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## ON THE DIACHRONIC COMPLEMENTATION OF *WIDZIEĆ* ‘SEE’

### 0. Introduction

The Polish lexeme *widzieć* ‘see, perceive’ denotes unconscious perception (compare Apresjan 1995 on the distinction between unconscious and conscious perception verbs in Russian). It is a bivalent verb, whose meaning may be explicated as follows:

*widzieć*

*X widzi Y*

‘With his / her eyes X perceives the physical object or situation Y.’

The second argument Y may be encoded syntactically either as NP or as a clausal complement. The aim of this paper is to explore the diachronic changes in the syntactic structure of the clausal complement.

The structure of this paper is somewhat unusual, as it will begin with a survey of the diachronic corpus resources and the complement types found therein (section 1). Section 2 describes the state of the art of research on the identified complement structures, to be followed by an analysis of the diachronic changes observed in the corpus data (section 3). Finally, we will present our conclusions in section 4.

### 1. Diachronic Polish corpora and complement clauses of *widzieć*

Currently, the diachronic corpus resources for Polish are rather meager.

In December 2017, when the data for this paper were retrieved, two morphologically annotated historical corpora of Polish were available online: the first one is PolDi (URL <http://rhssl1.uni-regensburg.de/SlavKo/korpus/poldi>), which contains 23 text (collections)<sup>1</sup> covering the 14<sup>th</sup> to the 19<sup>th</sup> century, with a focus on the 14<sup>th</sup> and 15<sup>th</sup> centuries. The second online resource available is the “Elektroniczny korpus tekstów polskich z XVII i XVIII w. (do 1772 r.)” (URL

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<sup>1</sup> The term *text collection* is used because some of the “texts” are actually exchanges of letters.

<http://korba.edu.pl/>; cf. also Gruszczyński et al. 2013). Unfortunately, the corpus homepage is still under construction, which means that there is not yet any information available on the included texts, and the query matches do not provide any information on the source text. While this does limit the informational value of the retrieved data, they can be used conditionally, as the corpus represents the language usage of just two centuries, which allows for at least a basic orientation in time.

Given the situation described, we decided to complement the existing resources by 25 text (collections) of prose and drama from the electronic version of the *Biblioteka zabytków Polskiego piśmiennictwa średniowiecznego* (2006; [www.staropolska.pl](http://www.staropolska.pl)).<sup>2</sup> The additional texts are mainly from the 16<sup>th</sup> to 18<sup>th</sup> centuries; and all instances from the 17<sup>th</sup> and 18<sup>th</sup> centuries found in our private collection have been cross-checked with the query results from the “Elektroniczny korpus tekstów polskich z XVII i XVIII w.”

In the analyzed data we have found four different clausal structures that function as arguments of *widzieć*. In the following, we will merely introduce them; a comprehensive discussion will follow in section 2.

The first construction is the *accusativus cum infinitive* (AcI) (1), whose morphosyntactic characteristics are a finite matrix verb – in our case *widzieć* – featuring as argument an infinitive whose first argument is encoded in the accusative.

- (1) *widzieli*      *są*      *lice*      *Mojżeszowo*  
 see.PTCP.PL    AUX.3PL    face.ACC.N    Moses.POSS.ACC.N  
*być*      *rogate*  
 be.INF    flooded\_with\_light.PTCP.ACC.N  
 ‘They saw that Moses’ face was flooded with light.’ (Queen Sophia’s Bible. 15<sup>th</sup> c.)

The second construction is the *participium coniunctum* (PC), i.e. a participle agreeing in case, number and gender with the first argument of the verb from which the participle derives. The argument is in turn the object governed by the matrix verb of the sentence, i.e. *widzieć* (2). If other arguments of the participle are syntactically realized, they are governed by the participle, not the matrix

<sup>2</sup> We are aware of the fact that some of the texts from the Old Polish Period offer modern translations of the respective originals. Due to the bibliographic standards of the website, which conceives of itself as a service for scholarly and educational purposes, these texts can be identified and excluded from the corpus. Another issue of interest is normalization. All texts are to some extent normalized orthographically, but since we are interested in syntactic issues, this fact is of minor consequence to us and even reduces the complexity of queries, as no variants have to be considered.

verb. The binding of the reflexive pronoun *siebie* ‘his/herself, themselves’ (2) deserves special attention: as the PP *do siebie* is an argument of *przychodzić* ‘come, approach’ and thus of the PC, the reflexive pronoun should be bound by the first argument of the PC, i.e. Jesus. From the context, however, it becomes clear that it refers to *Jan*, the first argument of the matrix verb *widzieć*. The latter binding behavior is typical for the (Latin) AcI (cf. Lüder 2007, 59), so we can state that in the analyzed context the PC partially resembles the syntactic behavior of the AcI. This raises the question of whether we are dealing with a conflation of two syntactic structures.

- (2) *widział*      *Jan<sub>j</sub>*      *Jesusa*      *przychodzącego*  
 see.pst.3SG    John.NOM    Jesus.ACC    come.PTCP.PRS.ACC  
*do siebie<sub>j</sub>*  
 to    REFL.GEN  
 ‘John saw Jesus approaching him.’ (Ewangeliarz Zamoyskich (Jo 1, 29).  
 15<sup>th</sup>/16<sup>th</sup> c.)

In the 15<sup>th</sup> century, the third construction, the so-called *adverbial participle* (AP; *imiestów przysłówkowy*) was just developing (cf. Pisarkowa 1984, 138). The AP is a non-finite verb form that functions as a secondary predication and does not agree with any NP. In Modern Polish, its first argument is covert, but co-referent with one of the NPs from the matrix sentence, as is *widząc<sub>j</sub>* ‘seeing’ in example (3). Quite interestingly, *widząc<sub>j</sub>* is the matrix verb for the following APs *mówiąc* ‘speaking’, *chodząc* ‘walking’ and *widząc* ‘seeing’ with an overt first argument. Pisarkowa (1984, 137) notes of the AP with overt first argument: „Rzeczownik grupy imiennej zawierającej ukryte zdanie złożone pełni funkcję [...] dopełnienia w [zdaniu] przechodnim, ale jest zawsze potencjalnym podmiotem zdania podrzędnego: [...] *widzi drab stojąc* ‘widzi, że drabina stoi’.“ (The noun of the NP containing the covert complex sentence fulfills the function of object in the transitive sentence, but it is always the potential subject of a subordinated sentence: *widzi drab stojąc* ‘he / she sees that the ladder stands there.’ [translation – S.B.]). Thus, the AP with overt first argument has the same syntactic function as the AcI.

- (3) *tluszczę*      *dziwowaty*      *sie*      *widzącę*      *nieme<sub>p</sub>*  
 mass.NOM.PL    be\_amazed-PST.3PL    REFL    see.AP      dumb.ACC.PL  
*mówiąc<sub>p</sub>*, *chrome<sub>j</sub>*      *chodząc<sub>j</sub>*, *ślepe<sub>t</sub>*      *widząc<sub>t</sub>*  
 speak.AP    lame-ACC.PL    walk.AP    blind.ACC.PL    see.AP  
 ‘The masses were amazed when they saw the dumb talking, the lame walking and the blind seeing.’ (Queen Sophia’s Bible. 15<sup>th</sup> c.)

Finally, the last attested construction is a finite complement clause introduced by a dedicated complementizer (4). The range of possible complementizers will be discussed in section 2.

- (4) *Widzi mi sie, iże moja dusza przez twego*  
 see.PRS.3SG me REFL COMPL my.NOM soul.NOM by your.GEN  
*oblicza żywa nie może być.*  
 face.GEN alive.NOM NEG can.PRS.3SG be-INF  
 ‘It seems to me that my soul cannot be alive in your face.’ (Rozmyślanie przemyskie. 15<sup>th</sup> c.)

To sum up, by the turn of the 16<sup>th</sup> century, *widzieć* is attested with four various clausal structures as complement. Three of them, namely the AcI, the PC and the AP, are based on a non-finite verb form. Only the complement clause introduced by a dedicated complementizer and features a finite verb.

In Modern Polish, however, *widzieć* is attested almost exclusively with the finite complement clause; of the non-finite clausal structures only the PC occurs occasionally,<sup>3</sup> and it can be considered a peripheral construction specific for the elevated style.

Therefore, the first research question is how this change can be accounted for.

In order to discuss this question on a firm basis, we will first have a look at the state of research on the clausal structures under investigation, as well as on the semantic differences between different types of complement clauses.

## 2. Clausal complements of *widzieć*: state of the art

As a verb of perception, *widzieć* distinguishes complements denoting ‘object of perception’ and ‘acquired knowledge’ (cf. Boye 2010, 391-394 on the complement semantics of verbs of perception in general). In Modern Polish, ‘acquired knowledge’ (and, in rare cases, ‘object of perception’) is marked by the cognate complementizers *że* ‘that’ (5) and *iż(e)* ‘that’ (6) (cf. Hansen, Letuchiy, Błaszczuk 2016, 2005-2006), which differ only with regard to stylistics but not function and semantics (cf. Hansen, Letuchiy, Błaszczuk 2016, 2006-2007).

<sup>3</sup> In the balanced subcorpus of the Polish National Corpus, the two queries “[base=widzieć] [tag=.\*pact.\*acc.\*] [] {1,3} [pos=subst & case=acc]” and “[base=widzieć] [pos=subst & case=acc] [] {1,3} [tag=.\*pact.\*acc.\*]” searching for the PC in pre- and postposition to its noun head provided 144 matches altogether, whereas [base=widzieć] *jak* and [base=widzieć] *że* each produced more than 1,000 matches (if a query provides more than 1,000 matches, the PNC does not give the exact number).

Complement clauses introduced by *jak* ‘how’ denote the object of perception (7; cf. Hansen, Letuchiy, Błaszczuk 2016, 2009-2010).<sup>4</sup>

- (5) *O, przyjacielu, widzę, że myślisz ...*  
 Oh friend.VOC see-PRS.1SG COMPL think.PRS.2SG  
 ‘Oh friend, I see that you are thinking.’ (NKJP. M. Olszewski. 2005. Chwalcie łąki umajone)
- (6) *... widzi, iż jest bardzo zmęczony ...*  
 see.PRS.3SG COMPL be.PRS.3SG very tired.NOM.SG  
 ‘She sees that he is very tired.’ (NKJP. W. P. Szymański. 2001. Niedźwiedź w katedrze)
- (7) *Widzi, jak z daleka zbliża się rowerzysta.*  
 see.PRS.3SG COMPL from distance.GEN come\_near.PRS.3SG  
 REFL cyclist.NOM  
 ‘He sees how a cyclist is coming nearer from far away.’ (NKJP. St. Mrozek. 2004. Jak zostałem filmowcem)

Furthermore, Boye (2010, 403) notes that “crosslinguistically the contrast between “object of perception” and “knowledge acquired” seems frequently – though by far not always – to be expressed by a contrast between tense- and moodless nonfinite clauses on the one hand, and deictic, tensed or mood-marked finite clauses on the other”. This raises the question of whether the described distribution also holds true for the historical Polish complementizing structures.

Let us now turn to the historical types of complements.

The AcI in Polish is usually considered to be a syntactic structure replicated from Latin (cf. first and foremost the five pieces of evidence offered by Kropaczek 1928, 477; but also Pisarkowa 1984: 152-153; Długosz-Kurczabowa, Dubisz 2006, 474; 481; 483). Quite interestingly, in the literature on Polish diachronic syntax the AcI is marginalized both in terms of coverage and description of its functions. Thus, Kropaczek (1928) is the only publication dedicated exclusively to the AcI, but he limits himself to providing a rather cursory description of the AcI morphosyntax and to enumerating examples of usage for the various

<sup>4</sup> The corpus-based valency dictionary <http://walenty.ipipan.waw.pl/> also adduces *gdy* ‘when’ as complementizer for *widzieć*. However, a cross-check in the PNC (query [base=widzieć] [] gdy) showed that in only two of the 55 matches *gdy* functioned as complementizer, cf. e. ... *prawdziwy.NOM dżentelmen.NOM nie widzi.3SG.PRS gdy ktoś.NOM postępuje.3SG.PRS nietaktownie*. ‘A real gentleman does not see it when somebody acts indelicately.’ (K. O. Borchardt. 1988. Szaman morski). Thus, *gdy* is a highly marginal complementizer of *widzieć* and will not be considered, the more so since no instances of *gdy* are attested in the diachronic corpus.

matrix verbs attested in the historical sources (which constitute the major part of his publication). Obviously, the linguistic neglect of the AcI can be traced back to the puristic heritage of Polish linguistics,<sup>5</sup> which is also reflected in the way the AcI is treated. Pisarkowa (1984, 152) characterizes the AcI in Polish as follows: „Pojawia się ta konstrukcja z bezokolicznikiem dopiero w późniejszych, XV-wiecznych zabytkach. Jest zrazu wielką rzadkością; a występuje w polskich tekstach tylko do połowy XIX w. jako kaprys lub ślepe naśladownictwo. [For the first time this construction with the infinitive occurs in the latest 15<sup>th</sup> century text monuments. From the very beginning it is a great rarity; and it occurs in Polish texts only until the middle of the 19<sup>th</sup> century like a caprice or a blind imitation. Translation – S.B.]” In contrast to Pisarkowa, Bajerowa (1964, 191) considers the AcI to be a rather frequent construction. In the 18<sup>th</sup> century the rise in its usage frequency is fostered by “wpływowi francuszczyzny, która też tym zwrotem się posługuje [influence from French, which also uses this construction. Translation– S. B.]” (Bajerowa 1964, 191). Given Pisarkowa’s estimation, it is not too surprising that she – like all other authors – does not raise the question as to whether the AcI has any (distinct) function in Polish. According to Pisarkowa (1984, 152; cf. also Bajerowa 1964, 191), the copula *być* ‘be’ almost exclusively occurs as infinitive in the AcI. From the 17<sup>th</sup> century onwards the usage frequency of the AcI diminishes, and it eventually passes out of use in the 20<sup>th</sup> century. Kropaczek (1928, 475-476) and Długosz-Kurczabowa, Dubisz (2006, 474), however, date the termination of usage to the 19<sup>th</sup> century. With respect to morphosyntax, it is noteworthy that Kropaczek identifies the PC as one possibility to render the Latin AcI in the Polish Bible of Queen Sophia (1928, 471-472). This complies with our findings from example (2) on the AcI-like binding of reflexives by the first, not the second argument of the matrix verb.

Quite interestingly, Kropaczek is not the only scholar to identify functional parallels between the four complement structures under investigation. Grybosiowa (1975) compares all four complement types regarding their usage with, among others, *widzieć*. On a more general level, she finds that the frequency distribution of the four constructions varies across different text sources (cf.

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<sup>5</sup> Thus, Kropaczek (1928, 475) himself cites Brückner’s verdict on the usage of Latin in 16<sup>th</sup> century Poland: „szlachta i mieszczaństwo ... wracali łacinnikami, a choćby i łaciną tylko gęby pomazali wstawiali szczególnie w mowach, obchodach, listach do polszczyzny łacinę, przyzwyczajali się łątać mowę gotowemi oklepanemi, wygodnemi słowami i zwrotami łacińskimi. [the nobility and the bourgeoisie returned as Latinists, and although they just coated their lips with Latin, they constantly inserted Latin into their Polish in speeches, ceremonies and letters, they got used to patching their language with ready-made Latin phrases, convenient words and sayings. Translation – S.B.]”



When it comes to the co-existence of AP and AcI as clausal complements of *widzieć*, Grybosiowa emphasizes the advantage offered by the AP: with a present and a past form (cf. Grybosiowa 1975, 42-44), the AP offers (nearly) the same potential for expressing taxis as the various forms of the Latin infinitive do (cf. Grybosiowa 1975, 52). One might expect that the anteriority of the activity denoted by the past AP makes the reading ‘acquired knowledge’ most likely, whereas the simultaneity of the present AP triggers the reading ‘object of perception’. A closer look at the examples Grybosiowa gives for the past AP (9-10)<sup>7</sup> reveals the following: all APs are resultatives, i.e. they are “verb forms that express a state implying a previous event”, and “the resultative expresses both a state and the preceding action it has resulted from” (Nedjalkov, Jaxontov 1988, 6). Indeed, the angel’s presence on earth in example (9) is a result of his flying from heaven down to earth, and in (10) the animal is lying because it has dropped down. Quite interestingly, in (10) the observers need not necessarily have been present when the animal was dropping down, but may infer the preceding action from the resulting state. This is another indication that the past AP triggers the reading ‘acquired knowledge’.

- (9) *Widziech, prawi, anjela bożego mocnego*  
 see.AOR.1SG truly angel.ACC divine.ACC mighty.ACC  
*s nieba <śle>ciew*  
 from heaven.GEN fly\_down.AP.PST  
 ‘Truly, I have seen an angel, divine and mighty, (lit. having flown down) from heaven.’ (Kśw ar 17; cited after Grybosiowa 1975, 42)
- (10) *Uźrzychli wołu albo osła brata twego*  
 see.PST.3PL ox.ACC or donkey.ACC brother.GEN your.GEN  
*padwszy*  
 drop\_down.AP.PST  
 ‘They saw the ox or donkey of your brother lying there (lit. having dropped down).’ (BZ Deut 20,4; cited after Grybosiowa 1975, 43)

Another question still to be answered is the proportion between the occurrences of present and past AP, which will allow us to identify the prototypical reading of the AP construction.

Despite the advantages the AP offers for marking taxis, Grybosiowa notes that “[n]asilenie frekwencji bezokolicznika przy dopełnieniu przypada na wiek XVI i XVII, a więc na okres, kiedy współistniejące konstrukcje z imiesłowami zdecydowanie wychodzą z użycia. W wieku XVIII, kiedy już tych ostatnich nie ma, notuje się jeszcze bezokolicznik [the rise in usage frequency of the infinitive

<sup>7</sup> For reasons of space we cite just two of the five examples Grybosiowa adduces; all of her examples behave in the same way as discussed for the cited examples.

accompanying the object [of the matrix verb – i.e. the AcI – S.B.] falls into the 16<sup>th</sup> and 17<sup>th</sup> centuries, that is to say, into a period when the co-existing constructions with participles are definitely passing out of use. In the 18<sup>th</sup> century, when these constructions no longer exist, the infinitive is still observed. Translation – S.B.]” (Grybosiowa 1975, 52).

Finally, the complement clause is the last of the four constructions under investigation. Concerning the interchangeability of AP and complement clause, Grybosiowa notes: “Można używać wymiennie z imiesłowami (nieodmiennym i odmiennymi) tylko zdań dopełniowych mających orzeczenie czasownikowe, a nie imienne. [One may use interchangeably with the participle (the indeclinable and the declinable one) only complement clauses that have a verbal predicate, but not a nominal one. Translation – S. B.]” (Grybosiowa 1975, 55). Considering Pisarkowa’s (1984, 152) and Bajerowa’s (1964, 191) statement that the copula *być* ‘be’ occurs almost exclusively as infinitive in the AcI, this implies that the AcI stands apart from the other three interchangeable constructions. Therefore, we can deduce the following research question: Does a functional difference exist between the AcI as complement of *widzieć* and the other three constructions?

Since in Modern Polish the complementizers *że / iż(e)* ‘that’ and *jak* ‘how’ distinguish the two readings ‘acquired knowledge’ and ‘object of perception’, we will also have a look at the usage of these complementizers in the history of Polish. Grybosiowa notes that the complement clauses of *verba cognoscendi* are introduced by the complementizers *iż (ci)*, *iże*, *iżeby* and *czso* ‘what’ (cf. Grybosiowa 1975, 53) but does not address semantic differences. Pisarkowa also does not give a comprehensive survey of all syntactic and semantic contexts in which the complementizers occur but rather highlights some contexts of usage. From the usage of *że / iż(e)*<sup>8</sup> ‘that’ as complementizer for introducing different types of subject and object clauses (cf., e.g. Pisarkowa 1984, 207-208 on the rendering of indirect (and, in very early times, even direct) speech, or Pisarkowa 1984, 203-204 on object clauses in the indicative and Pisarkowa 1984, 180-185 in the subjunctive), we may infer that *że / iż(e)* historically served as “complementational allrounders”. They were often also interchangeable with other complementizers such as *żeby*, *iżby*, *aby* ‘in order to’ or *co* ‘what’ (cf. *ibidem*). Since the latter complementizers have functions different from that of *że / iż* in Modern Polish, their historical dispersion is indicative of an underspecification of functions. *Jak(o)* ‘how’ originally had predicative function: “Reliktem tej funkcji orzekającej ... są ukryte w zdaniu prostym niezdaniotwórcze konstrukcje predykatywne typu *wracam jako król* i *pamiętam go jako króla*. [a relic of this predicative function are in the simple sentence the covert non-clausal predicative constructions of the type *I am returning as a king* or *I re-*

<sup>8</sup> We use these forms as label for all historically attested cognates.

*member him as a king.*” (Pisarkowa 1984, 237). Note that both structurally and functionally the *jako* predication comes very close to the double accusative construction from which the PC emerged, so we may assume that this kind of predication fosters the reading ‘object of perception’. Later on *jako* can be found mainly in so-called *zdania konsytuacyjnymi* (‘co-situational sentences’, Pisarkowa 1984, 208-209; 220), which are used to render observations or even for official testimonials (cf. Pisarkowa 1984, 209). Pisarkowa describes the structure of these sentences as follows:

z zamierzonych wypowiedzeń trójzdaniowych  
 (1) *świadcze*, (2) *jakom przy tym był*, (3) *kie dy* (że, *jako*) *Piotr płacił*  
*Pawłowi*  
 powstaje albo wariant (1)+(3) albo (2)+(3). (Pisarkowa 1984, 220)  
 [of the intended tricausal statement

(1) *I bear testimony* (2) *as I have been present* (3) *when (that, how)*  
*Piotr paid Peter*  
 either variant (1)+(3) or (2)+(3) is formed. [Translation – S.B.]

Note that the formula *jakom przy tym był*, which introduces the testimony of the eyewitness, is formed with *jako* – the marker for the reading ‘object of perception’. What is witnessed may be introduced with both *że* ‘that’ and *jako* ‘how’, i.e. the two complementizers also used today. Unfortunately, Pisarkowa does not give any information on how the two complementizers are used, so we cannot deduce whether they already distinguish the object of perception from acquired knowledge.

To sum up, we are dealing with four complement types that seem to be interchangeable. Since their semantic function has been insufficiently addressed in the literature, the first research question to be answered is whether the complement types are specialized for rendering either the object of perception or received knowledge and are thus distributed complementarily on a functional basis, or whether their usage is subject to mere variation.

The other research questions concern single complement types.

According to Grybosiova, the AP is the most versatile complement type, as the choice between present and past AP offers the possibility to render simultaneity and anteriority of the AP action in relation to the matrix verb. From the examples cited in the literature, the past APs all seem to be resultative and thus prone to render acquired knowledge, whereas the present AP seems to be predestined for denoting the object of perception. The research question to be answered is whether both AP forms occur with equal frequency, or whether one of them is more frequent and may thus be considered the prototypical one which also bears the prototypical semantic function.

Since the AP developed out of the PC, the latter offers the same possibilities for expressing taxis relationships as discussed above for the AP. However, this issue has not been raised in the literature and thus poses another research question.

Since Polish – in contrast to Latin – features only one form of the infinitive, the Polish AcI is claimed to be less versatile in the expression of taxis relationships than the AP and to occur almost exclusively with the copula *być* as infinitival constituent. We may deduce the next research question, whether these two observations are mutually dependent. Furthermore, Grybosiowa notes that the AcI as complement type lasts longer than the more versatile AP. Thus, the question arises as to whether this is mere coincidence or can be explained with linguistic factors.

Concerning the complement clauses, the question to be answered is when and how the two readings ‘object of perception’ and ‘acquired knowledge’, nowadays triggered by the two complementizers *jak* ‘how’ and *że* ‘that’, developed.

Finally, all this results in the last research question, whether the co-existence of the described developments constitute mere coincidence or whether an interlinkage exists between the semantic-functional differentiation of the complement clauses and the fact that AcI and AP in their function as complement of *wiedzieć* fall out of use and the PC becomes stylistically restricted.

Let us now turn to the data analysis.

### 3. Data analysis

Table 1. illustrates the usage frequencies of the four complement types across the centuries. Including the data from the KorBa corpus forced us to make an arbitrary choice. Since the KorBa corpus homepage currently does not provide any information on the corpus size, the texts included in the corpus, and the text sources of the matches, we decided to ascribe all KorBa matches to the 18<sup>th</sup> century. As we are interested in the usage frequency of the complement types with the verb *wiedzieć* alone, and not in general, we decided to calculate the normalized word count per verb token, not wpm. This also has the advantage that we know the number of tokens for *wiedzieć* in the KorBa and were thus able to include the KorBa figures in our calculation.

When comparing our data with the findings described in the section on the state of the art, we must keep in mind that the datasets may differ with regard to corpus size and text selection. As a result, only general tendencies rather than single figures are comparable.

	Tokens $\Sigma$	AcI		Adverbial Participle		Participium Coniunctum		Complementizer			
		absolute number	per verb token	absolute number	per verb token	absolute number	per verb token	<i>že / žě</i>		<i>jak</i>	
								absolute number	per verb token	absolute number	per verb token
<b>14<sup>th</sup> century</b>											
<i>widzieć</i>	11	0	0	1	0,091	2	0,18	0	0	0	0
corpus	45136										
<b>15<sup>th</sup> century</b>											
<i>widzieć</i>	788	7	0,009	26	0,033	19	0,024	95	0,121	2	0,003
corpus	592996										
<b>16<sup>th</sup> century</b>											
<i>widzieć</i>	575	22	0,038	7	0,012	21	0,037	101	0,176	3	0,005
corpus	212097										
<b>17<sup>th</sup> century</b>											
<i>widzieć</i>	345	1	0,003	0	0	16	0,046	64	0,186	2	0,006
corpus	333302										
<b>18<sup>th</sup> century</b>											
<i>widzieć</i>	195	4	0,021	0	0	22	0,113	20	0,103	3	0,015
corpus + KorBa	303713 + XXX										
<b>19<sup>th</sup> century</b>											
<i>widzieć</i>	684	0	0	0	0	29	0,042	42	0,061	13	0,019
corpus	304089										

Table 1. Distribution of complement types across six centuries. The adduced lexemes stand for all orthographic variants.

For the AcI and the AP our data shows the same tendencies as described in the literature: The AP passes out of use in the 17<sup>th</sup> century, whereas the AcI prevails until the 18<sup>th</sup> century. Yet contrary to Grybosiowa's findings, the PC does not fall out of use, but instead shows a highly stable usage frequency across the centuries that even outnumbers the frequencies observed for the AcI, the AP and the complementizer *jak* 'how'. The outlier in the 18<sup>th</sup> century is likely due to the stylistic preferences of the time or to text selection for the corpora. The usage frequency of *że / iż* 'that' decreases over time, whereas that of *jak* 'how' rises. We may thus pose the question of whether this is indicative of a specification of functions. After this first impression of the general tendencies concerning the usage frequency of the items under investigation, we will now analyze the semantic function of each complement type.

### 3.1. TheeAcI

Against the background of Pisarkowa's and Grybosiowa's findings, we will discuss the following questions: a) the usage of full verbs as infinitive; b) the readings of past participles; c) the binding of reflexives; d) the change from accusative to instrumental in nominal predicates.

Example (11) illustrates the usage of full verbs in the AcI; additionally, examples of the type (12) also feature a full verb, whose inflectional form requires the usage of the auxiliary *być* 'be'. Thus, these sentences may be considered counterexamples to Pisarkowa's (1984, 152) statement about the almost exclusive usage of the copula in the AcI. Note also that the passive participle in (12) is another instance of a participle with anterior meaning providing a resultative reading. Examples (14-15) display the binding of reflexives typical for the AcI: the contracted accusative form *się* of the reflexive pronoun functions as first argument of the infinitive and is bound by the first argument of the matrix verb. That the nominal predicate in (14) is in the instrumental, not in the accusative, is a phenomenon connected to another syntactic change in the history of Polish, which will be discussed in the section on the *participium coniunctum*.

- (11) ... *kiedy je najejimieniu\_schodzić widział*  
 when they.ACC wreck.INF see.PST.3SG  
 'When he saw that they wrecked everything.' (PolDi; Sul 75. 15<sup>th</sup> c.)
- (12) ... *widzieliby pszczoły alibo dzienie Piotrowy*  
 see.PST.3PL bee.ACC.PL or honey.ACC Peter.ADJ.POSS.ACC  
*prez Jana wzięte być.*  
 by Jan.ACC take.PTCP.PST.PASS.ACC be.INF  
 'they saw that Peter's bees or honey has been taken by Jan.' (PolDi; Sul 33-4. 15<sup>th</sup> c.)

- (13) *jeden Janeczaryn był zataił do trzeciego*  
 one.NOM Janissary.NOM AUX.3SG hide.PTCP.SG.M to third.GEN  
*dnia, ale gdy widział być śmiertelnego, głowę*  
 day.GEN but when see.PST.3SG be.INF moribund.GEN head.ACC.F  
*mu ściął i oddał ją Baszowi*  
 him cut\_off.PST.3SG and give.PST.3SG her Baş.DAT  
 ‘One Janissary hid [a captive] until the third day, but when he saw that he was moribund, he cut off his head and gave it to the military leader.’  
 (Kronika polska, litewska. 16<sup>th</sup> c.)
- (14) *widzę się dopiero całe być nieszczęśliwym*  
 see.PRS.1SG REFL at\_the\_moment absolutely be.INF unhappy.INST  
*i całe już niezdolnym do zniesienia tak*  
 and absolutely already unable.INST to bearing.GEN so  
*wielu impetów konspirowanej na mnie*  
 many.GEN strike.GEN.PL conspire.PTCP.PST.GEN.SG.F on me  
*złej fortuny.*  
 bad.GEN.SG.F fortune.GEN.SG.F  
 ‘I see that at the moment I am absolutely unhappy and already absolutely unable to bear so many strikes of the bad fortune conspiring against me.’  
 (Jan III Sobieski. Listy do królowej Marysienki. 17<sup>th</sup> c.)
- (15) *widząc się już maiori ex parte laesos ....*  
 see.AP REFL.ACC already most.ABL from part.ABL injured.ACC.PL  
 ‘seeing that most of them were already injured...’ (KorBa. 18<sup>th</sup> c.)

Of the adduced examples, all allow the AcI complement to be interpreted as ‘acquired knowledge’, since – with the exception of (12) – the infinitival predicates may be understood as interpretative verbs (*интерпретационные глаголы*; cf. Apresjan 2006). This class of verbs serves the interpretation or qualification of another, more concrete action or state (cf. Apresjan 2006, 145) that temporally precedes or coincides with the interpretation (cf. Apresjan 2006, 146). Thus, the idiomatic expression *na jimieniu schodzić* ‘wreck’ (lit. ‘to come down in the estate’; example 11) implies some preceding action, e.g. unsuccessful economic activities, just as the interpretations *być śmiertelny* ‘be moribund’ (ex. 13) and *być nieszczęśliwy* ‘unhappy’ (ex. 14) are based on certain physical indications, facial expression etc. *Laesus* ‘injured’ (ex. 15) may be understood as hyponym for various kinds of injuries (on the role of hyponyms for interpretative verbs cf. Apresjan 2006, 146). *Wziąć* ‘take’ does not belong to the interpretative verbs, but as a telic verb denoting a change of state it is used in the form of the past participle (ex. 12) with resultative reading and thus shares the existence of a preceding action with the interpretative verbs.

### 3.2. The adverbial participle

In our data the AP is attested until the 16<sup>th</sup> century inclusively, which complies with the findings of Pisarkowa and Grybosiowa.

Since our data provided no instances for the binding of reflexives, the focus of this section will be on the taxis relationship between AP and matrix verb. In our data only the present AP occurred, which usually conveys simultaneity of AP and matrix verb action. In this respect, two examples deserve special mention.

In example (16), the active present AP is used, although the context implies the passive state of being bound. Note that we are again dealing with a telic verb denoting a change of state, which provides a resultative reading. In the example, the result is in the focus and also simultaneous with the moment of perception.

Example (17) again features the present AP with simultaneous reading, yet according to the biblical text, nobody witnessed the rising as such, but Jesus appeared to his followers after his rising. This would imply a resultative reading. Quite notably, *wstać* ‘stand up’ may be considered a prototypical representative of change of state verbs and thus prone to a resultative reading. If we assume a resultative reading, the result is again simultaneous with the moment of perception.

Concerning the complement semantics, the contexts of all examples imply the reading ‘object of perception’. Obviously, this reading is fostered by the present AP, which signals simultaneity of AP and matrix verb action. Given examples (16-17), it might even be possible that the present AP was used as a dedicated marker for the reading ‘object of perception’. However, the amount of data at our hands does not suffice for more than a hypothesis.

- (16) *Kiedy-m widziała mego miłego syna tako okrutnie*  
 when-1SG see.PST.SG.F my.ACC dear.ACC son.ACC so cruel.ADV  
*i tako niemiłosiwie wiążąc*  
 and so flagitious.ADV tie.AP  
 ‘When I saw my dear son so cruelly and flagitiously bound ...’ (PolDi 15th century)
- (17) *[Z]drowa bądź, pani, ktoregoż*  
 blessed.NOM.SG.F be.IMP.2SG Mylady, this.ACC.SG.M  
*że-ś widziała wstając z martwych.*  
 that-2SG see.PST.SG.F stand\_up.AP.PRS from dead.GEN.PL  
 ‘Be blessed, Mylady, that you have seen him arising from the dead.’ (PolDi; *Modlitewnik Nawojki*. 15<sup>th</sup> c.)
- (18) *widzieli od niego pochodząc światłość*  
 see.PST.3PL from him emanate.AP radiance.ACC

*jakoby promienie słoneczne*

as\_if ray.ACC.PL sunny.ACC.PL

‘They saw a radiance emanating from him as if it were sunrays.’ (PolDi. 15<sup>th</sup> c.)

- (19) *Oto widzisz leżąc na marach ojca*  
 there see.PRS.2SG ly.AP on deathbed.LOC father.ACC  
*i brata mego.*  
 and brother.ACC my.ACC

‘There you see my father and my brother lying on the deathbed.’ (PolDi. 16<sup>th</sup> c.)

- (20) *Potem-eśmy więc widzieli Janczary*  
 then-1PL so see.PST.PL Janissaries.ACC  
*z miasta uciekając.*  
 from town.GEN flee.AP

‘Then we saw that the Janissaries were taking flight from the town.’ (PolDi. 16<sup>th</sup> c.)

### 3.3. The Participium coniunctum

As has been mentioned above, the PC is attested from the earliest texts until today. The main foci in this section will be the binding of reflexives and the case encoding of predicative nominals.<sup>9</sup>

The binding of reflexives by the first argument of the matrix verb is attested continuously from the 15<sup>th</sup> (21) to the 19<sup>th</sup> century (28-29), i.e. into Modern Polish. With the exception of two cases to be discussed later on, the reflexive pronoun is always bound by the first argument of the matrix verb, no matter whether we are dealing with the reflexive pronoun in the accusative, i.e. as the first argument of the infinitive, in the full (28) or contracted form (29), or with a reflexive in the dative (21; 26). This behavior is parallel to that of the reflexives in the AcI construction. Examples (22; 24) constitute the two exceptions from the rule, but their syntactic structure also differs: the accusative arguments *tę gwiazdę* ‘that star’ (22) and *golębicę białą* ‘white dove’ seem to be resumed by the contracted reflexive pronoun in the accusative within the same sentence. The verb *świecić* ‘shine’ can also be found in the reflexive (derivational) form *świecić się* in dictionaries of Modern Polish, but not in the *Słownik Staropolski*, so we cannot exclude that example (22) is an early attestation of the reflexive verb. Yet *przelatywać* ‘overfly’ has no reflexive derivation attested on any developmental stage of Polish, so we must assume that (24) is a case of object re-

<sup>9</sup> For reasons of space, we have also subsumed adjectives here since adjectives and participles exhibit the same syntactic behavior.

sumption by the reflexive pronoun. Both accusative arguments form the topic of the respective sentences. Topicalization may result in a syntactic discontinuity to be resolved by a resumption. (22) is syntactically rather dense, but in (24) the distance between accusative argument and PC is greater, which makes a resumption rather likely. Quite extraordinarily, the topic is resumed by the reflexive pronoun, not the personal one. We may suspect that this is a result of an analogy to the AcI and the AcI-like binding of reflexives in the PC construction.

Concerning binding and co-reference, the co-occurrence of PC and AP in (22) is also interesting, as it is unclear whether PC and AP are coordinated or whether the PC forms the matrix sentence for the AP.

Regarding the taxis relationships with the matrix verb, we may state that several passive past participles with resultative reading occur (25-28). Since the participle has one dedicated form for the expression of each combination of *genus verbi* and simultaneity / anteriority, the PC is more versatile than the AP with regard to taxis.

As has already been mentioned in the section on the AcI, the encoding of the nominal predicate (14) and the participle (23) in the instrumental can be observed from the 17<sup>th</sup> century onwards; some inflectional forms may be interpreted as both accusative and instrumental (24; 29). At the same time, distinctly accusative participles also occur (25; 27). The literature on the development of secondary predicatives focuses almost exclusively on nouns (cf. Hentschel 1993; Hentschel 1994) and touches upon adjectives rather casually (cf. Bajerowa 1964, 146-147); participles and the PC in the oblique cases are not discussed, but we may assume a development similar to that of the adjectives. Chachulska considers the instrumental of adjectival secondary predicates to be only a temporary phenomenon (2008, 54) and states that for Modern Polish an adjective may occur as secondary predicate in the instrumental only if the corresponding primary predication is in the infinitive or non-finite (Chachulska 2008, 46); participial constructions always have the form of the PC (Chachulska 2008, 53).<sup>10</sup> Furthermore, Chachulska points out that sentences of the type *Znam<sub>i</sub> ją<sub>ACC</sub>; panną<sub>INST</sub>* are ambiguous, as the secondary predicate *panną* ‘as an unmarried woman’ can refer both to the subject (‘I knew her when I was an unmarried woman’) and the object (‘I knew her when she was an unmarried woman’) of the sentence (Chachulska 2008, 49). What resolves this ambiguity is an analytical construction with the secondary predicate in the same case as the argument to which it refers. The analytical construction is formed with the help of *jako* ‘how’, i.e. a cognate of the complementizer *jak* ‘how’ denoting the com-

<sup>10</sup> This has also been verified by the corpus query “[base=widzieć] [] {1,3} [pos=subst & case=acc] [] {1,3} [tag=.\*pact.\*inst.\*] within s” in the NKJP, which gave no matches.

plement semantics ‘object of perception’: *Znałam; ją.ACC; jako pannę.ACC; ‘I knew her when she was an unmarried woman’* (cf. Chachulska 2008, 49).

One might thus expect that the PC conveys exclusively the reading ‘object of perception’, but we can find several examples with predicates that may be considered interpretative in Apresjan’s (2006) sense (23; 25; 28). These predicates oscillate between the two readings ‘object of perception’ and ‘acquired knowledge’.

Finally, we would like to point out that the change from postpositional to prepositional placement applies not only to the AP, as described by Grybosiowa 1975, 35-36), but also to the PC (30). For the AP it results in a change of the coreference choice (ibidem), whereas the consequence for the PC is a clearly attributive reading which dissolves the syntactic and functional parallel to other complement types.

- (21) *widział jest Laban we śnie Gospodzina*  
 see.PST.3SG AUX.3SG Laban.NOM in dream.LOC Lord.ACC  
*k sobie przychodzącego a mówiącego ...*  
 to REFL.DAT come.PTCP.PRS.ACC and speak.PTCP.PRS.ACC  
 In a dream Laban saw the Lord coming to him and speaking ...’ (PolDi. 15<sup>th</sup> c.)
- (22) *A my-smy widzieli tę gwiazdę świecącą się,*  
 and we-1PL see.PST.PL that.ACC star.ACC glow.PTCP.PRS.ACC REFL  
*narodzenie tego dziecka przepowiadając.*  
 birth.ACC that.GEN child.GEN predict.AP  
 ‘And we saw that star glowing, predicting the birth of that child.’ (PolDi. 15<sup>th</sup> c.)
- (23) ... *widząc pana ojca mego osierocalym i*  
 see.AP mister.ACC father.ACC my.ACC orphaned.INST and  
*nieutulonym w żalu ze śmierci ...*  
 grief-stricken.INST in sorrow.LOC from death.GEN  
 ‘Seeing the mister my father orphaned and grief-stricken in sorrow at his death ...’ (PolDi. 16<sup>th</sup> c.)
- (24) *widział gołębicę białą nad wojskami się*  
 see.PST.3SG dove.ACC white.ACC over army.INST.PL REFL  
*naszymi przelatującą.*  
 our.INST.PL overfly.PTCP.PRS.ACC/INST.F  
 ‘He saw a white dove overflying our armies.’ (PolDi. 17<sup>th</sup> c.)
- (25) *Troskliwa Matka widząc kochanego Syna tak*  
 provident.NOM mother.NOM see.AP beloved.ACC son.ACC so

- bardzo do wojny skłonnego, Boi się*  
 much to war.GEN inclined.ACC be\_afraid.PRS.3SG  
 'Seeing that her beloved son is so much inclined to warfare, the provident mother is afraid.' (KorBa. 18<sup>th</sup> c.)
- (26) *jako Lew głodny/ widząc sobie z gardła*  
 how lion.NOM hungry.NOM see.AP REFL.DAT from throat.GEN  
*łup wyłarty/ nie miał się od*  
 prey.ACC yank\_out.PTCP.PST.PASS.ACC not have.PST.3SG REFL from  
*gniewu pukać?*  
 anger.GEN throb.INF  
 'How can an angry lion, seeing that his prey is yanked out of his throat, not throb from anger?' (KorBa. 18<sup>th</sup> c.)
- (27) *W tej chwili widzę jego ogniste*  
 in that.LOC moment.LOC see.PRS.1SG his fiery.ACC.PL  
*żrenice utkwione w tobie ...*  
 pupil.ACC.PL rivet.PTCP.PST.PASS.ACC.PL in you.LOC  
 'At that moment I see his fiery eyes riveted at you.' (J. B. Dziekoński. Sędziwój. 19<sup>th</sup> c.)
- (28) ... *widząc siebie opuszczonych.*  
 see.AP REFL.ACC abandon.PTCP.PST.PASS.ACC.PL  
 '... seeing that they have been abandoned.' (H. Rzewuski, Pamiętki J. Pana Seweryna Soplicy. 1839)
- (29) *Spojrzawszy w zwierciadło Malwina [...] uśmiechnęła się*  
 look.AP.PST into mirror.ACC Malwina.NOM laugh.PST.3SG REFL  
*widząc się tak ładną ...*  
 see.AP REFL.ACC so beautiful.ACC/INST  
 'After a look into the mirror Malwina laughed, seeing herself so beautiful.' (M. Wirtemberska. Malwina. 1813.)
- (30) *widząc leżącego pod koniem pana*  
 see.AP ly.PTCP.PRS.GEN.SG under horse.INST mister.ACC  
*Aleksandra Odyńca ...*  
 Aleksandr.ACC Odyniec.ACC  
 '... seeing the lying under the horse Mister Aleksandr Odyniec ...' (H. Rzewuski. Pamiętki Soplicy. 19<sup>th</sup> c.).

### 3.4. The complementizers

If we look at the instances of *że / iż(e)* 'that' in our database, we may state that through all the centuries there is a tendency towards denoting 'acquired knowledge' (33-36; 38; 40-41; 44-45), but into the 19<sup>th</sup> century instances of the

reading ‘object of perception’ can be found as well (31; 42-43). Examples (32; 37; 39) oscillate between the two readings, as the used verbs denote the hyponymous interpretation of several indications of the given state. Note that *izby* in (35) and *zeby* in (40) are not variants of the Modern Polish fused conjunction *zeby* ‘in order to’, but instances of the conditional marker *by* agglutinated to *że* / *iz(e)* ‘that’ (more on the relationship between the agglutination and the fused conjunction *zeby* ‘in order to’ cf. Hansen, Letuchiy, Błaszczuk 2016, 206).

To summarize, we may state that into the 19<sup>th</sup> century *że* / *iz(e)* ‘that’ has been underspecified concerning complement semantics.

- (31) ... *widząc, iż przyszedł Saul po niem*  
 see.AP COMPL come.PST.3SG Saul.NOM after him  
*na puszcza...*  
 into desert.ACC  
 ‘Seeing that Saul had come after him into the desert ...’ (PolDi; 1Sam26:2. 15<sup>th</sup> c.)
- (32) *Atalija mac Ahazyaszowa widząc,*  
 Athalia.NOM mother.NOM Ahaziah.ADJ.POSS.NOM.SG see.AP.PRS  
*izę syn jej umarł, wstawszy i*  
 COMPL son.NOM her die.PST.3SG stand\_up.AP.PST and  
*zbiła wszystko*  
 kill.PST.3SG all.ACC  
 ‘When Athalia, Ahaziah’s mother, saw, that her son had died, she stood up and killed all.’ (PolDi; 2Kronik 22:10. 15<sup>th</sup> c.)
- (33) *widząc Bog, iż jest wielka złość*  
 see.AP God.NOM COMPL be.PRS.3SG big.NOM ferocity.NOM  
*między ludem na ziemi*  
 among people.INST on earth.LOC  
 ‘God saw that there was much ferocity among the people on earth.’ (PolDi; 1 Księga Mojżeszowa. 15<sup>th</sup> c.)
- (34) *I widział Bog, iż jest dobre.*  
 and see.PST.3SG God.NOM COMPL be.PRS.3SG good.NOM  
 ‘And God saw that it was good.’ (PolDi. 15<sup>th</sup> c.)
- (35) *i tako sie jej wiedziało, iż-by głodem*  
 and so REFL her see.PST.3SG.N COMPL-COND hunger.INST  
*musiała umrzeć.*  
 must.PST.3SG.F die.INF  
 ‘And so it seemed to her that she would die from hunger.’ (PolDi. 15<sup>th</sup> c.)
- (36) *Cesarz Bajzet, widząc, iż żona jego*  
 emperor.NOM Bayezid.NOM see.AP COMPL wife.NOM his



- (43) *widząc, że Zwierowicz królowi wino nalewa ...*  
 see.AP COMPL Zwierowicz.NOM king.DAT wine.ACC pour.PRS.3SG  
 ‘Seeing that Zwierowicz is pouring wine for the king ...’ (H. Rzewuski, Pamiątki J. Pana Seweryna Soplicy. 1839)
- (44) ... *widząc że-ś nie kochany ...*  
 see.AP COMPL-2SG NEG love.PTCP.PST.PASS.NOM  
 ‘... seeing that you are not beloved ...’ (N. Żmichowska. Poganka. 19<sup>th</sup> c.)
- (45) *Sędziwoj przypasał szablę i widząc, iż*  
 Sędziwoj.NOM adjust.PST.3SG sable.ACC and see.AP COMPL  
*nie ma nadziei wymknięcia się,*  
 NEG have.PRS.3SG hope.GEN escape.SUBST.GEN REFL  
*oczekiwał wypadku ze spokojnością ...*  
 await.PST.3SG attack.GEN with calm.INST  
 ‘Seeing that there is no hope to escape, Sędziwoj adjusted the sable and calmly waited for the attack.’ (J.Ą. Dziekoński: Sędziwoj. 19<sup>th</sup> c.)

Considering *jak* ‘how’, we may state that its frequency in our historical database is much lower than that of *że / iż(e)* ‘that’. Example (46) from the 18<sup>th</sup> century illustrates a bridging context, as it remains unclear whether we are dealing with an indirect question where *jak* functions as interrogative pronoun, or with an assertive complement clause. Quite interestingly, in the latter case the semantics would imply the reading ‘acquired knowledge’ than ‘object of perception’. Example (47) from the same time period represents an assertive complement clause with the reading ‘object of perception’, just like (48) from the 19<sup>th</sup> century. Since *że / iż(e)* ‘that’ also occurs in semantically ambiguous contexts in the same time period, we may draw the conclusion that the crystallization of semantic functions between *że / iż(e)* ‘that’ and *jak* ‘how’ goes on until the 19<sup>th</sup> century.

- (46) ... *nie widzę jak by im służyć mogły*  
 NEG see.PRS.1SG COMPL COND them serve.INF can.PST.3PL  
*te Proroctwa ...*  
 that.NOM.PL prediction.NOM.PL  
 ‘I don’t see how/that those predictions could help them.’ (B. Chmiewlowski. Nowe Ateny. 18<sup>th</sup> c.)
- (47) *Czasu jednego widząc*  
 time.GEN one.GEN see.AP  
*jak Mamka kąpała Dziecię ...*  
 COMPL mother.NOM bathe.PST.3SG child.ACC  
 ‘Once seeing, how the mother bathed her child ...’ (B. Chmiewlowski. Nowy Ateny. 18<sup>th</sup> c.)

- (48) *widząc jak rybitwy białe wędrują*  
 see.AP COMPL sea\_swallow.NOM.PL white.NOM.PL wander.PRS.3PL  
*ku słońcu złotemu i toną w promieniach.*  
 to sun.DAT golden.DATand drown.PRS.3PL in sunray.LOC.PL  
 ‘Seeing how the white sea swallows wander to the golden sun and drown  
 in the sunrays.’ (J. Słowacki. Anelli. 19<sup>th</sup> c.)

#### 4. Conclusion

To summarize, the distribution of complement semantics for the four complement types under investigation is as follows: The AcI is used to denote exclusively ‘acquired knowledge’, whereas both the AP and the PC feature the reading ‘object of perception’. This reading is fostered by the usage of the present AP and active participle present respectively, which both mark simultaneity with the action of the matrix verb. Quite interestingly, the present AP even seems to be the default form for usage in the complement structure, irrespective of the factual taxis relationship (which would make one expect the past AP) and the *genus verbi*. We may interpret this as another indication that ‘object of perception’ is the default reading of the AP in its function as complement of *wiedzieć*. The PC also provides a largely consistent picture: if interpretative verbs occur as participial form, they may oscillate between the two readings; all other verbs allow only for the reading ‘object of perception’. The two participial forms to be incurred in the PC are present participle active and the past participle passive; in all analyzed cases, the latter had a resultative meaning, and the result of the action denoted by the participle was simultaneous to the matrix verb action, i.e. the moment of perception.

In contrast, the complementizers *że / iż(e)* ‘that’ and *jak* ‘how’ are underspecified for complement semantics for a rather long period in the history of Polish. The crystallization of semantic functions between *że / iż(e)* ‘that’ and *jak* ‘how’ commences in the 18<sup>th</sup> century and continues into the 19<sup>th</sup> century.

Thus, we may state that into the 18<sup>th</sup> century it is the complement types based on non-finite verb forms that form a discrete system of semantic functions, with the AcI denoting ‘acquired knowledge’ on the one hand, and the AP and the PC denoting ‘object of perception’ on the other. The PC has the same function as the AP and is even more versatile in expressing taxis relationships and thus resultativity, and it continues to exist until today. Thus, this discrete system remains stable even when the AP is no longer able to function as complement of *wiedzieć*, because its postposition (leading to linear closeness with the argument encoded in the accusative) is no longer fashionable and the onset of standardization establishes the rule that the covert first argument of the AP be co-referent with the first argument of the matrix verb.

How do these observations comply with Boye's (2010, 403) findings that "crosslinguistically the contrast between "object of perception" and "knowledge acquired" seems frequently — though by far not always — to be expressed by a contrast between tense- and moodless nonfinite clauses on the one hand, and deictic, tensed or mood-marked finite clauses on the other"? In fact, neither the infinitive as constituent of the AcI, nor the AP or the participle is tensed, but they express taxis. However, their range of taxis meanings differs: In contrast to Latin, the Polish infinitive does not feature various forms with different taxis meanings, but is instead restricted to expressing simultaneity; the AP has the potential to denote both simultaneity and anteriority, but occurs as complement of *wiedzieć* almost exclusively with simultaneous meaning. Finally, the forms of the participle mark simultaneity and anteriority, and the resultative meaning conveyed by the past participle passive bases on the anteriority of the denoted action. Thus, we have the infinitive with just one taxis meaning on the one end of the continuum and the participle with two taxis meanings and the possibility to express resultativity at the other end. Note that the PC, i.e. the complement type able to convey most meanings, is also the one that survives into our time, albeit with its usage restricted to the elevated style.

Lastly, the AcI diminishes its usage frequency and finally passes out of use at the time the two complementizers *że / iż(e)* 'that' and *jak* 'how' go through the crystallization process of their semantic functions. This may be interpreted as a process of one discrete system replacing another. Therefore, the "foreignness" of the AcI or puristic tendencies in Polish linguistics are not the one and only explanation for the AcI falling out of use. Rather, in a first step the crystallization of *że / iż(e)* 'that' as new marker for 'acquired knowledge' makes the usage of the AcI in this function optional; additionally, the complement clause is structurally less complex than the AcI and is also a representative of the "deictic, tensed or mood-marked finite clauses" that Boye (2010, 403) identifies as the prototypical carriers of the complement semantics 'acquired knowledge'. This advantage of the finite complement clause, likely together with the puristic tendencies, was presumably the reason why the AcI finally fell out of use.

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