatives in Czech (Fried 2010, 2011).

[7] Fried (2010) reports a similarly vague treatment of resumptives in the literature on Czech relative clauses with *co*.

[8] Friedman, in his section of the 1972 paper, notes that in Serbo-Croatian animacy distinctions of referents play a part in the (non)use of resumptives. However, in ref- erence to Polish, Gołąb makes no such comment. Also, confusingly, Gołąb states that resumptives accompany the oblique functions of *co*, but he illustrates this with an example of an accusative resumptive.

Other studies, however, suggest that the resumptive is not always obligatory. For example, Fisiak, Lipińska-Grzegorek, and Zabrocki (1978: 164) note that "[t]he presence of the [resumptive] pronoun makes otherwise ill-formed clauses with *co* grammatical." Nevertheless, the authors observe that the ungrammaticality of relatives with [+human] heads is "markedly greater" (1978: 163) than that of relatives with [–human] heads. Similarly, Broihier (1995: 23) briefly mentions "the marginal possibility of avoiding pronunciation of this pronominal form when the relativized NP is inanimate".[9] Variation from speaker to speaker is also noted. Lavine (2003: section 2.2) acknowledges that structural accusatives, unlike obliques, are not always overtly resumed, suggesting that resumption of inanimates is not obligatory for some speakers. Szczegielniak (2004: 51) too notes that an object relative clause with *co* requires a resumptive only for some speakers.

As can be seen, there is not as yet a clear account of the resumptive pronoun in *co*-ORCs. To add to the confusion, Pesetsky (1998: 374) lumps together subject and object *co*-RCs and claims that "when a local nominative or accusative position is relativized […] [c]rucially, a resumptive pronoun is impossible." Evidently, the problem needs reexamination and clarification, and the remainder of this paper addresses the issue via an analysis of empirical data.

As it turns out, animacy and personhood are crucial to any thorough description of the use of resumptives in *co*-ORCs. I will therefore first focus on inanimate nouns. Animate nouns and their further subgroupings will be discussed subsequently in sections 7–9.

6. Inanimate Nouns

I divide the discussion of inanimates into two groups: (i) overt and null[10] resumptives in object positions that are case-marked by a subcategorizing verb, and (ii) resumptives obligatorily appearing as prepositional complements. I will first consider the former, and the latter will be discussed in section 6.3. Consider the following utterances from SPOKES:

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[9] In reference to similar relatives introduced by uninflected relative markers in Serbo-Croatian, Goodluck and Stojanović (1996) and Bošković (2009) observe that resumptives are obligatory with animate objects but optional with inanimate objects. Gołąb and Friedman (1972) fine-tune this claim by saying that when Serbo-Croatian *što* serves an oblique function, resumptives are necessary, but with *što* serving as an accusative, resumptives are usually used with animate antecedents and not used with inanimate ones.

[10] "Null resumptives" is used in this paper simply to refer to relatives containing no resumptives.

(18) no   ten film   co oglądałyśmy [t$_{ACC}$]^{11} dzisiaj   (SPOKES)
PART this film$_{NOM}$ co watched$_{1PL}$ today
'the film that we watched today'

(19) to   nie jest ten   co ten pan tam sprzedaje [t$_{ACC}$]
this not is   this$_{NOM}$ co this man there sells   (SPOKES)
'it isn't the one that this man there sells' (talking about honey)

(20) maleńką taką, taką zupełnie   nie taką   co my mamy [t$_{ACC}$]
tiny   one one completely not such$_{ACC}$ co we have
(SPOKES)

'a tiny one, one that is completely different from the one we have'

(21) Ewka przynieś ciotce tą   sukienkę co ja kupiłam [t$_{ACC}$].
Ewka bring   aunt this dress$_{ACC}$ co I bought   (SPOKES)
'Ewka, bring your aunt the dress that I bought.'

(22) i   z   tamtej mąki mi się dobry biszkopt upiekł # z
and with that   flour me REFL good pastry   baked   with

tej   pierwszej co kupiłam   [t$_{ACC}$]   (SPOKES)
this first$_{GEN}$ co bought$_{1SG}$
'and with that flour I baked a nice pastry, with the one I bought first'

(23) ja sobie doszłam do tych zapisków co sobie porobiłam [t$_{ACC}$]
I   REFL went   to these notes$_{GEN}$ co REFL made
'I found those notes that I had made'   (SPOKES)

(24) w tym kiosku   co twoi rodzice mają [t$_{ACC}$]   (SPOKES)
in this kiosk$_{LOC}$ co your parents have
'in that kiosk that your parents have'

(25) przynajmniej na tym   co ja widziałam [t$_{ACC}$] nie było
at least   on the one$_{LOC}$ co I   saw   not was

wyróżnionego klubu   (SPOKES)
distinguished club
'at least the one I saw did not say which club it was'

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11 [t$_{ACC}$] marks traces that are accusative-marked by the preceding verbs.

(26) zajmuje się   tymi mieszkaniami   co   gmina   wynajmuje [t_{ACC}]
       deals   REFL these apartments$_{INST}$ co council rents out

'(s)he deals with those apartments that the council rents out' (SPOKES)

Note that sentences (18–26) include no resumptive pronouns that would echo the head and fill in the gap in object position. Certainly, including the resumptive is an option, but it is by no means a requirement,[12] cf. *ten film co* **go** *oglądałyśmy* 'that film that we watched (it)', *tą sukienkę, co ja* **ją** *kupiłam* 'that dress that I bought (it)', *tych zapisków co* **je** *sobie porobiłam* 'these notes that I made (them) for myself', etc. In fact, of the two options, dropping a resumptive is more frequent in SPOKES than including one (for inanimates of all genders). Specifically, the resumptive is not used in 151 cases (95%), while it is used only in 7 cases (5%).[13] This asymmetry is represented in table 1.

Table 1. Resumptives with Inanimate Referents in SPOKES

	Resumptive	No resumptive	Total[12]
Inanimate referents	7 (5%)	151 (95%)	158

Note also that sentences (18–26) illustrate various grammatical settings involving distinct case forms of the heads: there are nominative NPs (18–19), accusative direct objects (20–21), and oblique NPs in prepositional phrases (22–26). In each case, whatever the case of the antecedent, there is an accusative trace (marked [t_{ACC}]) in object position following a verb subcategorizing the accusative. This is by far the most frequent pattern for *co*-ORCs regardless of animacy distinctions. In SPOKES, the overwhelming majority of traces subcategorized by verbs are accusative traces (in 154 out of 160 cases (96.2%)) and only 6 are genitive or instrumental traces. Also, a large majority of the entire sample, namely 164 out of 204 relatives (80%), have inanimate noun heads such as those in (18–26). Both of these quantitative tendencies are represented in Tables 2 and 3, respectively. The combination of these two quantitative find-

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[12] Similarly, Lavine (2003) reports that in Ukrainian resumption is optional for such cases of accusative traces, regardless of gender or animacy.

[13] These frequencies include only traces/resumptives subcategorized by verbs, not by prepositions. The 5% frequency rate of resumptives occurring with inanimate objects is in line with Minlos's (2012: 79) claim that some Slavic languages (he cites Bosnian/Croatian/Serbian and Czech) may deviate from the typical correlation: animates take resumptives; inanimates do not.

[14] The total excludes six cases of resumptives required obligatorily by prepositions. These are irrelevant to the discussion of optionality.

ings suggests that the most frequent type of *co*-ORCs are those with inanimate heads, null resumptives, and accusative traces.

Table 2. Null resumptives in SPOKES

	Animates	Inanimates	Total
Acc traces	9	145	154 (96.2%)
Non-Acc traces	0	6	6 (3.7%)
Total of null resumptives	9	151	160

Table 3. Animacy in SPOKES

Inanimate referents	164 (80.3%)
Animate referents	40 (19.6%)
Total	204

In light of these statistics, examples such as (27), reproduced below from Broihier (1995: 24), who marks it with a question mark, must be considered the norm in colloquial spoken Polish. (Note the resemblance of Broihier's example (27) to example (18) above.)

(27) $^{?}$ten samochód, co Janek widział [t_{ACC}] wczoraj
       this car$_{NOM}$ co Janek saw   yesterday

      'the car that Janek saw yesterday'

In a similar study of Czech *co*-ORCs, Fried (2010) finds inanimate referents in 84% of cases. She argues that the preponderance of inanimate referents in object relative clauses is to be expected because they universally make more natural patient nouns than do animates. They can undergo actions more readily, be acted upon, manipulated, affected, etc. Hence the frequent absence of the resumptive pronoun is to be expected.

Let us consider one example that has been given in the literature to support the alleged obligatoriness of resumptives in *co*-ORCs. Mykowiecka (2001: 151) and Skwarski (2010) cite the following example:

(28) Pióro   co nim   pisałam.
      pen$_{NOM}$ co he$_{INST}$ wrote$_{1SG}$

      'The pen that I wrote with.'

Example (28) involves an inanimate neuter noun and thus is relevant to the discussion in this section. According to Mykowiecka and Skwarski, *nim* is obligatory in the sentence. Based on what we already know about authentic relatives, i.e., the typical involvement of an accusative-assigning verb, let us modify the sentence by removing the resumptive and using an accusative-assigning verb. Another modification introduced is the addition of the demonstrative *to* ('this'), which also follows the typical pattern indicated by corpus data.

(29) To   pióro   co kupiłem/ zgubiłem/sprzedałem [t_{ACC}].
       this pen_{NOM} co $bought_{1SG}$/$lost_{1SG}$/ $sold_{1SG}$

       'the pen that I bought/lost/sold'

The sentence is now perfectly fine without the resumptive. Other modifications involving other case forms of the head also produce acceptable results.

(30) Pokażę   ci   to   pióro   co dostałem [t_{ACC}] na gwiazdkę
       $show_{1SG.FUT}$ you this pen_{ACC} co got_{1SG} for Christmas

       od   żony.
       from wife

       'I'll show you the pen that I got from my wife for Christmas.'

(31) Opowiedz mi   o   tym piórze co chcesz   sprzedać [t_{ACC}].
       tell I_{DAT} about this pen_{LOC} co $want_{2SG}$ sell

       'Tell me about the pen that you want to sell.'

We can conclude that, for inanimate nouns, resumptive pronouns are not only unnecessary with accusative traces but in fact are rare, as evidenced by their 5% frequency in SPOKES (cf. Table 1).

6.1. *co*-ORCs and Case-Matching Effects

Let us now consider whether nonprepositional oblique traces are allowed without resumptives. Such examples with inanimates are very rare in SPOKES—in itself a fact worth noting; there are only six, three of which are given in (32), (33), and (34), all with genitive traces.

(32) może   rozbrajaj najpierw te   co nie widać [t_{GEN}] (SPOKES)
       maybe disarm   first $these_{ACC}$ co not be seen

       'maybe you should first disarm the ones that cannot be seen' (talking about disarming mines in a computer game)

(33) to ja te   siedemdziesiąt co nie pobieram [t_{GEN}]   (SPOKES)
so I these seventy$_{NOM}$ co not withdraw$_{1SG}$

(no to tam ze   trzy razy mi   zostało)
well it there approximately three times me$_{DAT}$ remained

'the seventy that I do not withdraw, well, about three times there was some left there'

(34) tamte   co używałaś [t_{GEN}] (to tak   pachniało jak   się
those$_{NOM}$ co used$_{2SG}$ it such smelled   how   REFL

go   wycierało)   (SPOKES)
him$_{ACC}$ wiped

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

Examples (32) and (33) have the standard genitive of negation construction (in Polish, accusative objects turn into genitive objects in the negative). In example (34), the verb *używać* 'to use' governs the genitive. In all three cases, there is a somewhat discordant combination of a nominative head and a genitive trace, and the sentences improve with the addition of genitive resumptives; cf. sentences (35–37), modified from (32–34).

(35) może rozbrajaj najpierw te$_{ACC}$ co **ich**$_{GEN}$ nie widać   (Modified)

(36) te siedemdziesiąt$_{NOM}$ co **ich**$_{GEN}$ nie pobieram   (Modified)

(37) tamte$_{NOM}$ co **ich**$_{GEN}$ używałaś   (Modified)

The awkwardness that is resolved by the introduction of the resumptives is due to the mismatched case forms of the trace and its antecedent. The nominative/accusative of the head nouns and the genitive of the traces in (32–34) do not seem to go together well. Note that another alternative to resumption which would improve sentences (32–34) is for there to be a genitive head of the *co*-RC, which obviates the need for a resumptive:

(38) może nie rozbrajaj tych   co nie widać [t_{GEN}]   (Modified)
maybe not disarm   these$_{GEN}$ co not seen

'maybe you should not disarm the ones that cannot be seen'

(39) tych siedemdziesięciu co nie pobieram   [t_{GEN}]   (Modified)
these seventy$_{GEN}$ co not withdraw$_{1SG}$
'the seventy that I do not withdraw'

(40) nie mamy już   tamtych   co używałaś [t_{GEN}]   (Modified)
     not have$_{1PL}$ any more those$_{GEN}$ co used$_{2SG}$

     'we no longer have the ones you used to use'

There is a case-matching effect at work here. Citko (2004: 104) reports similar case-matching phenomena in Polish free (headless) relatives:

(41) Wezmę   kogokolwiek przyślesz [t_{ACC}].
     take$_{1SG.FUT}$ whoever$_{ACC}$ send$_{2SG}$

     'I'll take whomever you send.'

(42) *Wezmę   ktokolwiek   przyjdzie   pierwszy.
     take$_{1SG.FUT}$ whoever$_{NOM}$ comes$_{3SG.FUT}$ first

     Intended: 'I will take whoever comes first.'

In (41), the accusative relative pronoun *kogokolwiek* satisfies the case requirements of both the matrix verb (*wezmę*) and the relative clause internal verb (*przyślesz*), as both subcategorize accusative objects. In contrast, in (42) the matrix verb *wezmę* subcategorizes an accusative object, and *ktokolwiek*—being nominative—cannot satisfy the case requirement of the matrix verb. This mismatch can be resolved by the use of a double-pronoun construction that Citko refers to as "light-headed relatives," which are not subject to the case-matching requirement.

(43) Wezmę   tego   ktokolwiek/ kto   przyjdzie   pierwszy.
     take$_{1SG.FUT}$ that$_{ACC}$ whoever$_{NOM}$/who$_{NOM}$ comes$_{3SG.FUT}$ first

     'I'll take the one that comes first.'

One might add here that syncretic nominative and accusative forms, e.g., neuter forms, do not cause such case conflicts, and the same form can satisfy the subcategorization of the matrix verb (*wezmę*), and the two relative-internal verbs, one subcategorizing the accusative (*przyślesz*), the other the nominative (*przyjdzie*).

(44) Wezmę   którekolwiek   przyślesz [t_{ACC}].
     take$_{1SG.PERF}$ whichever$_{ACC.N}$ send$_{2SG.PERF}$

     'I'll take whichever you send.'

(45) Wezmę   którekolwiek [t_{NOM}] przyjdzie   pierwsze.
     take$_{1SG.PERF}$ whichever$_{ACC}$ comes$_{3SG.PERF}$ first

     'I'll take whichever comes first.'

If we transpose these observations of case-matching phenomena to the discussion of resumptives, it appears that *co*-ORCs display a case-matching effect whereby utterances in which the case form of the head matches that of the trace sound better integrated than utterances with nonmatching forms.[15] Note that (32), in which the two verbs subcategorize distinct cases, is less integrated than (35) and (38) (all three are reproduced below as (46–48)). In (47) the resumptive mediates an agreement between the two verbs. In (48) the genitive of negation is introduced to match the genitive trace.

(46)   może rozbrajaj najpierw te$_{ACC}$ co nie widać [t$_{GEN}$]   (SPOKES)

(47)   może rozbrajaj najpierw te$_{ACC}$ co ich$_{GEN}$ nie widać   (Modified)

(48)   może nie rozbrajaj tych$_{GEN}$ co nie widać [t$_{GEN}$]   (Modified)

The nonintegration of nonmatching cases is particularly noticeable with oblique traces. Below the same phenomenon is illustrated with further data. Consider the following sentences with object traces marked for the genitive and instrumental:

(49)   i   stoi   taki jeden # ten   co   ty   żeś   jeździła
       and stands such   one   this$_{NOM}$ co   you   aux$_{2SG}$ drove

       [t$_{INST}$] ten   elektryczny   (SPOKES)
             this electric

       'and there is one, just like the one (that) you drove, the electric one'

(50)   Masz   ten   kabel   co do sprzętu   nie używasz [t$_{GEN}$] […]
       have$_{2SG}$ this cable$_{ACC}$ co   for equipment not use$_{2SG}$

       ten   co podłączałeś [t$_{INST}$]   komputer pod sprzęt? (SPOKES)
       this$_{ACC}$ co connected$_{2SG}$ computer   to   equipment

       'Have you got this cable (that) you don't use for the stereo, the one that you used to connect the computer to the stereo?'

Both examples display a degree of nonintegration with respect to case marking. Sentence (49) has nonmatching cases in the nominative head and the instrumental trace. The combination is particularly infelicitous and substandard, and its written equivalent would include a resumptive (*ten co ty żeś **nim** jeździła*). In (50) an accusative object (*ten kabel*) is mismatched with a genitive trace. In the second part of (50), an instrumental trace is not overtly realized

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[15] Gračanin-Yuksek (2010) notes similar case-matching effects in Croatian. Hladnik (2015: section 3.2.2) extends the same argument to cover Polish.

(cf. *ten co podłączałeś **nim** computer pod sprzęt*), similarly to (49). Compare both examples with their revised versions in (51) and (52), respectively. In both cases, there are two alternatives: (a) with matching case forms in the head and trace, and (b) with a resumptive acting as a case-recovery strategy.

(51) a. tym   co ty   żeś   jeździła [t_{INST}]   (SPOKES)
         this$_{INST}$ co you AUX$_{2SG}$ drove

         'the one (that) you drove'

     b. ten   co ty   żeś   nim   jeździła   (Modified)
         this$_{NOM}$ co you AUX$_{2SG}$ he$_{INST}$ drove

         'the one (that) you drove'

(52) a. Nie widziałeś tego kabla   co do sprzętu   (SPOKES)
         not saw$_{2SG}$ this cable$_{GEN}$ co for equipment

         nie używasz [t_{GEN}]? Tym   co podłączałeś [t_{INST}] komputer
         not use$_{2SG}$ this$_{INST}$ co connected$_{2SG}$ computer

         pod sprzęt?
         to   equipment

         'Haven't you seen this cable (that) you don't use for the stereo?
         The one that you used to connect the computer to the stereo?'

     b. Masz   ten kabel   co go   do sprzętu   nie
         have$_{2SG}$ this cable$_{ACC}$ co it$_{GEN}$ for equipment not

         używasz [t_{GEN}]? Ten   co podłączałeś nim   komputer
         use$_{2SG}$ this$_{ACC}$ co connected$_{2SG}$ it$_{INST}$ computer

         pod sprzęt
         to   equipment

         'have you got this cable (that) you don't use for the stereo? The
         one that you used to connect the computer to the stereo?'

In (51) and (52) the instrumental and genitive case forms required in object positions are actually produced earlier in the sentence—either in the resumptive or in the adjusted case form of the head—thus creating a kind of cohesive link across the two parts of the sentence. When matching cases are used, this facilitates the dropping of the resumptive, as the identity of the two forms helps to retain sentence integration without compromising comprehension.

Once again we note the same compatibility effect that resumptives and identical case forms seem to bring to relative clauses. Consider the same effect seen in sentences (53–54), in which two compatible dative forms produce a more acceptable result than two mismatched genitive and dative forms. Here,

because of lack of further examples with oblique traces in SPOKES, invented sentences are used.

(53) *Ten plakat niewiele różni się od   tego rysunku   co
       this poster not much differs REFL from this drawing$_{GEN}$ co

      się   przyglądałeś [t$_{DAT}$].   (Invented)
      REFL looked-at$_{2SG}$

      Intended: 'This poster does not differ much from the drawing you were looking at.'

(54) ²Ten plakat nie dorównuje temu rysunkowi co się
       this poster not matches   this drawing$_{DAT}$ co REFL

      przygladałeś [t$_{DAT}$].   (Invented)
      looked-at$_{2SG}$

      'This poster is not as good as the drawing you were looking at.'

Note that the case-matching effect also has its reflection in the dominant type of *co*-relatives with accusative traces; namely, the overwhelming majority of such relatives have nominative or accusative antecedents (examples (18–21)), both of which—for masculine inanimates—match the accusative required in the trace. Compare the syncretic nominative and accusative forms of *film* below.

(55) ten film   co oglądałyśmy [t$_{ACC}$] dzisiaj   (SPOKES)
      this film$_{NOM}$ co watched$_{1PL}$ today

      'the film (that) we watched today'

(56) Oddaj mi ten film   co oglądałyśmy [t$_{ACC}$] dzisiaj. (Modified)
      return me this film$_{ACC}$ co watched$_{1PL}$ today

      'Give me back the film (that) we watched today.'

The two case forms in (55) and (56) are identical and therefore particularly suitable for constructing a *co*-ORC, because they produce the optimal case-matching combination. Perhaps this is the reason resumptives are droppable with inanimates: masculine and neuter inanimates have identical nominative and accusative forms, singular and plural. The same does not apply to feminine inanimates to the same extent, as only nominative and accusative plural are syncretic (nominative and accusative singular are contrastive). This in turn means that feminine nominative-accusative singular pairings may be less structurally integrated and therefore perceived as awkward. This is indeed the case. Consider (57) from SPOKES and (58), which is based on (57). Both

are fine, as the heads and the traces are syncretic. In contrast, (59) is markedly nonintegrated with the nominative form because the nominative and the accusative are not syncretic. The sentence improves with the addition of the resumptive in (60). Note that the plural feminine form *te* (the same as the plural masculine form in (57)) causes no such awkwardness, since it is syncretic with the trace.

(57) Te   co miałam [t_{ACC}] na sylwestra   (SPOKES)
     these$_{NOM/ACC}$ co had$_{1SG}$ on New Year's Eve

     'the ones (that) I wore for the New Year's Eve party'

(58) Ten   co miałam [t_{ACC}] na sylwestra   (Modified)
     this$_{M.NOM/ACC}$ co had$_{1SG}$ on New Year's Eve

     'the one (that) I wore for the New Year's Eve party'

(59) ?Ta/   tą   co miałam [t_{ACC}] na sylwestra   (Modified)
     this$_{F.NOM}$ this$_{F.ACC}$ co had$_{1SG}$ on New Year's Eve

     'the one (that) I wore for the New Year's Eve party'

(60) Ta   co miałam ją   na sylwestra   (Modified)
     this$_{F.NOM}$ co had$_{1SG}$ it$_{ACC}$ on New Year's Eve

     'the one (that) I wore for the New Year's Eve party'

In the same vein, (61) from SPOKES sounds better integrated in its rephrased version in (62), where the case of the head has been adjusted to match that of the trace.

(61) To jest ta   co przywiozłam [t_{ACC}]?   (SPOKES)
     it is   this$_{F.NOM}$ co brought$_{1SG}$

     'Is it the one I brought?'

(62) Masz   gdzieś   tą   co przywiozłam [t_{ACC}]? (Modified)
     have$_{2SG}$ somewhere this$_{F.ACC}$ co brought$_{1SG}$

     'Have you got the one I brought somewhere?'

Corpus data show that case-matching examples such as (62) prevail over nonmatching utterances such as (61). Indeed, occasionally speakers give priority to selecting a case form that will fit this case-matching requirement rather than use a different form dictated by the sentential position. For example, in (63) the accusative is used for the head noun (*tego niebieskiego*) to match the

accusative of the trace, even though the sentential position would suggest the nominative.[16]

(63)   (komputer mu   się   popsuł też w fiacie # ten w fiacie #
      computer him$_{DAT}$ REFL broke   also in Fiat   that in Fiat

      wiesz)   tego   niebieskiego co ma [t$_{ACC}$]   (SPOKES)
      know$_{2SG}$ this$_{ACC}$ blue$_{ACC}$ co has

      'his computer in the Fiat broke too, the one in the Fiat, you know, the
      blue one that he has'

As noted above, case-matching problems can be resolved with the use of a resumptive marked for an appropriate (i.e., matching) case. Indeed, in SPOKES, there are seven cases in which inanimate head nouns are used with resumptives. Among these admittedly there is only one oblique pronoun (see (64)), the rest being accusative and as such not obligatorily requiring case adjustment. In one example, shown in (65), the resumptive is optional for case-matching purposes as the head and the trace have compatible cases. However, pausing may be a relevant factor triggering the production of the resumptive. In another example, in which the head and the trace have syncretic cases, the resumptive is present presumably because of the relatively long distance between the trace and the head, shown in (66). Altogether, in five cases the resumptives may be said to perform the task of case adjustment between the head and the trace, illustrated in (64), (67), and (68).

(64) te   małe te   klawisze co tam ich   jest mniej
      these small these keys$_{NOM}$ co there they$_{GEN}$ is   fewer

      'these small keys, the ones that there are fewer of them'   (SPOKES)

(65) – trzeba zdjąć   tą   rurkę   co ja ją   (SPOKES)
       need   take off this pipe$_{ACC}$ co I it$_{ACC}$

     – przyspawałeś
       welded in$_{2SG}$

     – przyspawałem, tak
       welded in$_{1SG}$ yes

      'you have to take off the pipe that I…'
      'you welded in'
      'I welded in, yes'

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[16] In Polish, makes of cars pattern with nonhuman animates, i.e., the accusative singular is syncretic with the genitive singular (*tego niebieskiego*$_{ACC/GEN}$).

(66) jeden   tam   jest   no   taki   co   chyba   tak   w   połowie
     one$_{NOM}$ there   is   PART   such$_{NOM}$ co possibly   about   in   half

     kariery   go   nakręcił   (SPOKES)
     career   he$_{ACC}$ directed

     'there's one that he directed about halfway through his career'

(67) taczką   jechał   tamten   spec # z   tym   gruzem   co
     wheelbarrow rode   that   guy   with   this   rubble$_{INST}$ co

     go   woził   (SPOKES)
     it$_{ACC}$ carried$_{3SG}$

     'he pushed a wheelbarrow, that guy, with the rubble that he carried'

(68) no   i   to   jest   ta   misja   co   ją   pamiętasz
     PART and   it   is   this   mission$_{NOM}$ co   it$_{ACC}$ remember$_{2SG}$

     'and this is the mission (that) you remember'   (SPOKES)

An important point to make at this juncture is that the optimal case-matching arrangement is a somewhat idealized notion that is not always respected in spontaneous spoken language. Compared to writing or planned spoken language, unplanned speech has been reported to be marked by structural nonintegration and loose connectivity (e.g., Miller and Weinert 1998). Therefore, object relatives with nonmatching case patternings such as (32–34), (49), and (50) do occur. A group of 153 relatives from SPOKES were considered in order to find the proportion of those in which the cases of the head and trace matched (examples with resumptives were excluded). Of these, 114 (74%) featured matching pairs of case forms (identical or syncretic), and 39 (26%) included nonmatching cases.

However, not all pairs of nonmatching cases sound awkward. Most of the nonmatching pairs in SPOKES involve heads case-marked by prepositions, which in Polish commonly subcategorize oblique complements. As a result, the case of the head within the prepositional phrase does not match the accusative of the trace, as in (69) and (70). Interestingly, these mismatches do not sound awkward or poorly integrated.

(69) Słyszałaś o   tych   przekrętach co   z   tymi   drzewkami
     heard$_{2SG}$ about   these   swindles$_{LOC}$ co   with   these   trees

     robili   [t$_{ACC}$]?   (SPOKES)
     made$_{3PL}$

     'Have you heard about those swindles with the trees (that) they pulled off?'

(70) od   potu   czy czegoś   czy jakiegoś tam syfu   co
      from sweat or   something or   some   there muck_{GEN} co

      masz   [t_{ACC}] na rękach   (SPOKES)
      have_{2SG}   on hands

      'from sweat or something or some muck (that) you have on your
      hands'

Examples (69) and (70) have accusative traces, a context in which non-matching cases are tolerated more readily than elsewhere. However, we have seen above that even with accusative traces, case-matching heads and traces yield better results. The fact that the apparent case mismatches in (69), (70). and other such examples, e.g., (22–25), are not awkward suggests that heads inside prepositional phrases are more immune to the case-matching effects than for heads subcategorized by verbs.

6.2. Demonstratives as Head Nouns

Besides case-matching, another factor that improves the acceptability of oblique traces without resumptives is the proximity of a demonstrative pronoun in the relativized NP. In some cases, a suitably inflected demonstrative with the head noun fulfills the same function that a resumptive would otherwise have done in the *co* clause. In example (71), which is invented, the pronoun *tamtemu* is marked for dative case, the same case as would be marked on the potential resumptive *mu*. The two are also related prosodically (*mu* being a cliticized weak form corresponding to the full forms *temu/tamtemu*) and phonologically similar. The demonstrative's close proximity to the *co* clause resolves the problem of the missing resumptive and improves sentence (71) over sentence (72).

(71) ?Ten plakat nie dorównuje tamtemu co się   przyglądałeś [t_{DAT}].
      this poster not matches   that_{DAT} co REFL looked-at_{2SG}
                                                              (Invented)

      'This poster is not as good as the one (that) you were looking at.'

(72) ??Ten plakat nie dorównuje rysunkowi co się   przyglądałeś [t_{DAT}].
       this poster not matches   drawing_{DAT} co REFL looked-at_{2SG}
                                                              (Invented)
      'This poster is not as good as the drawing you were looking at.'

Consider also example (73) from the Internet. *Tych* ('these_{GEN}') is the relativized pronominal NP preceding the *co* clause. Although there is no resumptive in the *co* clause—it would have been *ich*, inflected for genitive—the close

proximity of *tych*, which is also inflected for genitive, saves the acceptability of the sentence. Example (74), in which *tych* is accompanied by a noun, is also fine, while (75) is unacceptable for its lack of a demonstrative.

(73) Grzybów   było mnóstwo ale nie tych   co
      mushrooms$_{GEN}$ was plenty   but not these$_{GEN}$ co

      szukaliśmy   [t$_{GEN}$].   (Internet)
      looked-for$_{1PL}$

      'There were plenty of mushrooms but not the ones (that) we were looking for.'

(74) Grzybów   było mnóstwo ale nie tych   grzybów
      mushrooms$_{GEN}$ was plenty   but not these mushrooms$_{GEN}$

      co   szukaliśmy   [t$_{GEN}$]   (Modified)
      co   looked-for$_{1PL}$

      'There were plenty of mushrooms but not the mushrooms (that) we were looking for.'

(75) *Grzybów   było mnóstwo ale nie grzybów   co
       mushrooms$_{GEN}$ was plenty   but not mushrooms$_{GEN}$ co

      szukaliśmy   [t$_{GEN}$]   (Modified)
      looked-for$_{1PL}$

These observations lead to the conclusion that *co*-ORCs work best when they include demonstratives in the relativized NP, either self-standing demonstratives or ones accompanied by nouns. This is certainly confirmed by the multitude of these forms in corpus data, both in the dominant type with accusative traces as well as in the rare oblique types. Recall also in this context that *co* relatives are particularly suitable for encoding definite or specific reference, as shown by example (7), with no demonstrative, the acceptability of which Kardela (1986) found questionable.

Note that when relatives such as (71) are broken up in appropriate context, such as the dialogic form in (76) whereby the relativized case-inflected demonstrative *temu* is stressed and is the only NP in the utterance, the result is more readily acceptable.[17] In fact, the prosodic prominence and proximity

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[17] Note that this refines other authors' claims about oblique objects. Pesetsky (1998: 39) and Broihier (1995: 23) claim that when oblique positions are relativized in Polish and Russian, *co/čto* relatives are acceptable only with resumptives, as in Pesetsky's *On spotkał studenta co *(mu) on dał piątkę* 'He met a student that he had given an A'. Similarly, Gračanin-Yuksek (2010) and Chidambaram (2013) argue that oblique objects in, respectively, Croatian and Slovak complementizer relatives must be resumed, re-

of the demonstrative means that the inclusion of a resumptive may sound excessive, as in (76) and (77). This once again shows the close link that demonstratives have with *co* relatives.

(76) – Ten plakat   nie dorównuje tamtemu.   (Invented)
       this poster$_{NOM}$ not matches   that$_{DAT}$

    – Któremu?
      which$_{DAT}$

    – Temu   co ($^{?}$mu)   się   przyglądałeś.
      this$_{DAT}$ co   he$_{DAT}$ REFL looked-at$_{2SG}$

    'This poster is not as good as that one.'
    'Which one?'
    'The one you were looking at.'

(77) – Krzyś nie lubi tej piosenki.   (Invented)
       Krzyś not likes this song$_{GEN}$

    – Której?
      which$_{GEN}$

    – Tej   co ($^{?}$jej)   słuchaliśmy przed chwilą.
      this$_{GEN}$ co   she$_{GEN}$ listened$_{1PL}$ before moment

    'Krzyś doesn't like the song.'
    'Which one?'
    'The one we listened to a moment ago.'

Similar examples of head-internal demonstratives filling in for resumptives are discussed in sections 8 and 9.

6.3. Inanimates with Obligatory Resumptives as Complements of Prepositional Verbs

In the previous section I examined the presence and absence of resumptives in the object position of transitive verbs. In this section I turn to data in which resumptives are required as complements of prepositional verbs. Consider a typical instance of such an occurrence in (78):

(78) jest jedno konto co się nie płaci za nie   (SPOKES)
    is   one   account co REFL not pay for it

    'there's one account you don't pay for'

---

gardless of case-matching effects. Hladnik (2015) extends this generalization to Polish *co* relatives.

In standard *który* clauses, pied-piping is the only option for prepositions, as in (79), and preposition stranding is impossible (80). In *co* relatives, both pied-piping and stranding are impossible, cf. (81) and (82), and instead the prepositional complement has to be spelled out in a resumptive pronoun, as in (78).

(79)	konto,	za	które	się	nie	płaci	(Modified)
	account	for	which	REFL	not	pay	

'an account for which you don't pay'

(80) *konto, które się nie płaci za   (Modified)

(81) *konto, za co sie nie płaci   (Modified)

(82) *konto, co sie nie płaci za   (Modified)

This difference between *który* and *co* relatives is mirrored in other languages with complementizer relative clauses (Bošković 2009; Fried 2011; Hladnik 2015). In Bulgarian *deto* relatives (i.e., complementizer relatives) pied-piping is impossible, but it is obligatory in *wh-* relatives. The same is the case in Macedonian *što* relatives (Krapova 2010).

Beyond these facts, there is little controversy in how resumptives are used in this kind of prepositional *co* clause. Altogether there are six such examples with inanimates in SPOKES, and they all follow the same pattern of requiring the presence of resumptives.

6.4. *Co-*ORCs: An Interim Summary

Based on the discussion so far, the following can be said about *co*-ORCs:

(i) *Co* relatives are more suitable for encoding definiteness than indefiniteness. This is observed in the wide use (84.8%) of demonstratives accompanying the relativized heads. In contrast, indefinite/nonspecific concepts are more aptly encoded by *który* relatives.

(ii) Accusative traces are abundant (96.2%); oblique traces are very rare (3.5%).

(iii) Inanimate heads are notably more frequent (80.3%) in *co*-ORCs than animates (19.6%).

(iv) For inanimate heads, resumptives are typically dropped as long as the trace is accusative (95%).

(v)   Unlike *który* clauses, *co*-ORCs show case-matching effects (especially for nonaccusative traces and to a lesser extent for accusatives) whereby identical or syncretic case forms produce better integration and thus may be perceived as more felicitous. *Co*-ORCs with matching cases between the head and the trace are more frequent (74%) than relatives with nonmatching cases. The loose integration of nonmatching case forms may be improved by means of case-marked resumptives.

(vi)   Resumptives can be retained, as in (65) and (66), for reasons not related to case-matching, but because of production constraints (e.g., a long-distance relationship between the head and the trace, or pausing, which results in separating the head and the trace).

(vii)   The proximity of a head that is a self-standing demonstrative pronoun increases the acceptability of the null resumptive with oblique cases. Oblique demonstratives are especially interesting in this context, as they cast doubt on previous claims that oblique positions can be relativized only if resumptives are present (Giejgo 1981: 53; Pesetsky 1998: 375; Broihier 1995: 23).

(viii) Heads inside prepositional phrases are more immune to case-matching effects than heads subcategorized by verbs.

(ix)   Resumptives as prepositional complements are obligatorily present.

7.   Resumptives with Animates and Inanimates: Is There a Clear Dividing Line?

As mentioned in section 5, several studies note the effect of animacy on the presence versus absence of resumptives in Polish *co*-ORCs (Fisiak, Lipińska-Grzegorek, and Zabrocki 1978; Broihier 1995; Lavine 2003). Their acknowledgment of this effect, however, is inadequate. Fisiak, Lipińska-Grzegorek, and Zabrocki (1978: 183) argue that the ungrammaticality of the null resumptive is less blatant with inanimates, and Broihier (1995: 23) mentions the "marginal possibility" of dropping the pronominal. In other words, neither predict even remotely the extent to which resumptives are absent with inanimates in actual use (see section 6).

At the same time, it is not clear either whether animate referents are consistent in their use of the resumptive. Researchers working with analogous relative clauses in other Slavic languages have noted the correlations (inanimate : no resumptive; animate : resumptive), but different sources cite varying degrees of co-occurrence. For example, Fried (2010) reports the relevant Czech literature and notes the typically vague, sometimes contradictory, statements of distribution. On closer analysis, and especially when confronted with authentic material, it becomes clear that any clear cut-off lines demarcating use

and nonuse are impossible to establish. Minlos (2012: 78–80) argues that in some Slavic languages the use of resumptives in object clauses tends to be correlated with animacy distinctions in the referents. Namely, with animate objects, resumptives *tend* to be employed, with inanimate objects, they *typically* are not. However, the author reports that deviations from this scheme do exist and that the use of resumptives is extended to inanimate objects. Here Minlos cites Kordić's (1995) and Fried's (2010) examples from BCS and Czech, respectively. Conversely, the nonuse of resumptives can be extended to animate objects, as shown by Minlos's Russian examples. Similarly, Murelli (2011) notes that BCS grammars try to impose animacy rules on the employment of resumptives, although there are clear counterexamples (he cites examples from Gołąb and Friedman 1972). In the light of this inconsistency, I now turn to Polish *co*-ORCs with animate head nouns.

8. Nonhuman Animates

Previous literature does not state clearly whether human and nonhuman animates display any contrastive behavior with respect to resumptive pronouns. Recall from section 5 that several studies have indicated that resumptives may be optional (for some speakers) with inanimate heads (Broihier 1995; Lavine 2003). Others such as Fisiak, Lipińska-Grzegorek, and Zabrocki (1978) use the property [–human] in reference to the same possibility of omission but at the same time illustrate this eventuality with an example involving an inanimate noun. As a result, it is not clear whether human and nonhuman animates behave differently. In general, the debate based strictly on examples with humans or inanimates and draws exclusively on intuition and introspection. Following are the relevant examples from SPOKES, and in all four the speakers are talking about dogs:

(83) taki Kropek co ci   go   pokazywałem chyba   (SPOKES)
  such Kropek co you$_{DAT}$ he$_{ACC}$ showed$_{1SG}$ probably

  'this Kropek that I probably showed you'

(84) a   masz   tego jorka co mają   co ma   [t$_{ACC}$] Małgosia
  and have$_{2SG}$ this yorkie co have$_{3PL}$ co has$_{3SG}$ Małgosia

  'there's also that yorkie that they… that Małgosia has'   (SPOKES)

(85) A   to nie jest ten   co my widziałyśmy [t$_{ACC}$]?   (SPOKES)
  and it not is   this co we saw$_{1PL}$

  'Isn't it the one (that) we saw?'

(86) To ten   co spotkałyśmy [t_{ACC}] wtedy?   (SPOKES)
     it this co met_{1PL}   then

'Is it the one (that) we saw then?'

Of the four sentences, one has a resumptive and the other three do not. In (83) the presence of the resumptive may be explained on the grounds of case-matching: since the nominative (*Kropek*) does not match the accusative trace (*Kropka*), *go* mediates between the two. In (84) the two accusatives match. In (85) and (86), however, there are no resumptives even though, for case-matching purposes, they might be expected. It is difficult to account for the omission. Possible reasons include: (a) speaker preference (examples (85) and (86) were produced by the same speaker), (b) extension of the null resumptive pattern to nonhuman animate nouns, and (c) the presence of the demonstrative immediately before *co*, which as seen above may facilitate the omission of the resumptive.

   In two other examples with nonhuman animate referents (there are six altogether), the use or nonuse of the resumptive can once again be traced to case-matching. In (87) the anaphoric pronoun is used because the nominative *ta mucha* 'this fly' is mismatched with the accusative trace subcategorized by the verb. In (88) the accusative *tą stonogę* 'this centipede' fits in neatly with the case requirement for the object of the verb *miałaś* 'had'.

(87) Gdzie ta   mucha co ją   zabiłem?   (SPOKES)
     where this fly_{NOM} co it_{ACC} killed_{1SG}

'Where is that fly (that) I killed?'

(88) Pamiętasz   tą   stonogę   co miałaś [t_{ACC}]?   (SPOKES)
     remember_{2SG} this centipede_{ACC} co had_{2SG}

'Do you remember that centipede you had?'

   Thus, in examples (83–88), resumptives are used in two out of six cases, suggesting a notable inconsistency in the use of the resumptive within the class of nonhuman animates and suggesting also that these nouns should not be lumped together with human refererents. The two classes are used differently with respect to resumption. This is perhaps a reflection of an intermediate animacy status for nonhuman animates, which falls between inanimates and humans. Another possible reason is related to how much cases match in each of the three classes. Consider the inflectional paradigms in Table 4.

Table 4. Syncretism in masculine gender distinctions

facet 'guy', animate human	*pies* 'dog', animate nonhuman	*plakat* 'poster', inanimate
nom. sg. *facet*	nom. sg. *pies*	nom. sg. *plakat*
acc. sg. *faceta*	acc. sg. *psa*	acc. sg. *plakat*
nom. pl. *faceci*	nom. pl. *psy*	nom. pl. *plakaty*
acc. pl. *facetów*	acc. pl. *psy*	acc. pl. *plakaty*

As can be seen, in each class there are varying degrees of syncretism across the declension paradigm, and this in turn may affect the relative frequencies of case-matching in each group. Note that inanimate referents (on the right) have the most syncretic forms—two forms for four syntactic slots. Human referents, on the other hand, have four different forms for the same four syntactic slots, and nonhuman animates have three. Therefore, the matching of cases in inanimates is a fairly common occurrence. In contrast, human and nonhuman animates, which display little or no syncretism, can be expected to cooccur with resumptives more often. Recall that inanimates typically cooccur with accusative traces with no resumptive pronoun mediating between the two, and this to some extent is because inanimates have two pairs of syncretic forms in the nominative and accusative, the two cases that typically turn up in *co*-ORCs.

Let us now consider two invented examples in which the proximity of head-internal demonstratives facilitates the omission of oblique resumptives.

(89) – Nie ufam   mu.   (Invented)
           not   trust$_{1SG}$ him$_{DAT}$

       – Komu?
          who

       – Temu psu   co (mu)   pomagałaś dojść do zdrowia.
          the   dog$_{DAT}$ co   he$_{DAT}$ helped$_{2SG}$ come to health

       'I don't trust him.'
       'Who?'
       'The dog (that) you were helping to recover.'

(90) – Nie widziałem go   tam.   (Invented)
           not   saw$_{1SG}$ he$_{GEN}$ there

       – Kogo?
          who

– Tego psa   co (go)   nie cierpisz.
  this dog$_{GEN}$ co he$_{GEN}$ not suffer$_{2SG}$

'I didn't see him there.'
'Who?'
'The dog that you can't stand.'

As can be seen, animate referents in this respect behave identically to inanimate ones (see examples (76) and (77)). Regardless of animacy distinctions, head-internal demonstratives have the potential to license null oblique resumptives and improve the acceptability of such utterances.

9. Human Animates

Although overt resumptives predominate with human referents (in 16 out 21 examples), 5 examples have no resumptives. This can be attributed to the loose integration of spoken language, which in turn confirms Minlos's (2012) argument that nonuse of resumptives can be extended to animates. This kind of extension would be expected in speech especially. The omission is illustrated in (91) and (92).

(91) Z   tych ludzi co znałeś   [t$_{ACC}$] coś   ciekawego?
     from these people co knew$_{2SG}$ something interesting

     Ktoś   ma dzieci?   (SPOKES)
     someone has children

     'Anything interesting with the people that you knew? Any children?'

(92) ta Iwonka co teraz mają   [t$_{ACC}$] to   też jest świetna
     this Iwonka co now have$_{3PL}$ PART too is great

     uważam
     think$_{1SG}$

     'this Iwonka that they have now is great too I think'   (SPOKES)

However, there is no denying that the spell-out of resumptives is the norm in *co*-ORCs with human antecedents and that in many cases their removal results in different animacy readings. For example, consider example (93), in which the presence of the resumptive implies a (human) animate referent (a man in the original conversation).

(93) ten co go   helikopterem wozili   (SPOKES)
     this co he$_{ACC}$ helicopter$_{INST}$ carried$_{3PL}$

     'the one that they carried in a helicopter'

In a modified version of (93), one in which the resumptive is dropped, an interpretation assuming an inanimate referent is more likely (e.g., *ten (ładunek) co helikopterem wozili*, 'the one (load) that they carried in a helicopter'). Thus there is a tendency for the resumptive to be associated with human animates, although in actual language use the correlation proves inconsistent. The relevant quantitative data—including nonhuman referents—are given in Table 5.

Table 5. Use of resumptives with animates[18]

	No resumptive	Resumptive	Total
Nonhuman animates	4	2	6
Human animates	5	16	21
Total	9	18	27

As can be seen in Table 5, the resumptives are dropped with human referents in 5 cases (24%). On closer inspection, the omission can be ascribed to the same factors identified earlier, i.e., case-matching and the proximity of a demonstrative. Consider the exchange in (94) with two *co*-ORCs.

(94) – (za   to   mój kolega z   równoległej klasy) # ten Przemek
    but this my   friend from different   class   this Przemek

    co   się   ożenił #   już   (SPOKES)
    CO   REFL married$_{3SG}$ already

    – tego   co żeśmy w autobusie spotkali
      this$_{ACC}$ co AUX$_{1PL}$ in bus   met$_{PL}$ [t$_{ACC}$]

    – tak co spotkaliśmy go   w autobusie
      yes co met$_{1PL}$ he$_{ACC}$ in bus

    'but this friend of mine from a different class, this Przemek who is married now, already'
    'the one we met on the bus'
    'yes, the one we met on the bus'

In (94) case-matching effects are once again at work. First, the sentential position of the head *tego* in the second turn would suggest a nominative form. Instead the accusative is used to better match it with the case requirement of the verb. We saw an analogical situation involving an inanimate object in example (63). Secondly, in the exchange, the resumptive is first omitted (in the second turn) because the accusatives of the head noun and of the trace create the optimal configuration for omission, and then it turns up in the third turn

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[18] Occurrences of obligatory resumptives acting as prepositional complements, of which there are 13, are not included as irrelevant to the discussion of optionality.

because the head is left unexpressed. The proximity of the demonstrative is another trigger for omission in the second turn, as was the case with inanimates and nonhuman animates. In (95) below (invented), the self-standing pronominal head has the same effect, even with a verb subcategorizing a dative direct object, which would otherwise require a resumptive.

(95)   –Kupimy   trochę   jedzenia   temu   chłopakowi?   (Invented)
          buy$_{1PL.PERF}$ some   food   this   boy$_{DAT}$

       –Któremu?
          which$_{DAT}$

       –Temu   co   już   wcześniej   kupowaliśmy.
          this$_{DAT}$ co   already   earlier   bought$_{1PL}$

       'Shall we buy some food for that boy?'
       'Which one?'
       'The one that we have bought food for before.'

To sum up our discussion of animates, animacy is relevant in resumption. Human referents are accompanied by resumptives with a frequency rate of 76%, and nonhuman animates—with a rate of 33%—a score between inanimates and humans. These frequencies point to a cline along which inanimacy correlates with null resumptives, and animacy—and personhood in particular—correlates with a notable increase in resumption. Once again we have seen that where resumptives are dropped the omission coincides with the same factors identified earlier for inanimates, i.e., case-matching and the proximity of a demonstrative in the head noun.

10. Conclusion

This paper has discussed the use of resumptive pronouns in *co*-ORCs with animate and inanimate referents for the head noun. Detailed observations specific to inanimate and animate referents were discussed in sections 6.4 and 8–9, and here I make some more general comments.

Resumptives improve the structural integration of those *co*-ORCs where the case of the head noun does not match that of the trace. Alternatively, a pairing of identical or syncretic case forms produces a similar effect of syntactic cohesion and often renders the resumptive unnecessary. We have seen that another factor conditioning the presence or absence of the resumptive is the animacy of the head noun's referent. *Co*-ORCs with inanimate referents overwhelmingly lack resumptives, while animate referents, especially humans, are much more likely to trigger the spell-out of the resumptive. These facts

point to two broad configurations involving the use or nonuse of the resumptive pronoun in *co*-ORCs.

(i) In the unmarked configuration, no resumptive pronoun (with all subjects and most objects, i.e., those with inanimate referents and a few animates) is by far the most frequent scenario.

(ii) The marked configuration is resumptives used with animate (mostly human) objects. In this configuration the resumptive is an explicit marker of a patient use of human referents, which prototypically act as agents rather than patients (cf. Fried 2010). Quantitatively this is infrequent compared to (i).

In reference to case-recoverability and case-recovery strategies (Givón 1990: 650), the two scenarios above may be seen as involved in performing precisely this kind of function, i.e., in each scenario different case-recovery strategies are at work. The configuration in (i) employs no resumptives, but as we have seen case-matching forms are frequent, and they produce utterances that are better integrated and thus more felicitous. In this sense then, case-matching effects may be considered a case-recovery strategy that helps to disambiguate the syntactic function (subject/object) of the head noun. On the other hand, the marked configuration in point (ii) above spells out resumptive pronouns as indicators of a universally atypical situation in which human referents are used in the role of patients rather than the prototypical role of agents. The resumptive, usually an accusative pronoun, makes this explicit through case-marking, thus constituting not only a strategy of case-recovery but also of recovering the correct semantic role of the referent.

Another observation made in this study is that regardless of animacy distinctions head-internal demonstratives (especially self-standing ones) may license or save the acceptability of null oblique resumptives, i.e., where resumption would otherwise be expected.

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