

On Adverbial Mirative Clauses in Polish *

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The core aim of this article is to examine adverbial infinitive clauses in Modern Polish headed by the complementizer *żeby*. The main focus is on purpose and mirative clauses. Essentially, I argue that although both clause types do not differ on the surface, they exhibit two distinct A-bar dependencies with respect to the matrix clause. Main evidence for this claim comes from movement to the left periphery, sensitivity to negation, and licensing conditions of the discourse particle *chyba* 'presumably'. Diachronically, I argue that mirative clauses developed out of purpose clauses resulting in two distinct attachment heights. As it turns out, these two structural positions give rise not only to interpretative differences, but also account for the syntactic differences to be observed between both clause types.

* Some parts of this paper were presented at the conference *Formal Diachronic Semantics 3* (FoDS 3) in Oslo (September 2018), at the conference *Formal Approaches to Slavic Linguistics 27* (FASL 27) in Stanford (May 2018), and at the workshop 'Integration and Autonomy in Clause Combining: Theoretical and Empirical Aspects' at the 43rd *Österreichische Linguistiktagung* in Klagenfurt (December 2017). I would like to thank heartily the participants as well as two anonymous reviewers for their thought-provoking questions, insightful comments and extensive discussions, in particular (in alphabetical order): Sigrid Beck, Petr Biskup, Barbara Citko, Wojciech Guz, Patrick G. Grosz, Alexey Kozlov, Benjamin Lowell Sluckin, Gunnar Lund, Imke Mendoza, Agnieszka Patejuk, Asya Pereltsvaig, Sophie Repp, Aynat Rubinstein, Milena Sisovics, Barbara Sonnenhauser, Ella Tzuberi, Klaus von Heusinger, Marcin Wągiel, Björn Wiemer, and Susanne Wurmbrand. This work was in part supported by the Excellence Initiative of the University of Cologne. Obviously, I alone am, however, responsible for any mistakes and infelicities in the analyses and conclusions.

1 The puzzle

Descriptively, three types of dependent clauses have usually been distinguished: (i) complement clauses, (ii) adverbial clauses, and (iii) relative clauses. In Polish, all of them can be introduced by the complex complementizer *żeby* consisting of the declarative complementizer *że* 'that' and the subjunctive clitic *-by* (for a general overview the interested reader is referred to Orszulak 2016):¹

- (1) Chcę, żeby Anna przeprowadziła się do Paryża.
 want_{1SG} COMP Anna move_{I-PTCP,3SG,F} REFL to Paris
 'I want Anna to move to Paris.'
- (2) Anna uczy się, żeby zdać egzamin.
 Anna learn_{3SG} REFL COMP pass_{INF} exam
 'Anna is learning to pass the exam.'
- (3) dzieci to nie króliki żeby były do pary²
 children it NEG rabbits COMP be_{I-PTCP,3PL,N-VIR} to pair
 'children are not rabbits who/which could be paired'

In (1) *żeby* introduces a complement clause embedded under the desiderative predicate *chcieć* 'want'. (2) exemplifies the embedding of an infinitive adverbial clause expressing a purpose. Finally, in colloquial (spoken) Polish, *żeby* can also introduce relative clauses. In (3) the DP *króliki* 'rabbits' is modified by the following *żeby*-clause having a clear relative clause shape, as *żeby* can be replaced by the canonical relative pronoun *które* 'which'. According to the generative mainstream literature on Polish complex clauses going back to Tajsner (1989), Willim (1989), Bondaruk (2004), among many others, I take *żeby* in (1)–(3) to be a complex C-head. Alternatively, one could argue for a more fine-grained

¹ The following abbreviations are used in this article: 1/2/3 - 1st/2nd/3rd person, ACC - accusative, COMP - complementizer, DAT - dative, F - feminine, IMPER - imperative, INF - infinitive, I-PTCP - I-participle (inflected for number and gender), M - masculine, N-VIR - non-virile, NEG - negation, NON-PST - non-past tense, PL - plural, PST - past tense, REFL - reflexive, SG - singular, TOP - topic, VIR - virile.

² I extracted this example from *Narodowy Korpus Języka Polskiego* 'National Corpus of Polish' (<http://nkjp.pl/>).

C-layer analysis along the lines of Rizzi (1997) and postulate two different structural positions – one for *że* and one for *-by* – within the C-domain, as Szczegielniak (1999) does. As nothing hinges on this point with regard to my concerns, I will not dwell on it here. What is essentially more crucial in the context of the discussion in the present article, is the question of what types of adverbial clauses *żeby* can introduce.

In this article, I zero in solely on infinitive adverbial clauses and leave both complement and relative clauses out of consideration. Crucially, what we have seen so far is that *żeby* can introduce infinitive adverbial clauses. (2) is usually analyzed as a purpose clause (cf. Schmidtke-Bode 2009). However, there is another infinitive adverbial clause type that can be headed by *żeby*, as well:³

- (4) Anna uczyła się przez cały rok,
 Anna learn_{I-PTCP.3SG.F REFL} through entire year
 żeby i tak nie zdać matury.
 COMP and so_{NEG} pass_{INF} school.leaving.exam
 'Anna learned all the year only to not pass the school leaving exam
 anyway.'

To my knowledge, Leys (1971, 1988) was the first who discussed similar examples in German and who labeled them as prospective clauses, mainly based on a chronological relationship between the matrix and the embedded clause. This relationship requires the event in the embedded clause to follow the event encoded in the matrix clause. Later on, Pauly

³ An adverbial infinitive *żeby*-clause can also have a counterfactual interpretation:

- (i) Ten egzamin jest zbyt trudny, żeby go zdać.
 this exam be_{3SG} too difficult COMP him_{ACC} pass_{INF}
 'This exam is too difficult to pass it.'

The example given in (i) can be paraphrased as follows: If one would be able to pass this exam, it would not be as difficult as it is. The counterfactual reading seems to come about by the presence of the degree *zbyt*-phrase ('too'-phrase) in the matrix clause; for more details see von Stechow (1984), Meier (2000, 2003), Hacquard (2005), and Nissenbaum & Schwarz (2008, 2011). I am not concerned with such cases in the present article. Nor do I deal with other *żeby*-clauses, e.g. with resultatives.

(2013, 2014) applying different syntactic criteria came to the conclusion that prospective clauses in German are structurally unintegrated adverbial clauses, i.e. subordinate clauses exhibiting no syntactic integration dependency with respect to the matrix clause. Johnston (1984: 213-223) and Whelpton (1995, 2001)⁴ remaining unnoticed in Pauly (2013, 2014) analyzed similar examples in English as TP adjuncts. In the following, I will provide empirical evidence from Polish for this claim and show that Pauly's account should be abandoned. Remarkably, studies dealing with mirative clauses in Slavic languages are missing, although they, as the following examples illustrate, exist:

(5) Czech (Radek Šimík, pers. comm.)

a. purpose clause:

Marie si koupila deštník, aby nezmokla.
 Marie_{REFL} buy_{I-PTCP.3SG.F} umbrella_{COMP} NEG_{get.wet}_{I-PTCP.3SG.F}
 'Marie bought an umbrella in order not to get wet.'

b. mirative clause:

Marie si koupila deštník,
 Marie_{REFL} buy_{I-PTCP.3SG.F} umbrella
 jen aby ho pak zapomněla doma.
 only_{COMP} it then forget_{I-PTCP.3SG.F} at.home
 'Marie bought an umbrella only to forget it at home.'

(6) Russian (Polina Berezovskaya, pers. comm.)

a. purpose clause:

Ona vzjala s soboj zont,
 she take_{I-PTCP.3SG.F} with_{REFL} umbrella
 čtoby ne promoknut'.
 COMP NEG get.wet_{INF}
 'She took an umbrella to not get wet.'

⁴ Whelpton (1995, 2001) uses the label *telic clauses*. I analyze examples like in (4) as mirative clauses in the sense claimed by DeLancey (1997, 2001, 2012). Mirativity as a grammatical category refers to sentences reporting information which is new or surprising to the speaker.

⁵ Some speakers do not accept mirative clauses if the focus / mirative particle *only* is absent. Its presence / absence may vary from language to language and from speaker to speaker. Due to the lack of space, I do not dwell on this issue here.

b. mirative clause:

Ona postawiła zont rjedom s soboj,
 she put_{7-PTCP.3SG.F} umbrella next with_{REFL}
 ego vsjo-taki zabyt'.
 him_{ACC} after.all forget_{INF}
 'She put the umbrella right next to herself only to forget it anyway.'

Interestingly, Polish *żeby*, Czech *aby*, and Russian *čtoby* are able to introduce both purpose and mirative clauses. However, this is not a universal hallmark of natural languages. In Japanese, for example, purpose complementizers cannot head mirative clauses:

(7) Japanese (Shinya Okano, pers. comm.)

*Juliawa wasure.ru yoo(-ni)/tame(-ni) kasa-o kat.ta.
 Julia_{TOP} forget_{NON-PST} in.order.to umbrella_{ACC} buy_{PST}
 Intended meaning: 'Julia bought an umbrella in order to forget it.'

To render their meaning, one is forced to use dedicated adverbials, e.g. *odoroi.ta kotoni* 'to my surprise':

(8) Japanese (Shinya Okano, pers. comm.)

Johnwa seichoo.shite odoroi.ta kotoni gengogakusha ninat.ta.
 John_{TOP} grew.up_{COMP} to.my.surprise linguist become_{PST}
 'John grew up (only) to become a linguist.'

It is the central aim of the present article to investigate properties of purpose and mirative adverbial clauses in Polish. Mainly, I argue that although they do not differ on the surface, they constitute two distinct clause types. Whereas purpose clauses are taken to be low adjuncts exhibiting no derivational restrictions, mirative clauses are analyzed as TP adjuncts frozen in their base position. Different arguments will be discussed to underpin this view.

This paper is structured as follows. In Section 2, I examine both purpose and mirative adverbial clauses in Polish at the syntax-semantics interface. In doing so, I focus on selected differences between both clause types and contrary to Pauly (2013, 2014) I argue that mirative clauses are structurally more integrated into the host clause than their purpose counterparts. An account is presented in Section 3. It also

explains where the differences pointed out in Section 2 come from. Finally, Section 4 furnishes main results.

2 Purpose vs. mirative clauses in Polish

Purpose and mirative clauses have several properties in common. They are headed by the complementizer *żeby* and contain an infinitive verb form. Usually, they exhibit subject control, i.e. their embedded subject, PRO, has to be co-referential with the matrix subject, and, finally, the temporal reference of the adverbial clause depends on the temporal reference of the matrix tense (= relative tense in the sense claimed by Comrie 1985). However, both clause types also differ in many respects. It is the central aim of this section to elaborate on these differences.

2.1 Syntax

Left periphery. Only purpose clauses can occur on the left periphery of the matrix clause:

(9) a. purpose clause:

Żeby nie zmoknąć, Anna kupiła parasol.
 COMP NEG get.wet_{INF} Anna buy_{I-PTCP.3SG.F} umbrella
 'Anna bought an umbrella to not get wet.'

b. mirative clause:

*Żeby i tak nie zdać matury,
 COMP and so NEG pass_{INF} school.leaving.exam
 Anna uczyła się przez cały rok.
 Anna learn_{I-PTCP.3SG.F REFL} through entire year
 Intended meaning: 'Anna learned all the year only to not pass the school leaving exam anyway.'

Mirative clauses lose their meaning in the left periphery of the matrix clause and are automatically interpreted as purpose clauses. Pittner (2016: 515) accounts for this restriction assuming that mirative clauses have to follow their host clause, as the embedded event has to follow the matrix event. I will elaborate on this restriction in Section 3 and show that it needs to be strengthened.

Negation. Interestingly enough, purpose clauses can occur in the scope of a negation marker. Mirative clauses, on the other hand, cannot be negated. The presence of a negation turns them into purpose clauses:

(10) a. purpose clause:

Anna przeprowadza się do Paryża, nie żeby świętować,
 Anna move_{3SG} REFL to Paris NEG COMP celebrate_{INF}
 ale żeby uczyć się francuskiego.
 but COMP learn_{INF} REFL French
 'Anna is moving to Paris not do party all the time but to learn
 French.'

b. mirative clause:

Łukasz uczył się długo do egzaminu, nie żeby
 Łukasz learn_{I-PTCP,3SG,M} REFL long to exam NEG COMP
 go później nie zdać, ale żeby i tak wszystko
 him_{ACC} later NEG pass_{INF} but COMP and so all
 zapomnieć.
 forget_{INF}
 Intended meaning: 'Łukasz learned for an exam for a long time not
 only to fail later but only to forget everything anyway.'

The pair in (10) clearly illustrates that purpose and mirative clauses merge at different heights (for more details see Section 3 below).

Correlate It is possible for purpose clauses to anaphorically refer to the correlative element *dlatego* 'therefore' occurring in the matrix clause, whereas this possibility is ruled out for mirative clauses:

(11) a. purpose clause:

Anna przeprowadza się [dlatego]_i do Paryża,
 Anna move_{3SG} REFL therefore to Paris
 [żeby uczyć się francuskiego]_i.
 COMP learn_{INF} REFL French
 'Anna is moving to Paris to learn French.'

b. mirative clause:

*Anna uczyła się [dlatego]_i przez cały rok
 Anna learn_{I-PTCP.3SG.F} REFL therefore through entire year
 [żeby i tak nie zdać matury]_i.

COMP and so NEG pass_{INF} school.leaving.exam

Intended meaning: 'Anna learned all the year only to not pass the school leaving exam anyway.'

As the correlate *dlatego* 'therefore' can only refer to a purpose or to a reason, both missing in the compositional meaning of a mirative clause, the ill-formedness of (11b) straightforwardly follows.

Question-answer pairs As Pauly (2013: 146) shows for German, purpose clauses can be questioned by using an appropriate purpose *wh*-word. A similar situation can be observed in Polish:

- (12) A: Po co Anna przeprowadza się do Paryża?
 for.what.purpose Anna move_{3SG} REFL to Paris
 'Why is Anna moving to Paris?'
 B: Żeby uczyć się francuskiego.
 COMP learn_{INF} REFL French
 'To learn French.'

Mirative clauses, on the other hand, cannot be used as an answer to any *wh*-question, as there is no any appropriate *wh*-word corresponding to the meaning of what they express.

Discourse particle chyba 'presumably' According to *Słownik Współczesnego Języka Polskiego* 'Dictionary of Modern Polish' (1998), *chyba* 'presumably' is defined as follows:

chyba: tym słowem mówiący sygnalizuje, że nie wie czegoś dokładnie, nie jest czegoś pewien, ale decyduje się to powiedzieć, sądząc, że to prawda; przypuszczalnie; być może, prawdopodobnie, bodaj ('using this word, the speaker signals that (s)he doesn't know something exactly, that (s)he is not certain about something, but at the same time (s)he decides to say it, claiming it is true; assumedly; maybe, probably, perhaps;' [my translation: ŁJ]) *Słownik Współczesnego Języka Polskiego* (1998: 117)

Consider the example given in (13) illustrating the use of *chyba* in a root declarative clause:

- (13) *Chyba jest pani niesprawiedliwa.*
 presumably be_{3SG} lady unjust
 'Miss, presumably you are unjust.'

Using the discourse particle *chyba* 'presumably', the speaker establishes a particular common ground relationship among discourse interlocutors. Concretely, the speaker indicates that her / his commitment towards the truth of what is embedded is speculative. Accordingly, I analyze *chyba* as a modifier of assertive speech acts, contributing to a weaker commitment of the speaker to the proposition; cf. Zimmermann (2004, 2011) for a similar analysis of the German discourse particle *wohl* 'presumably'.

- (14) Meaning of *chyba(p)*:
 $[[chyba\ p]] = f^w \text{ assume}(x, p)$, whereby $x = \text{speaker}$

Chyba is ruled out in information-seeking questions as well as in imperatives:

- (15) a. **Jesteś chyba niesprawiedliwa?*
 be_{2SG} presumably unjust
 Intended meaning: 'Are you presumably unjust?'
- b. **Bądź chyba niesprawiedliwa!*
 be_{2SG.IMPER} presumably unjust
 Intended meaning: 'Be presumably unjust!'

In other words, *chyba* is excluded in non-assertive speech acts. To the best of my knowledge, not much is known about licensing conditions of *chyba* in Polish (infinitive) adverbial clauses. The following two corpus examples illustrate that purpose *żeby*-clauses can host *chyba*:

- (16) a. A tu ktoś wybił dziurę w ścianie,
 and here someone stave.in_{/-PTCP.3SG.M} hole_{ACC} in wall
 żeby chyba mieć podgląd co my tu mamy.
 COMP presumably have_{INF} preview what we here have_{1PL}
 'And here someone made a hole in the wall to, presumably, be
 able to see what we have here.'
 (NKJP, *Dziennik Zachodni*, 26/11/1999)
- b. Zrobili mi wyniki z krwi,
 make_{/-PTCP.3PL.VIR} me_{DAT} results from blood
 żeby chyba wykluczyć zatrucie ciężowe.
 COMP presumably exclude_{INF} pregnancy toxemia
 'They did blood tests on me in order to, presumably, exclude a
 pregnancy toxemia.'
 (NKJP, internet forum, 22/05/2003)

Mirative clauses disallow *chyba* taking sentential scope, regardless of which position it occupies in the embedded clause:

- (17) Anna uczyła się przez cały rok,
 Anna learn_{/-PTCP.3SG.F REFL} through entire year
 żeby (*chyba) i tak (*chyba) nie
 COMP presumably and so presumably NEG
 zdać (^{OK}chyba) matury.
 pass_{INF} presumably school.leaving.exam
 Intended meaning: 'Anna learned all the year only to (presumably)
 not pass (presumably) the school leaving exam (presumably)
 anyway.'

The incompatibility of *chyba* in (17) follows from the compositional meaning of the mirative clause and of the discourse particle *chyba*. I will elaborate on this issue in more detail in Section 3. However, there is one reading where the derivation does not crash. If *chyba* takes a narrow scope and quantifies over a set of objects, and not over a set of propositions. In other words, the speaker knows that Anna did not pass the exam, but (s)he does not know what exam it was. By being uncertain about this, (s)he uses *chyba* presupposing and scoping over a set of alternative exams. Note, though, that discourse particles scoping over

non-sentential constituents do not reveal any information about the compositional meaning of a particular adverbial clause, as such scenarios are to be expected to occur in all kinds of adverbial clauses.

The selected differences between purpose and mirative clauses can be summarized as follows:

| | Property | Purpose clause | Mirative clause |
|----|---------------------------------|----------------|-----------------|
| 1. | Left periphery | + | - |
| 2. | Negation | + | - |
| 3. | Correlate | + | - |
| 4. | Question-answer pairs | + | - |
| 5. | Discourse particle <i>chyba</i> | + | - |

Table 1: Selected differences between purpose and mirative clauses in Polish

As the next sections will show, these differences straightforwardly follow from the compositional meaning of either clause type.

2.2 *Semantics*

Purpose clauses and mirative clauses differ semantically, as well. Schmidtke-Bode (2009) observes cross-linguistically that the former are intentional, target-oriented and do not presuppose the truth value of the embedded proposition. Compare (2) with (4), repeated below for convenience:

(2) Anna uczy się, żeby zdać egzamin.
 Anna learn_{3SG REFL} COMP pass_{INF} exam
 'Anna is learning to pass the exam.'

(4) Anna uczyła się przez cały rok,
 Anna learn_{I-PTCP.3SG.F REFL} through entire year
 żeby i tak nie zdać matury.
 COMP and so_{NEG} pass_{INF} school.leaving.exam
 'Anna learned all the year only to not pass the school leaving exam anyway.'

As for the purpose clause, the matrix verbal situation (= Anna's learning) is performed with the intention of bringing about another situation (= passing the exam). No such intentionality can be observed with regard to the mirative clause given in (4). It is not the purpose of Anna's learning to not pass the exam. Instead, the speaker reports two chronological events, whereby the event encoded in the embedded clause appears to be unexpected or surprising. Relatedly, the matrix verbal situation is target-oriented in (2), whereas in the mirative clause this property is missing altogether. Finally, purpose clauses by definition do not require the desired result to come about, as not every intention is successfully realized by action. In other words, it remains open whether or not Anna will pass the exam. Mirative clauses, on the other hand, inherently presuppose the truth value of the embedded proposition. Accordingly, it follows from (4) that Anna did not pass the exam. To illustrate this contrast, consider the following ambiguous sentence:

- (18) Anna wyjechała do USA, żeby wyjść za mąż,
 Anna head.off_{-PTCP.3SG.F} to USA COMP get.married_{INF}
 ale ja w to nie wierzę.
 but I in this_{NEG} believe_{1SG}
 'Anna headed off to the USA to get married, but I don't believe it.'
 #'Anna headed off to the USA only to get married (anyway), but I
 don't believe it.'

(18) can be interpreted either as a purpose or as a mirative clause. That the mirative clause presupposes the truth value of the embedded proposition follows from the observation that speaker cannot question it, whereas no such restriction occurs as to the purpose clause interpretation. Here, the speaker still does not know whether Anna got married or not. How these differences can be represented in a formal way is presented in the next section.

3 Towards a New Account

We have seen so far that purpose and mirative clauses substantially differ at the syntax-semantics interface. In this connection, the question of how we can account for these differences needs to be addressed.

Pauly (2013) who investigates prospective clauses in German assumes both purpose and mirative clauses to adjoin to the matrix VP:

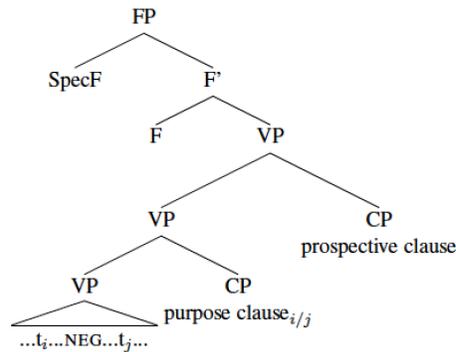


Figure 1: Attachment positions of purpose and mirative clauses according to Pauly (2013)

This proposal runs into many problems though. Firstly, it does not explain why mirative clauses cannot move to the left periphery, whereas purpose clauses can, and what would block the movement in the former case. Secondly, Pauly (2013, 2014) illustrates that variable binding into a prospective clause is possible. But if it is taken to be a syntactically unintegrated clause, then we should expect a reverse scenario (cf. Haegeman 2006 and her subsequent work). Hence, the argument of being unintegrated cannot be valid and is not deemed to be a possible explanation for the left periphery restriction. Thirdly, unintegrated clauses are supposed to be able to host discourse particles, as they possess their own illocutionary force (cf. Frey 2011, 2012). But, again, this is not the case as to mirative clauses; cf. (17) above. Therefore, in what follows I propose a different analysis – mainly based on Johnston (1994) and Whelpton (1995, 2001) – and claim that mirative clauses are integrated adverbial clauses, and that their syntactic restrictions follow from their semantics.

Syntactically, I assume both purpose and mirative clauses to be CPs. In either case the complementizer *zeby* is a C-head. Spec,CP position, in turn, hosts an adverbial clause operator taking a modal base and being evaluated against a conversational background in the possible worlds

semantics developed by Kratzer (1981, 1991, 2012). Purpose clauses are vP adjuncts, while mirative clauses are TP adjuncts:

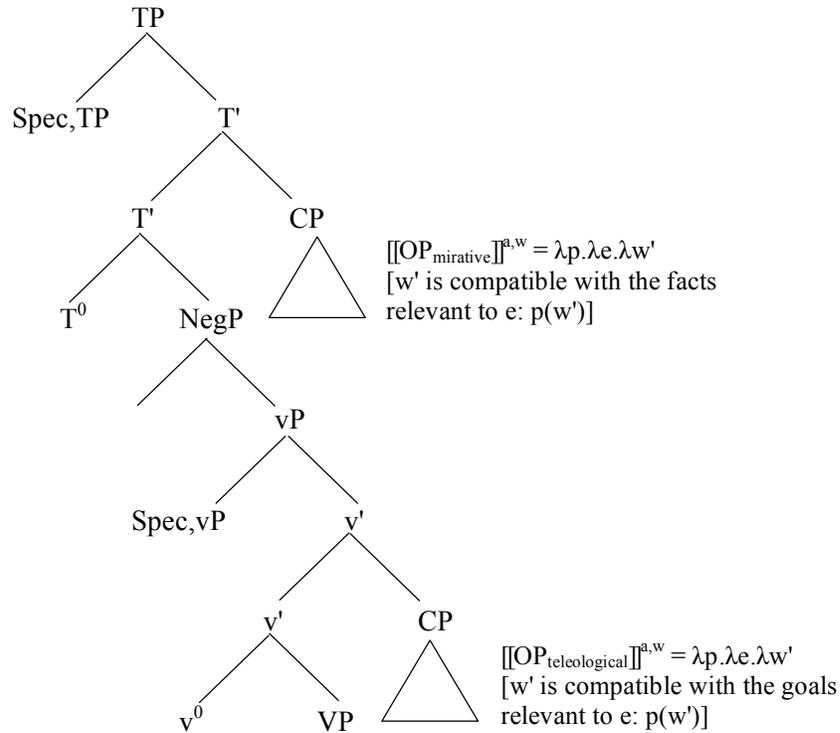


Figure 2: Merge positions of purpose and mirative clauses

Essentially, I argue that mirative clauses emerge out of purpose clauses. Accordingly, we first need to examine purpose clauses. Nissenbaum (2005: 12)⁶ characterizes them as modal expressions of desire denoting a

⁶ Nissenbaum (2005) distinguishes between VP-internal purpose clauses containing a gap bound to the matrix object, on the one hand, and VP-external rationale clauses being not dependent on the matrix clause on the other. Based on English data, he illustrates, for example, that purpose clauses are incompatible with *in order* (see also Faraci 1974 and Huettner 1989 for more details). Note that in the present paper I

relation between the aim that it expresses and the situation / eventuality that it holds of. It is therefore reasonable to assume purpose clauses to take a circumstantial modal base and to have a teleological conversational background, which can be spelled out as follows:

- (19) a. $[[\text{OP}_{\text{teleological}}]]^{\text{a,w}} = \lambda p.\lambda e.\lambda w' [w' \text{ is compatible with the goals relevant to } e: p(w')]$
 b. *In view of goals*: function f which assigns sets of propositions to members of W , such that for any world $w \in W: f(w) \cap p \subseteq q$ (= f assigns to every possible world a set of propositions in which p is achieved)

A circumstantial modal base concerns what is possible or necessary given a particular set of circumstances. In case of purpose clauses, it is specified by a teleological conversational background, i.e. by a set of worlds consistent with a set of information describing the achievement of a particular goal. Mirative clauses, on the other hand, take a doxastic modal base and are evaluated against a realistic conversational background:

- (20) a. $[[\text{OP}_{\text{mirative}}]]^{\text{a,w}} = \lambda p.\lambda e.\lambda w' [w' \text{ is compatible with the facts relevant to } e: p(w')]$
 b. *In view of facts such and such kind*: function f which assigns sets of propositions to members of W , such that for any world $w \in W: w \cap f(w)$ (= f assigns to every possible world a set of propositions that are true in it)

A doxastic modal base is broadly associated with what the speaker believes to be true. In the case of mirative clauses, it is restricted by a realistic conversational background, i.e. by a set of worlds consistent with a set of propositions that are true in one of these worlds.

The change from (19) to (20) appears to be possible based on cases like in (18), whereby an ambiguity between a purpose and a mirative reading arises. Semantically, in case of a purpose clause one has to consider what

label *zeby*-clauses – for the sake of convenience – as purpose clauses throughout if they express an intention, although they share some properties of rationale clauses, as well.

is possible or necessary for achieving a particular goal (= getting married in 18). This corresponds to intentionality and target-directedness as described in Section 2.2. However, this particular goal can be achieved iff q , i.e. the matrix predication, is true in a possible world, too. Connecting p and q this way establishes a temporal relationship between them. To put it differently, the event time of p , t_2 , has to follow the event time of q , t_1 . I argue that this temporal relationship has been accommodated into the compositional meaning of mirative clauses, not only leading to syntactic constraints as outlined in Section 2.1, but also resulting in a change of the modal base and of the conversational background. The temporal implicature accommodation triggers interpretative effects, as no intentionality, target-directedness and hypothetical result state are involved in the meaning of a mirative clause. Following this line of reasoning, uttering a mirative clause the speaker believes that p is true, resulting in a doxastic modal base. As the content of a mirative clause cannot be denied, a realistic conversational background is required to pick out every possible world containing a set of propositions that are true in such a world. This leads us to (21) and is in accord with the formal way how grammaticalization processes have been analyzed along the lines proposed by von Stechow (1996), Eckardt (2010), and Deo (2015). Accordingly, it is claimed that grammaticalization entails changes in the syntactic structure of a sentence and based on the fact that syntactic structure guides semantic composition, it is expected that the compositional meaning of the sentence needs to change, as well, cf. Figure 2 above.

If this account is on the right track, we should also be able to account for the differences observed between purpose clauses and mirative clauses, as briefly presented in Section 2.1. Recall that as opposed to purpose clauses, mirative clauses cannot move to the left periphery of the matrix clause, cannot be negated, and finally, cannot host the discourse particle *chyba* 'presumably'. These differences straightforwardly follow. Firstly, I assume purpose clauses to be vP adjuncts exhibiting no movement restrictions (cf. 9a). This is mainly due to the fact that the temporal relationship of the purpose clause with regard to the matrix clause is an implicature and not a truth condition. Mirative clauses, in turn, are TP adjuncts frozen in their base position. The factivity of mirative clauses creates a *consecutio temporum* condition between the matrix clause and the mirative clause preventing the latter from moving from its base

position. This explains why the condition proposed by Pittner (2016: 515) is too weak, as in both cases the embedded event has to follow the matrix event, but only in the case of mirative clauses it is a truth condition. Secondly, if we treat mirative clauses as TP adjuncts, we expect them not to be in the scope of matrix NegP. They are structurally inaccessible (see Figure 2). Finally, the account proposed here also provides an explanation for the licensing conditions of the discourse particle *chyba* 'presumably'. Concretely, the derivation in (18) crashes because the semantic contribution of *chyba*, i.e. speaker's uncertainty, and the truth value of mirative clauses conflict with each other. As purpose clauses, on the other hand, do not presuppose any truth value of the embedded clause (= hypothetical result state), no compositional mismatch arises.

4 Conclusion

The main aim of this paper has been to show that the complementizer *żeby* can introduce two distinct types of infinitive adverbial clauses in Modern Polish, viz. purpose clauses and mirative clauses. Based on selected criteria, I provided empirical evidence illustrating that both clause types differ at the syntax-semantics interface and that they, accordingly, ought to be associated with two distinct merge operations mirrored by divergent derivational timing. Diachronically, I outlined a scenario according to which mirative clauses evolve from purpose clauses. Heine & Kuteva (2002) notice that purpose markers can develop either into an infinitive marker (cf. *na* in Baka, *pur* in Seychellois Creole) or into a causal marker (cf. *uri* in To'aba'ita, *se* in Twi). However, they are salient about the development described in the present contribution. If this account is on the right track, the line of reasoning suggested here instantiates a new cross-linguistic grammaticalization path. Finally, I argued that the (in)compatibility of discourse particles with particular adverbial clauses does not follow from the attachment heights of adverbial clauses themselves. Rather, as the asymmetry between purpose and mirative clauses convincingly illustrate, it follows from the compositional meaning of both discourse particles and of adverbial clauses. More in-depth studies underpinning this view are needed though. I leave this issue for future work.

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