

On Tensed Modals in Polish*

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This paper examines modal verbs in Polish in different temporal environments and illustrates that scope relationships between modal verbs and synthetic as well as analytic tense forms cannot be deduced from the external syntax, contrary to what has been commonly assumed. I will define the class of modal verbs in Polish based on the availability of two distinct modal bases, demonstrate to what extent they can combine with tense forms by looking more closely at the universal quantifier *musieć* ‘must’, and, finally, propose a new analysis.

1 Introduction

Cross-linguistically, modal verbs (henceforth: MVs) are assumed to occupy two distinct syntactic positions. If they receive a non-epistemic

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- c. Hij moet zijn kamer hebben opgeruimd.³ Mod_{epistemic} > T(Past)
 he must his room have_{INF} clean.up_{PTCP}
 ‘He must have cleaned up his room.’

We can infer from (3a) and (3b) that syntactically neither the past perfect auxiliary *hebben* ‘have’ nor the future auxiliary *zullen* ‘will’ can outscope epistemic modality. If they co-occur with MVs, they disambiguate their interpretation and only a non-epistemic interpretation is available. If a MV takes an epistemic modal base, as in (3c), the speech act time and the epistemic evaluation time collapse, even if the event time itself is rooted in the past. Accordingly, the embedded proposition falls under the scope of the epistemic MV (see also Hacquard 2006, 2010, who provides semantic arguments for the hierarchy given in 1).

Polish (and probably other West-Slavic) MVs behave differently. The scope relationships between MVs and different temporal operators cannot be deduced from the temporal syntax, let alone from the external syntax. Compare (4) for the universal quantifier *musieć* ‘must’ occurring with the future tense auxiliary *będzie* ‘will’ and, simultaneously, taking an epistemic modal base:

- (4) PO będzie musiała w końcu zacząć popełniać błędy.
 PO will_{3SG} must_{L-PTCP.3SG.F} finally begin_{INF} make_{INF} mistakes
 ‘≈ I suppose that PO (= a political party) will finally start to make mistakes.’ (NKJP, *Dziennik Zachodni*, 9/10/2008)
^{OK}T(Future) > Mod_{epistemic} / [?]Mod_{epistemic} > T(Future)

According to the rigid hierarchy of functional projections and based on the Dutch data presented above, we expect *musiała* to be interpreted non-epistemically. Note, however, that such a reading is very hard to obtain in (4), both syntactically and semantically.⁴ Only an epistemic reading

³ (3c) also allows a reading according to which the propositional event is rooted in the future and the modal *moet* is evaluated against a deontic conversational background, even though it is accompanied by the past participle. I am not concerned with such cases in this paper.

⁴ We can analyze *będzie* in (4) as an epistemic MV and claim that there exists an epistemic concord relationship between *będzie* and *musiała*. In this case the scope mismatch would not occur. Note that this scenario cannot be maintained though. If it would be the case, we would also expect other epistemic MVs to co-occur with *będzie* and to behave as *musiała* in

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appears to be appropriate in this context. But what is more intriguing about (4) is that T(Future) outscopes Mod_{epistemic}. In addition to that, a relatively free word order in Polish allows us to reverse the order of the future auxiliary *będzie* and the MV *musiała*:

- (4') PO *musiała* *będzie* w końcu zacząć popełniać błędy.
^{OK}epistemic/*non-epistemic
 Mod_{epistemic} > T(Future) / *T(Future) > Mod_{epistemic}

The situation changes radically. In (4') *musiała* precedes *będzie* and gains scope over it. If MVs merging above TP are assumed to be interpreted epistemically, we expect *musiała* to be evaluated against an epistemic modal base. This prediction is borne out, as a non-epistemic reading of (4') is ruled out. Remarkably, though, (4') ought not to be taken as a representative example, if we want to draw far-reaching theoretical conclusions. Compare (5) mirroring the same word order and (6) with a topicalized infinitive in the front of *musiała*:

- (5) Po przyjęciu spadku *musiała* *będzie*
 after receiving inheritance must_{L-PTCP,3SG.F} will_{3SG}
 spłaci połowę długów.
 pay.off_{INF} half_{GEN} debts_{GEN}
 'Having received the inheritance, she will have to pay a half of
 the debts.' (NKJP, *Magazyn Puls Studenta*, 1/2001)
^{OK}epistemic/^{OK}non-epistemic

- (6) Każda z dziewcząt przebiec *musiała* *będzie*
 each from girls run_{INF} must_{L-PTCP,3SG.F} will_{3SG}
 trasę jednego kilometra.
 route_{ACC} one_{GEN} kilometre_{GEN}
 'Every girl will have to run 1 km.' ^{OK}epistemic/^{OK}non-epistemic
 (NKJP, *Dziennik Polski*, 14/9/2001)

(4) does. However, if we replace *musiała*, for instance, by the existential quantifier *mogła* 'may', which usually also allows epistemic readings (see section 2 below), it is disambiguated to the extent that only a non-epistemic reading occurs:

- (i) PO *będzie* *mogła* w końcu zacząć popełniać błędy.
^{OK}non-epistemic /*epistemic

Both (5) and (6) allow an epistemic as well as a non-epistemic interpretation. In the light of the data presented in this paper, I outline a new account of MVs in Polish and claim that they are base-generated as V-heads and move to a higher functional projection, ModP, either above or below TP, where they are semantically narrowed down by a modal base and a conversational background. In what follows, I will briefly define the class of MVs in Polish based on the availability of two distinct modal bases that a MV can take (section 2). Section 3 focuses on the universal quantifier *musieć* ‘must’ and demonstrates to what extent Polish MVs can combine with synthetic as well as with analytic tense forms. As it will turn out, no syntactic restrictions can be observed. Section 4 provides first steps of my own analysis. Finally, section 5 concludes the paper.

2 Modal Verbs in Polish

Polish MVs do not differ from lexical verbal heads merging within the verbal phrase. Members of both groups, for instance, undergo a V-to-T movement to check some formal features within TP and, to the best of my knowledge, there are no observable syntactic divergences making them belong to one or the other class. Therefore, I put aside all syntactic criteria and adopt the following semantic definition of MVs:

- (7) A verb is a modal verb iff it is evaluated against a non-epistemic and against an epistemic modal base.

According to this definition, we can identify five MVs in Polish. I illustrate their use based on the pattern [MV_{present tense} + infinitive].

(i) *móc* ‘can, may, be allowed’:

- (8) a. Teraz możesz grzeszyć. [non-epistemic]
 now can_{2SG} sin_{INF}
 ‘Now you can/may sin.’ (BKR, p. 69)
- b. W czwartek może padać śnieg. [epistemic]
 in Thursday can_{3SG} snow_{INF}
 ‘It may be snowing on Thursday.’
 (NKJP, *Polski Głos Wielkopolski*, 10/1/2005)

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(ii) *mieć* (lit. 'have') 'have to, must, be said, be claimed':

- (9) a. Masz wyjść i zastrzelić ją! [non-epistemic]
have_{2SG} go.out_{INF} and shoot_{INF} her_{ACC}
'You have to go out and shoot her!'
(NKJP, *Dziennik Zachodni*, 30/10/2009)
- b. W okolicy ma powstać parking. [epistemic]
in vicinity have_{3SG} be.built_{INF} car.park
'A car park is supposed to be built nearby.'
(NKJP, *Mazowieckie To i Owo*, 23/4/2009)

If the subject is equipped with the future [+human], two evidential interpretations occur:

- (10) Migalski ma mieć jakiś program w telewizji.
M. have_{3SG} have_{INF} a program in television
a. 'Migalski is supposed to get a program on television.'
(information source of *p* = foreign (unknown) source)
b. 'Migalski claims to get a program on television.'
(information source of *p* = clause subject)
(UwRz 7/(54), p. 7)

In (10) the information source of the embedded proposition can be attributed to two different individuals. It can be a person who is not included in the discourse, i.e. neither the speaker nor the hearer. In this case the source can remain unknown or be specified by additional means, for instance by the phrase *zgodnie z* 'according to'. It can also refer to the clause subject, meaning that *Migalski* himself argues that he will get a program on TV.

(iii) *musieć* 'must, have to':

- (11) a. Musimy już iść. [non-epistemic]
must_{1PL} already go_{INF}
'We must go now.'
(NKJP, *Chaszcze* 2009)

- b. Musi się czuć jak shejk. [epistemic]
 must_{3SG} REFL feel_{INF} like sheik
 'He must be feeling like a sheik.' (UwRz 22/(69), p. 17)

(iv) *powinien* 'should, be supposed':

- (12) a. Kościół powinien wyciągnąć wnioski. [non-epistemic]
 Church should_{3SG} draw_{INF} conclusions
 'The Church should draw conclusions (from that).'
 (BKR, p. 38)
- b. Nowy sprzęt powinien się pojawić
 new equipment should_{3SG} REFL appear_{INF}
 u nas za kilka miesięcy. [epistemic]
 at us in few months
 (NKJP, *Dziennik Zachodni*, 18/6/2008)

(v) *winien* 'should, be supposed':^{5,6}

⁵ In comparison to *móc*, *mieć* and *musieć*, *powinien* and *winien* are defective. First, they do not possess an infinitive form. Second, they do not inflect for the synthetic past tense. If they are used in past contexts, the past tense auxiliary *być* 'be' is required:

- (i) Powinien był pomyśleć o innych.
 should_{3SG} be_{3SG.M} think_{INF} about others
 'He should have think about the others.'
 (NKJP, *Dziennik Zachodni*, 14/12/2001)

It is also worth mentioning that the presence of the past tense auxiliary *być* automatically gives rise to a counterfactual reading in the past.

⁶ Due to the fact that *powinien* and *winien* do not inflect for the synthetic past tense, they occur with the past tense auxiliary *być* 'be', if the embedded proposition is rooted in the past. However, this auxiliary is often dropped in spoken Polish giving rise to two different temporal interpretations:

- (i) Rodzice (po-)winni zaopiekować się dzieckiem.
 parents should_{3PL} take.care_{INF} REFL child_{INS}
 a. 'The parents should take care of the child.'
 b. 'The parents should have taken care of the child.'

The MV in (i) expresses a weak necessity, either projecting into future or having a future-in-the-past reading. I have no explanation for why *powinien* and *winien* behave this way and I left it open here.

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- (13) a. Debata publiczna winna być rzeczowa. [non-epistemic]
debate public should_{3SG} be_{INF} argumentative
'A public debate should be argumentative.'
(UwRz 13(60), p. 6)
- b. Bez oleju zaczyn winien się udać. [epistemic]
without oil sourdough should_{3SG} REFL succeed_{INF}
'Without oil the sourdough is supposed to come off, too.'
(Abraham et al. 2011: 163)

Additionally, Błaszczak et al. (2010: 10) assume *będzie* 'will', the perfective verb form of *być* 'be', to function as an epistemic modal verb:

- (14) A: Somebody is knocking at the door. Who do you think is this?
B: To będzie Ewa.
this will_{3SG} E.
'This will be Ewa.'

However, one classification problem arises with ranking *będzie* as a MV. If we assume all future-oriented readings to be epistemic, there is no possibility to treat *będzie* as a MV based on the semantic definition given in (7) above. If *będzie* cannot be evaluated against a non-epistemic modal base, it does not meet the criterion of the availability of two distinct modal bases. Therefore, I would classify *będzie* as a modal predicate taking only an epistemic modal base. Kissine (2008), however, illustrates that all modal flavors of future auxiliaries do not really come from the semantics of the auxiliary itself, but from a pragmatic mechanism restricting the domain of a covert epistemic operator scoping over the entire embedded proposition. Following this line of reasoning, English *will* and Polish *będzie* are inherent tense operators. I do not elaborate on *będzie* in more detail, leave it aside here and concentrate on the five MVs listed above. Table 1 gives an overview:

		non-epistemic	epistemic
1.	<i>móc</i>	✓	✓
2.	<i>mieć</i>	✓	✓
3.	<i>musieć</i>	✓	✓
4.	<i>powinien</i>	✓	✓
5.	<i>winien</i>	✓	✓

Table 1: Modal verbs in Modern Polish

In the next section, I demonstrate to what extent Polish MVs can combine with different tense forms.

3 Polish Modal Verbs and Tense Forms

As it has been assumed for most Germanic and Romance languages, non-epistemic MVs can combine with all kinds of synthetic and analytic tense forms, whereas their epistemic counterparts are usually resistant to most analytic tense forms (cf. 3a and 3b above for Dutch and Wurmbrand 2001 for German or Picallo 1990 for Catalan, among many others). What appears to be intriguing about Polish is that MVs taking an epistemic modal base are compatible with all synthetic and analytic tense forms. Contrary to what we would be expecting from Germanic and Romance data, no syntactic restrictions occur. In order to demonstrate this, I focus on the universal quantifier *musieć* 'must' and its co-occurrence possibilities with various temporal operators. I will show that a particular tense form - regardless of whether synthetic or analytic - does not disambiguate the reading of the modal.

The Present Tense. Similar to its Germanic and Romance counterparts, *musieć* 'must' can be interpreted both non-epistemically and epistemically:⁷

- (15) a. Robotnicy muszą opuścić plac budowy.
workers must_{3PL} leave_{INF} building site
'The workers must leave the building site.'
(NKJP, *Mazowieckie To i Owo*, 30/4/2009)

⁷ MVs occurring in a-examples are non-epistemic, in b-examples epistemic.

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- b. To musi być pomyłka.
this must_{3SG} be_{INF} mistake
'It must be a mistake.'
(NKJP, *Dziennik Zachodni*, 13/3/2007)

*The Synthetic Past Tense.*⁸ Polish MVs - except for *powinien* and *winien* (see footnote 5 above) - can bear the synthetic past tense morphology. The past morphology has no impact on the modal interpretation:

- (16) a. Wszystkiego musiała nauczyć się sama.
all must_{L-PTCP.SG.M} learn_{INF} REFL alone
'She had to learn everything alone.'
(NKJP, *Mazowieckie To i Owo*, 7/8/2008)
- b. Nieopodal musiała istnieć większa osada.⁹
nearby must_{L-PTCP.SG.M} exist_{INF} big_{COMPAR} settlement
'There must have been a bigger settlement.'
(NKJP, *Gazeta Wroclawska*, 24/10/2003)

⁸ Strictly speaking, there exists no synthetic past tense in Modern Polish. What we have instead is a compound tense form consisting of an *l*-participle and a clitic attached to the *l*-participle (cf. Migdalski 2006: 223-285). The clitics in turn are treated as perfect auxiliaries (for their emergence see in particular Migdalski 2013). For the sake of simplicity I label this tense form as a synthetic past tense in order to distinguish it from the analytic pluperfect (see below). We observe a similar situation in German and Dutch. It has been assumed that the past tense of weak verbs formed with the dental suffixes *-t-* or *-d-* emerged out of the verb *tun/doen* 'do'. The only difference between Polish clitics and the West-Germanic dental suffixes is that the former can float (cf. Embick 1995, Kupść 2005), whereas the latter cannot. I would like to thank Krzysztof Migdalski who brought up this issue to me.

⁹ One of the anonymous abstract reviewers suggests a preliminary analysis of (16a): "the modal can just head-move to its Mod-epist position via T-past, picking the tense features surfacing as past morphology on its way." At first sight, this solution appears to be very attractive. However, it does not seem to be what we have observed so far based on the Dutch data above and what we know from the cross-linguistic literature. If epistemic MVs are base-generated above TP, there is no technical possibility for them to pick the tense features on their way. It would contradict the hierarchies given in (1) and (2) above. Of course, we can assume Polish epistemic MVs to tense-lower, but then two additional problems arise. First, it remains unclear how to analyze epistemic MVs occurring with analytic tense forms, if a tense auxiliary occupies a T-head (cf. e.g. 4' above). Second, epistemic MVs need not outscope TP (cf. Homer 2010). If they do not take the scope over TP, they should go one more layer down, below TP.

Borgonovo & Cummins (2007) illustrate that if Spanish MVs bear the past tense morphology, three different modal readings appear to be appropriate (see also Laca 2012). An epistemic reading is also available:¹⁰

- (17) *Pedro debió ganar la carrera.*
 Pedro must_{3SG.PAST} win_{INF} the race
 a. 'Pedro must have won the race.' [epistemic]
 b. 'Pedro was forced to win the race.' [actuality entailment]
 c. 'Pedro should have won the race.' [counterfactual]
 (Borgonovo & Cummins 2007: 6)

Polish epistemic MVs pattern with their Spanish counterparts and allow an epistemic reading with the past morphology.

The -no/-to Morphemes. Polish possesses two impersonal passive suffixes, *-no* and *-to*, attaching to a verbal head:¹¹

- (18) a. Grano, śpiewano, tańczono.
 play-no sing-no dance-no

¹⁰ Note that Germanic MVs do not usually bear the past tense morphology:

- (i) Nach dem Elfmeter musste das Spiel kippen.
 after the penalty must_{3SG.PAST} the game change_{INF}
 'After the penalty the game had to change.'
 (^{OK}non-epistemic/*epistemic)
 (Reis 2007: 13)

There are special cases, however, in which epistemic MVs do bear the past tense morphology (e.g. in free indirect discourse):

- (ii) Ich wusste, dass er da sein musste.
 I know_{3SG.PAST} that he there be_{INF} must_{3SG.PAST}
 'I knew that he must have been there.'
 (Klein 2009: 320)

Due to the lack of space, I do not elaborate on special cases in this paper.

¹¹ We can identify the EPP features of the *pro* subject in the *-no/-to* constructions: [+plural], [+virile], [+human] (for more details see Dziwirek 1994, Kibort 2004, 2008 and Krzek 2010).

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- 'The played, sang, danced.'
(NKJP, *Gazeta Poznańska*, 1/12/2005)
- b. Przebito mu oponę w samochodzie.
puncture-to him_{DAT} tire_{ACC} in car_{LOC}
'They punctured a tire in his car.'
(NKJP, *Dziennik Łódzki*, 26/8/2005)

Both of the suffixes anchor the embedded event time prior to the speech time ($t_1 > t_{\text{SPEECH}}$).¹²

- (19) a. Twierdzi, że przeczytano ten list.
claim_{3SG} that read-no this letter_{ACC}
'He claims that this letter has been read.'
- b. Twierdzi, że przebito mu oponę.
claim_{3SG} that puncture-to him_{DAT} tire_{ACC}
'He claims that they punctured a tire in his care.'

Similar to the synthetic past tense, the *-no* morpheme can merge both with non-epistemic and with epistemic MVs.¹³

- (20) a. Musiano jej założyć 89 szwów.
must-no her_{DAT} set_{INF} 89 stitches_{GEN}
'She had to get 89 stitches.'
(NKJP, *Cosmopolitan*, 7/2000)

¹² Notice, however, that if *-no* and *-to* morphemes are embedded under a volitional predicate, a future-oriented reading of the embedded proposition is forced:

- (i) Pragnie, żeby przeczytano ten list.
wish_{3SG} that read-no this letter_{ACC}
'He wants us to read this letter.'
- (ii) Pragnie, żeby przebito mu oponę.
wish_{3SG} that puncture-to him_{DAT} tire_{ACC}
'He wants them to puncture a tire in his car.'

The speech time coincides with the matrix event time (= wishing) and its volitional illocutionary force shifts the embedded event time (= reading) into future.

¹³ The suffix *-no* cannot attach to the MV *móc* 'can', though. This restriction does not follow from its semantics, but from its morpho-phonological make-up. I would like to thank Wayles Brown who brought up this issue to me.

- b. O tych wydarzeniach musiano wiedzieć w Polsce.
 about these events must-no know_{INF} in Poland
 'They must have known about these events in Poland.'
 (NKJP, *Dynastia Piastów w Polsce*, 2005)

The Analytic Pluperfect. As far as past tense forms are concerned, Polish also possesses an analytic pluperfect. The pattern consists of three elements: (i) a modal verb occurring as *l*-participle, (ii) the auxiliary verb *być* 'be' and (iii) an infinitive. Again, no semantic restrictions follow from the temporal syntax:¹⁴

¹⁴ The analytic pluperfect sounds archaic in Modern Polish. Nevertheless, examples illustrating its use are very easy to find, also with other MVS:

- (i) Mistrz Li posiał ziarno, które
 Master Li sow_{L-PTCP.SG.M} grain_{ACC} which
 mogło było wydać plon obfitszy.
 can_{L-PTCP.SG.M} be_{L-PTCP.SG.M} give_{INF} crop_{ACC} bountiful_{COMPAR}
 'Master Li sowed a grain that might have brought better results.'
 (*Polityka* 52/2788, p. 9)

The example given in (i) poses a challenge for a theory, according to which the Modern Polish clause is not equipped with TP (cf. Bošković 2012). If Modern Polish does not possess a TP, it remains unclear what the syntactic position of the auxiliary *być* in (i) and (21a,b) is. Krzysztof Migdalski (pers. comm.) pointed out to me that nobody uses the analytic pluperfect in Modern Polish anymore. I totally agree that it is not as productive as the other tense forms are. However, if one develops a theory, it should cover and account for all attestable data and no pattern ought to be ignored based on its frequency. As (i) and (ii) show, the analytic pluperfect with MVS occurs in Modern Polish as well. Wayles Brown (pers. comm.) drew my attention to the fact that MVS occurring with the analytic pluperfect usually inflect for the 3rd person singular, 1st and 2nd persons in turn occur more rare. A plausible explanation might be that 1st and 2nd persons additionally require the presence of auxiliary clitics merging with MVS:

- (ii) Wcale nie musiałem byłem tego postu czytać.
 at.all NEG must_{L-PTCP.M.1SG} be_{L-PTCP.M.1SG} this post read_{INF}
 'I didn't have to read this post at all.'
 (NKJP, an internet forum, 19/3/2001)

As Migdalski (2006: 228) states, "the singular and plural variants of the 3rd person are morphologically null." Steven Franks (pers. comm.) asked whether there are any interpretative differences between what I call the synthetic past tense and the analytic pluperfect with respect to the modals. At first sight, there seem to be no differences, but a detailed analysis is still needed.

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- (21) a. Poeta musiał był wyjechać do Londynu.
 poet must_{L-PTCP.3SG.M} be_{L-PTCP.3SG.M} move_{INF} to London
 'The poet had to move to London.'
 (NKJP, *Przestrzeń dzieł wiecznych*, 1993)
- b. Ulewa musiała była przejść.
 downpour must_{L-PTCP.3SG.F} be_{L-PTCP.3SG.F} pass_{INF}
 'A downpour must have been passed.'
 (NKJP, *Pokój i Diament*, 1948)

As it turns out, Polish non-epistemic and epistemic MVs are compatible with all past tense forms.

The Analytic Future Tense. The analytic future tense imposes no restrictions on the interpretability of the embedded modal either. As (22a) and (4) - repeated here as (22b) - illustrate, the analytic future auxiliary *będzie* does not disambiguate the modal reading of *musieć*:

- (22) a. Gmina będzie musiała pokryć wszystkie koszty.
 town will_{3SG} must_{L-PTCP.3SG.F} cover_{INF} all costs_{ACC}
 'The town will have to cover all costs.'
 (NKJP, *Dziennik Zachodni*, 24/1/2008)
- b. PO będzie musiała w końcu zacząć popełniać błędy.
 PO will_{3SG} must_{L-PTCP.3SG.F} finally begin_{INF} make_{INF} mistakes
 '≈ I suppose that PO (= a political party) will finally start to make mistakes.'
 (NKJP, *Dziennik Zachodni*, 9/10/2008)

Summarizing, the semantic interpretation of Polish MVs does not follow from the external temporal syntax, as has been commonly assumed in the literature on Germanic and Romance modals. Polish MVs can occur in all temporal environments and their syntactic position with respect to tense auxiliaries is rather free.¹⁵ Table 2 gives a general overview:

¹⁵ The examples given in (4) and (4') clearly demonstrate that the epistemic MV *musieć* can precede and follow the future auxiliary *będzie* and that the structural position of the modal does affect its interpretation. However, it is not always the case that a MV can follow a tense auxiliary ((i) is taken from footnote 14 above):

- (i) Wcale nie musiałem byłem tego postu czytać.

		non-epistemic	epistemic
1.	Present Tense	✓	✓
2.	Synthetic Past Tense	✓	✓
3.	The Past <i>-no</i> Morpheme	✓	✓
4.	Analytic Pluperfect	✓	✓
5.	Analytic Future	✓	✓

Table 2: Polish *musieć* and its compatibility with tense forms

In the next section, I outline a new account of the data presented above.

4 A New Account

So far we have defined the class of MVs in Polish and demonstrated that they can merge in all temporal environments. If their semantics cannot be determined by the presence/absence of a tense auxiliary, it does not seem to be reasonable to posit two distinct structural positions, a higher one for epistemic MVs and a lower one for their non-epistemic counterparts. Mainly, I argue that Polish MVs (i) are base-generated as V-heads,¹⁶ (ii)

We cannot reverse the word order of *nie musiałem* and *byłem*:

(i') *Wcale byłem nie musiałem tego postu czytać.

Note that the contrast between (i) and (i') does not come from the presence and the position of *nie*:

(ii) Prawdopodobnie mogłeś byłeś to naprawić.
 probably can_{L-PTCP.M.2SG} be_{L-PTCP.M.2SG} this fix_{INF}
 'Probably you might have been able to fix this.'


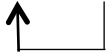
(ii') *Prawdopodobnie byłeś mogłeś to naprawić.

At this moment, I have no concrete explanation for why this is so. I speculate that the ungrammaticality of (i') and (ii') is linked to the *l*-participle morphology of the auxiliary *być*. Presumably, its ϕ -features cannot be checked, once they have been checked by a MV first and then erased. In this case *być* could not establish a probe-goal relation to get values, making the derivation crash.

¹⁶ Zagona (2008) takes a similar approach for English MVs. Her main claim is that English modals occupy a single syntactic position within TP and that their interpretation (non-epistemic vs. epistemic) depends on (un)interpretability of features and on "the properties of the phase in which the modal is merged. (...) root modals are interpreted in

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move to one of the ModPs, and (iii) their particular interpretation (non-epistemic vs. epistemic) is contextually determined:

- (23) a. [ModP MV [TP t_i [VP t_i]]] ModP > TP

- b. [TP [ModP MV [VP t_i]]] TP > ModP


As for (i), I see no morpho-syntactic differences between lexical verbs and MVs in Polish. Member of both groups, for instance, undergo V-to-T movement:

- (24) a. [TP Kazaleś_i [PTCPP t_i [VP t_i [VP grzeszyć]]]] [order]
 b. [ModP Mogłēś_i [TP t_i [PTCPP t_i [VP t_i [VP grzeszyć]]]]] [can]

As for (ii), ModPs are not specified for any kind of modality and surround around TP. The postulation of two modal projections unspecified for any kind of modality nicely accounts for the data described in the previous sections. If MVs inflect for the present tense, as exemplified in (15a,b), they undergo a V-to-T-to-Mod movement picking their tense features within TP and being narrowed down by a modal base as well as by a conversational background in their critical position, i.e. in ModP. (24b) illustrates how to analyze MVs, if they inflect for what I call synthetic past tense. In addition to TP and higher ModP, *móc* moves via a participial projection, abbreviated here as PtcpP, in order to check its ϕ -features. Auxiliary clitics, *-ś* in (24b), attach within TP. The impersonal passive suffixes *-no* and *-to* adjoin in a similar fashion. As they anchor the embedded event time prior to the speech time, I treat them as inherent tense elements merging in TP. Thus, in (20a,b) the MV *musieć* lands in higher ModP. Finally, the structures given in (23) help explain the free word order of MVs with respect to tense auxiliaries in analytic tense forms. MVs accompanied by the future auxiliary *będzie* can

the v*P phase and epistemic modals in the CP phase. It is argued that modals can be merged in either phase, according to the inflectional features that are added to the lexical item as it enters the syntax" (ibid. 274-5).

either precede, (4), or - as given in (4') - follow it. If they precede *będzie* being associated with TP, they merge in higher ModP. If, on the other hand, they follow *będzie*, they are evaluated against a modal base in the lower position. A similar situation holds for the analytic pluperfect with the auxiliary verb *być* bearing the *l*-participle morphology (cf. 21a,b). The only difference is that the latter pattern does not allow the order [*być*_{*l*-participle} + MV_{*l*-participle}] (see footnote 15 for a possible explanation of this restriction). Now let us consider a more complex example:

- (25) Prawdopodobnie mogłeś byłeś to naprawić.
 probably can_{L-PTCP.M.2SG} be_{L-PTCP.M.2SG} this fix_{INF}
 'Probably you might have been able to fix this.'

I ignore the semantics of *mogłeś* and concentrate on the derivation mechanism. What appears to be intriguing about (25) is the PF realization of the clitic *-ś* both on the modal and on the pluperfect auxiliary. I assume *móc* to move from within VP up to the higher ModP. On its way the modal merges with the clitic *-ś* within TP. In this connection the question arises how the clitic adjoins to the pluperfect auxiliary when it has moved higher in the structure with the modal. In order to account for this fact, I argue that *-ś* attached to *był-* in (25) is an overt copy of the clitic, which has not been deleted at the PF level after the movement took place. We observe a similar situation in some varieties of English in which the auxiliary verb *have* may be duplicated:¹⁷

- (26) They might've not have left.
 (Nunes 2004: 170, fn 48)

If there is no need to spell-out two copies overtly, as in the case of the future tense with *będzie*, only one of them is pronounced at PF. Following one of the Chain Reduction Principles proposed in Nunes (2004), we delete all but the copy with the fewest unchecked features. In (25), in turn, the spell-out of the lower copy is optional:

¹⁷ Nunes (2004: 43-50) also discusses other cases of overt copies in natural languages, in particular clitic duplication in some dialects of Argentinean Spanish, verb duplication in Vata, a Niger Congo language of the Kru family, and postposition duplication in Panara, a Brazilian indigenous language.

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- (25') Prawdopodobnie mogłeś byłeś to naprawić.
(27) Mogłeś być widzieć ślad moich bosych nóg.
can_{L-PTCP.M.2SG} be_{L-PTCP.M.3SG} see_{INF} trace my bare legs_{GEN}
'You could have seen a trace of my bare feet.'
(NKJP, Stefan Żeromski, 1900, *Ludzie Bezdomni*)

What triggers this optionality still remains to be investigated. Finally, we have to ask how to derive a particular modal interpretation of MVs in Polish, if they are not sensitive to temporal environments. Kratzer (1977, 1981, 1991) convincingly illustrates that a conversational background determines the set of worlds MVs quantify over, meaning that the particular interpretation (non-epistemic vs. epistemic) follows from the context. This leads us to the conclusion that external syntax is not powerful enough in Polish to disambiguate elements merging in ModPs.

5 Conclusions

In this paper, I have demonstrated that the interpretation of Polish MVs does not follow from the linear word order of tense and modals operators and that Polish MVs can occur in all synthetic as well as analytic tense forms, making them considerably different from their Germanic and Romance counterparts. To the best of my knowledge, the resistance of Polish (epistemic) modals to tense operators has so far gone unnoticed in the literature on MVs in general. I have argued that interpretative differences in the semantics of Polish MVs follow solely from the nature of the modal base and the conversational background that a MV takes.

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