



Comparative Legilinguistics

vol. 41/2020

DOI: <http://dx.doi.org/10.14746/cl.2020.41.3>

EPISTEMIC MODALITY: A CORPUS-BASED ANALYSIS OF EPISTEMIC MARKERS IN EU AND POLISH JUDGMENTS¹

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Abstract: The aim of this paper is to establish the repertoire and distribution of verbal and adverbial exponents of epistemic modality in English- and Polish-language judgments passed by the Court of Justice of the EU (CJEU) and non-translated judgments passed by the Supreme Court of Poland (SN). The study applies a model for categorizing exponents of epistemicity with regard to their (i) level (high-, medium- and low-level of certainty, necessity or possibility expressed by the markers; primary dimension), (ii) perspective

¹ This study was financed by research grant no. 2014/14/E/HS2/00782 from the National Science Centre, Poland.

(own vs. reported perspective), (iii) opinion (based either on facts or beliefs) and (iv) time (the embedding of epistemic markers in sentences relating to the past, present or future) (contextual dimensions). It examines the degree of intra-generic convergence of translated EU judgments and non-translated national judgments in terms of the employment of epistemic markers, as well as the degree of authoritativeness of judicial argumentation, and determines whether the frequent use of epistemic markers constitutes a generic feature of judgments. The research material consists of a parallel corpus of English- and Polish-language versions of 200 EU judgments and a corpus of 200 non-translated domestic judgments. The results point to the high salience and differing patterns of use of epistemic markers in both EU and national judgments. The frequent use of high-level epistemic markers boosts the authoritativeness of judicial reasoning.

Keywords: epistemic modality; corpus study; judgments; Court of Justice of the European Union; Supreme Court of the Republic of Poland.

MODALNOŚĆ EPISTEMICZNA – ANALIZA KORPUSOWA WYKŁADNIKÓW MODALNOŚCI EPISTEMICZNEJ W WYROKACH UNIJNYCH I KRAJOWYCH

Abstrakt: Celem pracy jest ustalenie zasobu i dystrybucji czasownikowych i przysłówkowych wykładników modalności epistemicznej w angielsko- i polskojęzycznych tłumaczeniach wyroków Trybunału Sprawiedliwości UE (CJEU) i nietłumaczonych wyrokach Sądu Najwyższego RP (SN). W badaniu wykorzystano model kategoryzacji wykładników modalności epistemicznej pozwalający na ich klasyfikację ze względu na (i) intensywność (wysoką, średnią bądź niską, tj. stopień pewności, konieczności albo prawdopodobieństwa wyrażany przez poszczególne wykładniki; wymiar podstawowy), (ii) perspektywę (własną bądź przytaczaną), (iii) opinię (opartą na faktach albo przekonaniu), a także (iv) czas (przeszły, teraźniejszy, przyszły) (wymiary kontekstowe). Badanie miało na celu ustalenie wewnątrzgatunkowego stopnia dopasowania tłumaczonych wyroków unijnych do nietłumaczonych wyroków krajowych pod względem występowania wykładników modalności epistemicznej, określenie stopnia autorytatywności argumentacji sędziowskiej oraz stwierdzenie, czy częste występowanie wykładników stanowi cechę gatunkową wyroków. Materiał badawczy obejmuje równoległy korpus 200 wyroków unijnych przetłumaczonych na język angielski i polski oraz korpus 200 wyroków krajowych. Wyniki badania wskazują na istotną wagę wykładników o wysokiej intensywności zarówno w wyrokach unijnych, jak i krajowych. Stwierdzono, że częste użycie wykładników modalności epistemicznej o

wysokiej intensywności podnosi poziom autorytatywności argumentacji sędziowskiej.

Słowa kluczowe: modalność epistemiczna; badanie korpusowe; wyroki; Trybunał Sprawiedliwości Unii Europejskiej; Sąd Najwyższy.

1. Introduction

The overall aim of this paper is to investigate how epistemic modality is employed by judges in EU judgments translated into English and Polish and non-translated Polish judgments. In particular, it aims to construct a catalogue of markers of epistemic modality specific to judicial language and analyze their distribution. The application of a model for categorizing exponents of epistemicity with regards to their (i) level (primary dimension), (ii) perspective, (iii) opinion and (iv) time (contextual dimensions) serves the purpose of establishing the degree of intra-generic convergence of translated EU judgments and non-translated national judgments in terms of the employment of epistemic modality markers, with particular attention paid to the degree of authoritativeness of EU and Polish judges' argumentation. Lastly, the study aims to establish whether the frequent use of exponents of epistemic modality may be perceived as a distinctive feature of the genre of judgments issued within the EU legal system and the legal system of Poland as an EU Member State.

The idea to conduct an in-depth study of markers of epistemic modality arose after the observation made in the course of the analysis of the lists of top 100 words and top 50 content words created using the non-sampled EU and domestic corpora within the framework of the Polish Eurolect project² (cf. Section 3). The lists showed an unusually high frequency of occurrence³ of the impersonal modal

² For more information, please consult <https://eurolect.ils.uw.edu.pl/>.

³ In the non-sampled corpus of 897 CJEU judgments (issued in the period of 2011–2015) the modal verb *należy* [(one) must/should] appears 4192 times per million words (pmw), being the 20th most frequent word in the corpus, whereas in the non-sampled corpus of 2564 Polish judgments (issued in the same period) it appears 1150 times pmw, being the 88th most frequent word in the corpus.

verb *należy*⁴ [(one) must/should, with the pronoun *one* referring to the speaker/writer or representing people in general]:

(1) *Należy również zauważyć, iż z utrwalonego orzecznictwa Trybunału wynika, że wyrok wydany przez Trybunał w trybie prejudycjalnym wiąże sąd krajowy w zakresie dotyczącym wykładni lub ważności rozpatrywanych aktów instytucji Unii przy rozstrzyganiu sporu w postępowaniu głównym (...).* [It **must** also be borne in mind that it is settled case-law of the Court that a judgment in which the latter gives a preliminary ruling is binding on the national court, as regards the interpretation or the validity of the acts of the EU institutions in question, for the purposes of the decision to be given in the main proceedings (...).]⁵ (CJEU C-62/14)

(2) *W wyroku należy więc określić konkretne czynności (zachowania), które pozwany powinien przedsięwziąć w celu usunięcia skutków naruszenia.* [Therefore, the judgment **should** specify the specific actions (behavior) that the defendant should take to remove the effects of the infringement.] (SN II CSK 747/13)

The frequent use of this modal in the frame *należy* *, *że* [(it) must/should * that] strengthens the impersonal character of judgments, but, at the same time, does not express any direct deonting meaning, but rather epistemic. According to the Great Dictionary of Polish [WSJP], the modal verb *należy* [(one) must/should] conveys the speakers's (writer's) conviction that the action expressed by the verb in the infinitive following that modal is natural and obvious in a given situation (cf. entry *należy* in WSJP). Bralczyk (1978: 48) perceives the verb as increasing the degree of universal, self-evident nature of the proposition expressed with its help, thus potentially raising the audience's willingness to accept a given proposition. Used by the courts, the verb refers to the self-evident nature of the courts' propositions made based on the interpretation of (primary and secondary) legislation and existing case-law. The same pertains to the synonymous (but generally less frequent) impersonal modal verb *trzeba* [(one) should/must]:

⁴ Excluding occurrences carrying the meaning *to belong to sth/sb*.

⁵ Parallel sentence from the English-language version of the C-62/14 judgment.

(3) *W tym względzie zgodnie z orzecznictwem przypomnianym w pkt 46–51 niniejszego wyroku należy ustalić wartość sprzedaży, którą **trzeba**⁶ uwzględnić (...).* [In that regard, it is important, in accordance with the case-law referred to in paragraphs 46 to 51 above, to determine the value of sales to be taken into account (...).] (CJEU C-231/14 P)

(4) *Decydujące więc znaczenie **trzeba** przypisać normalnemu, funkcjonalnemu związkowi podejmowanych przez podmiot gospodarczy czynności z realizacją zadań stanowiących przedmiot jego działalności.* [The decisive significance **must** be attributed to the normal, functional relationship of the activities undertaken by the economic entity with the implementation of tasks that are the subject of his activity.] (SN V CSK 295/14)

Based on the above, it was determined that a thorough corpus-based investigation into the nature of epistemic modality and its exponents in EU and domestic judgments would further benefit the description of the genre. For want of space, the study is limited to verbs and adverbs which have been observed to express explicit epistemic meanings.

2. Epistemic modality and related studies

There are various types of modality, for instance, deontic, epistemic and evidential modality (cf. Palmer 2001), hence it is difficult to design a consistent methodology regarding the identification of strictly epistemic markers. This warrants a preliminary description of the basic types of modality. Deontic modality is used to express obligation and permission (Palmer: 7–10), e.g. *mieć obowiązek* [to be required to] (Matulewska 2010: 77), whereas epistemic modality is used to state judgments about the factual status of the proposition with regard to possibility, necessity, or certainty, e.g. *niewątpliwie* [undoubtedly], *z pewnością* [with certainty],

⁶ In this case the verb has no equivalent in the English-language version of the same judgment, as illustrated in the translation.

zapewne [probably], and evidential modality is used to indicate the source of evidence for the factual status of propositions in the case of the latter, e.g. *podobno* [apparently], *jakoby* [purportedly], *widocznie* [evidently] (Wiemer 2006: 9, after Żabowska 2008: 378). Exponents of deontic modality are, therefore, easily recognizable and can be readily told apart from epistemic and evidential markers, the distinction of which is more problematic. The pertinent question here is whether a combined examination of epistemic and evidential markers of modality can be justified.

Only recently Polish linguists have started to draw their attention to the seemingly obvious connection between epistemic and evidential modality (cf. Stępień 2008, Żabowska 2008). In this analysis, I examine evidential markers as a sub-class of epistemic markers (cf. Żabowska 2008, Rozumko 2017: 76)⁷. As regards markers belonging to the class of verbs, I perceive verbs such as: *uznawać* [to accept], *stwierdzać* [to note/find], *twierdzić* [claim], *sądzić* [to believe], *brać/wziąć pod uwagę* [to take into account], and *uważać, że* [consider] (cf. Danielewiczowa 2002) as markers of epistemicity, however, it must be noted that they possess a substantial evidential element, as they are oftentimes used to report on other speakers' propositions (reported perspective, cf. Section 4). Such verbs may also be regarded as primarily epistemic due to the fact that knowledge obtained by the speaker (writer) from someone else becomes their own source of knowledge after confronting the obtained information with one's own reasoning, thoughts, assumptions, etc. (Żabowska 2008: 382–383).

In the present study, verbal and adverbial exponents of epistemic markers (including evidential markers as a sub-class of epistemic modality) either (1) express the courts' attitude or stance towards the validity of the propositional content with regard to possibility, necessity, or certainty based on evidence, reasoning, or beliefs and attitudes (cf. Bralczyk 1978, Palmer 1979, Nuyts 2001, Danielewiczowa 2002), or (2) identify the source of knowledge by which the court forms a proposition. Exponents of epistemic modality are also gradable alongside an epistemic continuum of high-, medium-, and low-level and categorizable according to the three

⁷ Wiemer (2006: 10) assumes that most evidential markers in Polish contain an epistemic element.

contextual dimensions of perspective, opinion and time (cf. Bralczyk 1978, Grzegorzczkova 1998: 44, 2001: 132-133, Huddleston & Pullum 2002: 768, Halliday and Matthiessen 2004, Rubin 2010, Cheng and Cheng 2014, cf. Section 4).

So far, there have not been many large-scale studies conducted on corpora of judicial texts, in particular judgments. However, it is worth mentioning a few of the most influential ones, in order to set the context for this study. In the Polish research, there are several works by researchers who investigated epistemic modality – the most comprehensive one is Szczyrbak's (2017) chapter on the use of modal adverbs of certainty for argumentative purposes in a parallel corpus of English and Polish language versions of Opinions of Advocates General, in which she concludes that both of the language versions display divergent visibility levels of their authors and rhetorical force. There are also several papers written by Goźdz-Roszkowski (2017a, 2017b) in which he studies stance-related head nouns (e.g. *fact*, *belief*, *notion*) followed by a nominal complement in the form of *that*-clause in two comparable legal settings: the opinions handed down by the US Supreme Court and the judgments issued by Poland's Constitutional Tribunal. He concludes *inter alia* that facts expressed with the semantic sequence *fact that* are used to make epistemic and evaluative judgments and that nouns found in the *N that* pattern are used to perform various discourse functions. He also states that evaluation plays a central role in judicial writing and that these nouns are also used to signal sites of contention. Together with Pontrandolfo (2014), he also analyzes evaluative adjective patterns in American and Italian judgments delivered by supreme courts. His study shows that adjectives also frequently carry epistemic meaning. Examples of such adjectives extracted from the current corpora include, for instance, *ewidentny* [evident], *śluszy* [right], and *nieistotny* [irrelevant].

There are also other works on the topic which are authored by foreign researchers – the most notable one is Cheng and Cheng's (2014) paper on implicit/explicit and subjective/objective epistemic modality in Hong Kong's and Scotland's judicial discourse, in which epistemic markers are also classified into high-, median-, and low-level. Zajnilović's (2015) paper on the lexical marking of epistemic modality in summaries of the European Court of Human Rights judgments proposes a set of criteria for the identification of modal and evidential values of lexical verbs, i.e. the degree of commitment

to the truth-value of the proposition, subjectivity, performativity and interactions in the epistemic-evidential domain. Kanté (2010), similarly to Goźdz-Roszkowski (2017a, 2017b), also studies head nouns (e.g. *fact*, *allegation*, *evidence*, *view*, etc.) acting as modal stance markers in various types of noun complement clauses on a linguistic corpus comprising papers from the Journal of English Linguistics and a legal corpus made up of transcriptions of courtroom interactions and reports. Kanté confirms that nouns used to govern complement *that*-clauses involve modality and lend themselves to a modal classification, allowing the speaker/writer to express a personal position on the propositional content. There are also several works by Mazzi, who focuses on the reportive verb *to hold* which signals authoritative stance taken by the court or equally authoritative reported argumentation of another court in judgments delivered by the Court of Justice of the EU, the House of Lords (UK) or Ireland's Supreme Court (Mazzi 2007b), as well as attitudinal qualification in the judicial discourse of CJEU and Irish Supreme Court judges in the form of hedges (e.g. *it would be*) and boosters (e.g. *undoubtedly*, *clearly*, *indeed*, *no doubt*, *it must be held that*), which constitute tools used by the speaker/writer to express tentative or strong commitment to their own propositions (Mazzi 2015).

The present study furthers the existing research by focusing on the trichotomous division of epistemic markers into high-, medium-, and low-level markers and studying their distribution in translated EU judgments and non-translated national judgments.

3. Material

The present study is based on a sampled version of a corpus of EU judgments translated into Polish and English and non-translated Polish SN judgments which was compiled within the framework of the Polish Eurolect Project at the turn of 2015 and 2016 (cf. Biel 2016). The sampling procedure was used, in order to keep the number of generated concordances within manageable boundaries. As a result of the sampling procedure, both EU corpora contain ca. 22% of all texts comprised in the original corpus of translated judgments, i.e. 897 judgments, whereas the sampled corpus of non-

translated domestic judgments contains ca. 8% of all texts found in the original corpus of non-translated judgments, i.e. 2564 judgments.

The judgments issued by the Court of Justice were downloaded in the corresponding Polish- and English-language versions from the CJEU's on-line repository of judgments⁸, whereas judgments passed by the Polish Supreme Court were downloaded from the Court's own case-law database⁹. All judgments in the respective corpora were issued in the period from 2011 to 2015, so as to guarantee representativeness and comparability of both EU and domestic case-law. In each of the corpora, there are 40 judgments from each year of the publication period. They also contain the same number of texts (200); however, in this case this requirement has led to differing sizes of the EU corpora and the domestic corpus, as the latter contains a markedly lower number of tokens than both EU corpora.

Table 1. Corpus design

Corpus name	Time depth	Texts	Tokens
PL-EU Court of Justice judgments	2011-2015	200	1,027,533
EN-EU Court of Justice judgments (reference corpus no. 1)	2011-2015	200	1,200,329
PL-DOMESTIC Supreme Court judgments (reference corpus no. 2)	2011-2015	200	465,409

The results (frequencies of occurrence) were normalized to one million words to further ensure their comparability¹⁰.

⁸ <http://curia.europa.eu/juris/recherche.jsf?language=en>

⁹ http://www.sn.pl/orzecznictwo/SitePages/Baza_orzeczen.aspx

¹⁰ In order to verify whether the application of the PL-DOMESTIC corpus with a total of 465,409 tokens did not skew the results due to having a lower number of tokens than each of the EU corpora, another version of the former corpus was created, which had a total of 1,285,755 tokens (500 texts). Several randomly chosen exponents of modality frequently occurring in the PL-DOMESTIC corpus (cf. Section 5) were

4. Methodology

Two main criteria were used to create an extensive list of possible exponents (markers) of epistemic modality. Firstly, the markers were required to qualify the truth-value of propositions in an explicit manner, thus revealing the perspective and attitude of the epistemic subject as regards the possibility, necessity, or certainty (cf. Bralczyk 1978, Danielewiczowa 2002). Secondly, the markers needed to belong to two groups of word classes, namely verbs and adverbs (or particles)¹¹.

Prior to conducting the distributional analysis, it was necessary to create an extensive (but certainly not all-inclusive) list of possible exponents of epistemicity to be found in the language of judgments. The basic list was created with the help of the on-line corpus tool Sketchengine (Kilgariff et al. 2014), which was used to create two lists of verbs and adverbs¹² based on automatically lemmatized versions of the respective corpora. Then, the lists were examined with respect to the presence of any epistemic meaning by analyzing the context of use of individual verbs and adverbs, and words carrying such meaning were put on a search list to be later fed into Wordsmith Tools 7.0 (Scott 2017). In order to verify the lists, obtained Wordsmith Tools 7.0 was also used to create lists of top 3000 words, one for every corpus. These lists were also examined in respect of words expressing epistemic meaning. On top of that, the lists of possible epistemic markers were supplemented by exponents found in the literature, *inter alia* the works of Bralczyk 1978, Rytel 1982, Grochowski 1986, Tutak

also searched for using the domestic corpus with 500 texts. It was observed that the normalized frequencies obtained using the corpus of 200 domestic judgments and the corpus of 500 domestic judgments converge at a very similar level, thus not distorting the results and allowing for comparability of the domestic corpus (with a total of just 465,409 tokens) and the EU corpora.

¹¹ This study is limited to two word classes due to space constraints, however, future analyses should also take into account other word classes, such as adjectives and nouns (cf. Pontrandolfo and Goźdz-Roszkowski 2014, Goźdz-Roszkowski 2017a, 2017b), as they have also been observed to carry various shades of epistemic meanings.

¹² The respective commands used for this purpose are as follows: *.*-v* for verbs and *.*-a* for adverbs.

2003, Wierzbicka 2006, Danielewiczowa 2002, 2008a, 2008b, Żabowska 2008, 2013, Rozumko 2013, 2016, 2017, Grochowski, Kisiel and Żabowska 2014, Warchał 2015, and the Wielki słownik języka polskiego PAN [WSJP] which was used to verify the epistemic status of certain problematic exponents¹³. English equivalents of Polish markers were identified using a parallel sub-corpus of 10 PL-EU and 10 EN-EU judgments in AntPConc (Anthony 2017). The list of epistemic markers was then used to search the corpora and to categorize the identified markers in terms of their level (primary dimension) and to examine the three contextual dimensions of individual exponents, that is perspective, opinion, and time. The model used to manually categorize verbal and adverbial epistemic markers has originally been developed by Rubin (cf. Rubin, Kando and Liddy 2004, Rubin 2006, 2010) and used to categorize explicit epistemic markers of (un)certainty found in news articles – in the present analysis, it still comprises four perspectives, with the main difference being that the primary dimension, Level, does not contain five different levels (absolute, high, moderate, low certainty and uncertainty, cf. Rubin 2010: 536) or four (absolute, high, moderate, and low, cf. Rubin, Kando and Liddy 2004), but only three, which are discussed below.

The figure below presents the dimensions used to classify epistemic markers found in EU and Polish judgments (cf. Figure 1).

¹³ Entries in the WSJP dictionary contain a separate “meaning” category which can be used to substantiate the epistemicity of problematic markers. Markers conveying various shades of epistemic meaning are usually described as *wyrażenia epistemiczne* [epistemic expressions] or *wykładniki oceny prawdziwości sądu* [exponents of the truth-value of propositions].

Figure 1. Primary dimension and contextual dimensions

LEVEL	PERSPECTIVE	OPINION	TIME
High	Court's perspective	Factual information	Past
Medium	Reported perspective: 1) participants to the proceedings, witnesses, referring courts, etc.		Beliefs and attitudes
Low	2) institutions, experts, lower instance courts, case-law, etc.	Future	

The primary dimension in Rubin's model, that is the Level, is the most important one. It allows categorization of markers along a gradual epistemic continuum, in which (absolute) certainty (or necessity, possibility) occupies one end of the spectrum (high level) and uncertainty (or lack of necessity, possibility) occupies the other one (low level); medium-level markers express neither (absolute) certainty nor (absolute) uncertainty (Rubin 2010: 535). Each epistemic marker undergoes categorization to only one category marking its level. It needs to be borne in mind, however, that the boundaries between the different shades of epistemic meaning are rather subjective, meaning that various exponents could theoretically be categorized differently from one language speaker to another one¹⁴. Therefore, it is important to recognize that the results presented in this paper are not to be perceived as final and exhaustive, but need to be verified and expanded further in other study configurations. The next three dimensions are strictly contextual – their role is to categorize markers in terms of the expressed perspective, opinion and time, out of which the former two are most

¹⁴ This could potentially be remedied by double peer categorization, at the end of which the results would be compared and problematic exponents discussed by two researchers.

significant considering the genre at hand. The Perspective describes the source expressing explicit epistemic meanings and there are two main perspectives, that of the court issuing the judgments (the writer) (C) and the reported perspective, which has been further sub-divided into either participants to the proceedings, witnesses, referring courts, etc. (P), or institutions and experts, lower instance courts, case-law, etc. (I) (cf. Shethar 2002: 183). The Opinion (originally termed as Focus, cf. Rubin 2010: 536) divides the way in which epistemicity is expressed using factual information (facts) (F) and beliefs and attitudes (A). The role of the last contextual category, that is the Time, consists of categorizing the markers according to the time referred to by the propositions of which they are a part, namely past (T), present (P) and future (F).

5. Distribution of epistemic markers

Quantitative data on the distribution of markers include their total distribution in the corpora as well as the total number of occurrences with actual modal meaning, which was determined based on the analysis of concordances of each marker. Columns termed Perspective, Opinion, and Time provide further quantitative data on the perspective expressed with the help of the epistemic markers, fact/belief dichotomy, and temporal relations, respectively (cf. Section 4). The results include only those types of epistemic verbs which occur more often than five times per million words (pmw), however, in the case of high-level verbal and adverbial markers it was necessary to apply a higher threshold of 50 occurrences pmw to limit the overall high total number of types of markers with more than 5 occurrences pmw. Consequently, all idiosyncratic occurrences were eliminated and are not displayed below.

5.1 Distribution of epistemic verbs

As it has already been established (cf. Section 1), both the EU corpus of judgments translated into Polish and the corpus of non-translated

national judgments exhibit a high distribution of two non-inflectional, impersonal and synonymous verbs, namely *należy* [(one) must/should] and *trzeba* [(one) should/must]. This finding has led to the identification of a host of other possible verbal markers of epistemicity (cf. Tables 2, 3, 4) (cf. Section 4). Table 2 presents high-value markers which are the most frequent ones in all the corpora.

Table 2. High-level verbal markers of epistemicity in EN-EU, PL-EU and PL-DOMESTIC corpora (>50 NF)

HIGH LEVEL	Tokens	Modal	Perspective			Opinion		Time		
			C	P	I	F	A	T	P	F
EN-EU										
<i>to consider</i>	742	709	709	0	0	709	0	129	578	2
<i>it must * that</i>	463	457	457	0	0	457	0	0	457	0
<i>it should * that</i>	442	442	442	0	0	442	0	0	442	0
<i>to note</i>	432	432	432	0	0	432	0	37	395	0
<i>to find</i>	481	414	407	0	7	414	0	328	85	1
<i>to hold</i>	380	380	379	0	1	380	0	184	196	0
<i>to take into account</i>	354	354	348	0	6	354	0	33	317	4
<i>to claim</i>	311	306	302	0	4	306	0	61	245	0
<i>to observe</i>	320	298	298	0	0	298	0	166	132	0
<i>to point out</i>	205	205	205	0	0	205	0	72	133	0
<i>to indicate</i>	189	174	167	0	7	174	0	142	32	0
<i>to recall</i>	147	132	132	0	0	132	0	16	116	0

<i>to conclude</i>	332	128	128	0	0	128	0	51	77	0
<i>to bear in mind</i>	125	125	125	0	0	125	0	0	125	0
<i>to maintain</i>	255	112	112	0	0	112	0	10	102	0
<i>to understand</i>	77	77	77	0	0	77	0	2	75	0
<i>to infer</i>	58	58	56	0	2	58	0	12	46	0
TOTAL	5313	4803	4776	0	27	4803	0	1243	3553	7
PL-EU										
<i>należy *, że</i> [(it) must/should * that]	1076	1076	1076	0	0	1076	0	0	1076	0
<i>uznawać</i> [to accept]	545	545	541	0	4	545	0	422	84	39
<i>stwierdzać</i> [to note/find]	531	530	527	0	3	530	0	422	108	0
<i>wskazywać</i> [to indicate]	408	407	407	0	0	407	0	196	211	0
<i>twierdzić</i> [to claim]	394	394	394	0	0	394	0	35	359	0
<i>brać/wziąć pod uwagę</i> [to take into account]	329	329	328	0	1	329	0	47	282	0
<i>uważać, że</i> [to consider]	328	328	320	1	7	328	0	1	327	0
<i>podkreślać</i>	177	177	154	0	23	177	0	73	104	0

[to emphasize]										
<i>utrzymywać</i> [to maintain]	170	167	167	0	0	167	0	15	152	0
<i>zauważać</i> [to notice/observe]	153	153	135	0	18	153	0	80	73	0
<i>przypominać</i> [to recall]	111	111	110	0	1	111	0	48	63	0
<i>wykluczać, żeby</i> [to rule out that]	102	102	100	0	2	102	0	12	90	0
TOTAL	4324	4319	4259	1	59	4319	0	1351	2929	39
PL-DOMESTIC										
<i>uznawać</i> [to accept]	877	877	877	0	0	877	0	832	39	6
<i>wskazywać</i> [to indicate]	868	844	844	0	0	844	0	632	213	0
<i>przyjmować</i> [to assume]	589	556	556	0	0	556	0	380	176	0
<i>stwierdzać</i> [to note/find]	578	516	516	0	0	516	0	494	17	4
<i>należy</i> *, <i>że</i> [(it) must/should * that]	309	309	309	0	0	309	0	15	294	0
<i>podkreślać</i> [to emphasize]	211	211	48	6	157	211	0	159	52	0
<i>wiedzieć</i> [to]	114	114	104	6	4	114	0	88	26	0

know]										
<i>brać/wziąć pod uwagę</i> [to take into account]	110	110	110	0	0	110	0	13	97	0
<i>wykluczać, żeby</i> [to rule out that]	88	88	80	2	6	88	0	13	75	0
<i>twierdzić</i> [to claim]	86	86	84	0	2	84	2	45	41	0
<i>trzeba</i> *, <i>że</i> [(it) should/must * that]	75	75	75	0	0	75	0	0	75	0
TOTAL	3905	3786	3603	14	169	3784	2	2671	1105	10

It is worth noting that the concentration of modal markers expressing actual epistemic meaning in EN-EU judgments amounts to ca. 90% of all tokens of the above verbs. In the two remaining corpora, i.e. in PL-EU and PL-DOMESTIC, the level of concentration is much higher, 99% and 97%, respectively. Another striking observation concerns the distribution of the pattern involving the modal verb *należy* *, *że* [(it) must/should * that], which is strongly overrepresented in the PL-EU corpus as compared to the PL-DOMESTIC corpus (by ca. 71%). It may be assumed that the pattern *należy* *, *że* [(it) must/should * that] in the PL-EU corpus compensates the low frequency of the almost synonymous pattern *trzeba* *, *że* [(it) should/must * that]. In the EN-EU corpus, on the other hand, the patterns *it must* * *that* and *it should* * *that* have an almost equal distribution. The high salience of these patterns enables judges to raise the perceived level of authoritativeness of their argumentation. Overall, high-level markers are overrepresented in EU judgments, with the PL-EU corpus having ca. 12% more tokens of epistemic markers than the PL-DOMESTIC corpus. Within the Eurolect, EN-EU judgments have ca. 11% more tokens than corresponding PL-EU judgments. As regards the first contextual dimension, the Perspective, the vast majority of markers can be attributed directly to the court

in the case of all three corpora, with only 0.5%, 1%, 4%, respectively, being attributable to institutions, experts, lower instance courts, case-law, etc. (I). Occurrences of markers being attributable to participants to the proceedings, witnesses, referring courts, etc. (P) are only marginal in all the corpora. When it comes to the second dimension, the Opinion, virtually all marker tokens in the corpora are based on factual information. Data concerning the last contextual dimension, the Time, show that the majority of marker tokens in the EU corpora are embedded in sentences referring to the present, whereas in the domestic judgments most of them are embedded in sentences referring to the past.

Medium-level markers of epistemicity occur considerably less frequently than high-level markers, both with regard to the total number of types and tokens in the corpora (cf. Table 3).

Table 3. Medium-level verbal markers of epistemicity in EN-EU, PL-EU and PL-DOMESTIC corpora (>5 NF)

and PE DOMESTIC Corpora (CUM)

MEDIUM LEVEL	Tokens	Modal	Perspective			Opinion		Time		
			C	P	I	F	A	T	P	F
EN-EU										
<i>to appear</i>	27	27	27	0	0	27	0	0	24	3
<i>to seem</i>	17	17	17	0	0	17	0	0	17	0
<i>to believe</i>	15	15	13	0	2	15	0	5	10	0
<i>to suspect</i>	12	12	11	0	1	12	0	1	11	0
<i>to suppose</i>	11	9	9	0	0	9	0	0	8	1
<i>to anticipate</i>	32	7	7	0	1	7	0	0	0	7
TOTAL	113	87	84	0	3	87	0	6	70	11
PL-EU										
<i>[komuś] wydaje się, że [it seems to [sb] that]</i>	92	92	90	0	2	92	0	0	91	1

TOTAL	92	92	90	0	2	92	0	0	91	1
PL-DOMESTIC										
TOTAL	0	0	0	0	0	0	0	0	0	0

Furthermore, the disproportions between the individual corpora are more pronounced than in the case of high-level markers, with the highest type/token ratio being observed in the case of English-language CJEU judgments and Polish-language CJEU judgments, with non-translated domestic judgments exhibiting only one type of a medium-level marker. In the PL-DOMESTIC corpus, the marker *[komuś] wydaje się, że* [it seems to [sb] that] has only a normalized frequency of 4 occurrences pmw, therefore, it is not shown in Table 3.

Low-level verbal markers of epistemicity are the least frequent in the corpora, with no types having been found in the PL-EU corpus (cf. Table 4). The EN-EU corpus contains only one type of a low-level marker, of which only ca. 7% of occurrences have been found to carry modal meaning.

Table 4. Low-level verbal markers of epistemicity in EN-EU, PL-EU and PL-DOMESTIC corpora (>5 NF)

LOW LEVEL	Tokens	Modal	Perspective			Opinion		Time			
			C	P	I	F	A	T	P	F	
EN-EU											
<i>to doubt</i>	76	5	5	0	0	5	0	0	5	0	
TOTAL	76	5	5	0	0	5	0	0	5	0	
PL-EU											
TOTAL	0	0	0	0	0	0	0	0	0	0	
PL-DOMESTIC											
<i>budzić wątpliwości</i>	32	32	32	0	0	32	0	0	32	0	

[to raise doubts]										
TOTAL	32	32	32	0	0	32	0	0	32	0

Epistemic verbs, as it was the case with adverbs and particles, were grouped into high-, medium-, and low-level units according to the court's commitment to the proposition (as regards certainty, necessity, or possibility). What was found out in the process of the analysis is that both EU and Polish judges do not use verbs in the first person singular and that they state their reasoning with regard to cases they hear on behalf of the court as a whole, which certainly raises the overall perceived level of authoritativeness as well as collective authorial presence.

Table 5. Summary of verbal epistemic markers in the EN-EU, PL-EU and PL-DOMESTIC corpora

	Tokens	Modal	Perspective			Opinion		Time		
			C	P	I	F	A	T	P	F
HIGH LEVEL (>50 NF)										
EN-EU	5313	4803	4776	0	27	4803	0	1243	3553	7
PL-EU	4324	4319	4259	1	59	4319	0	1351	2929	39
PL-DOMESTIC	3905	3786	3603	14	169	3784	2	2671	1105	10
MEDIUM LEVEL (>5 NF)										
EN-EU	114	87	84	0	3	87	0	6	70	11
PL-EU	92	92	90	0	2	92	0	0	91	1
PL-DOMESTIC	0	0	0	0	0	0	0	0	0	0
LOW LEVEL (>5 NF)										
EN-EU	76	5	5	0	0	5	0	0	5	0

PL-EU	0	0	0	0	0	0	0	0	0	0
PL- DOMESTIC	32	32	32	0	0	32	0	0	32	0
EN-EU - Total	5503	4895	4865	0	30	4895	0	1249	3628	18
PL-EU - Total	4416	4411	4349	1	61	4411	0	1351	3020	40
PL- DOMESTIC - Total	3937	3818	3635	14	169	3816	2	2671	1137	10

If we compare the total distribution of analyzed epistemic verbs in the language of translated EU judgments and non-translated Polish judgments, we will observe that EU judges employ ca. 13% more epistemic markers in the case of PL-EU judgments and ca. 22% more markers in the case of EN-EU judgments. The most important difference in the frequency of occurrence concerns the distribution of the frame *należy* *, *że* [(it) must/should * that] which contains the non-inflectional, impersonal verb *należy* [(one) must/should]. With regard to the second dimension, the Perspective, both courts express predominantly their own views, only rarely citing, e.g. institutions and experts, lower instance courts, case-law, etc. (I) or the parties to the proceedings, witnesses, referring courts, etc. (P), however, it needs to be noted that the Polish Supreme Court recalls the views expressed in case-law or by lower instance courts ca. three times more often than the Court of Justice in Polish-language judgments. When it comes to the third dimension, the Opinion, which divides expressions of certainty, necessity, or possibility into ones which are expressed on the basis of factual information or personal attitudes, it can be observed that both courts rely almost virtually on facts, and not on beliefs or attitudes (either own or reported). With regard to the fourth dimension, the Time, which was used to simply verify whether epistemic markers are embedded in sentences referring to the past, present or future, it was observed that the domestic court uses epistemic verbs to recall past events more often than the EU court, whereas the EU court discusses present events more often than the domestic court. Epistemic verbs are used to discuss future events only very rarely by both courts.

5.2 Distribution of epistemic adverbs in the corpora

Table 6 focuses on high-level adverbial markers with more than 50 occurrences pmw which are overall less frequent in all the corpora.

Table 6. High-level adverbial markers of epistemicity in the EN-EU, PL-EU and PL-DOMESTIC corpora (>50 NF)

HIGH LEVEL	Token s	Moda l	Perspectiv e			Opinio n		Time		
			C	P	I	F	A	T	P	F
EN-EU										
<i>actually</i>	144	144	138	6	0	144	0	49	94	1
<i>clearly</i>	112	112	108	2	2	112	0	6	106	0
<i>in fact</i>	107	107	107	1	0	107	0	26	81	0
<i>indeed</i>	107	107	106	0	0	107	0	21	85	1
<i>essentially</i>	101	101	101	0	0	101	0	19	82	0
<i>necessarily</i>	93	93	93	0	0	93	0	8	78	7
TOTAL	664	664	653	9	2	664	0	129	526	9
PL-EU										
<i>zasadniczo</i> [essentially]	304	303	303	0	1	304	0	22	280	1
<i>w istocie</i> [essentially]	229	229	226	2	1	229	0	15	212	2
<i>rzeczywiście</i> [admittedly]	167	167	167	0	0	167	0	81	82	4
<i>faktycznie</i> [in fact]	88	88	84	0	4	88	0	26	62	0
<i>wprawdzie</i> [indeed]	63	63	63	0	0	63	0	0	63	0

<i>oczywiście</i> [obviously]	60	60	54	5	1	60	0	3	57	0
TOTAL	911	910	897	7	7	911	0	14 7	75 7	7
PL-DOMESTIC										
<i>wprawdzie</i> [indeed]	183	183	173	6	4	183	0	12 2	62	0
<i>niewątpliwie</i> [undoubtedly]	176	176	176	0	0	176	0	52	12 5	0
<i>oczywiście</i> [obviously]	129	129	129	0	0	129	0	30	95	4
<i>w istocie</i> [essentially]	122	122	118	0	4	122	0	56	62	6
<i>zasadnie</i> [reasonably]	84	84	78	2	4	82	2	60	21	2
<i>rzeczywiście</i> [admittedly]	71	71	67	0	4	71	0	38	32	0
<i>faktycznie</i> [in fact]	67	67	65	0	2	67	0	33	30	0
<i>w zasadzie</i> [in principle]	67	67	63	0	4	67	0	11	56	0
TOTAL	899	899	869	8	22	897	2	40 2	48 3	1 2

PL-EU and PL-DOMESTIC judgments have a very similar distribution of high-level markers carrying epistemic meaning (a high degree of convergence). EN-EU judgments, on the other hand, have ca. 27% less tokens of high-level markers. As regards the first contextual dimension, the Perspective, the vast majority of markers can be attributed directly to the court in the case of all three corpora, with only fewer than 1% being attributable to institutions, experts, lower instance courts, case-law, etc. (I) in the case of both EU corpora and ca. 2,5% in the case of the PL-DOMESTIC corpus. Occurrences of markers being attributable to participants to the proceedings, witnesses, referring courts, etc. (P) are only marginal in all the corpora, with only ca. 1% being present in the EN-EU corpus and less than 1% in the two remaining corpora. When it comes to the second contextual dimension, the Opinion, practically all tokens

in the three corpora are based on factual information, with the exception of two occurrences of *zasadnie* [reasonably] found in the PL-DOMESTIC corpus which were found to refer to beliefs and attitudes. The last contextual dimension, the Time, shows that the majority of marker tokens in the EU corpora are embedded in sentences referring to the present, whereas in the domestic judgments most of them are also embedded in sentences referring to the present, however, almost as many are found in sentences referring to the past.

Table 7, which presents data on the distribution of medium-level epistemic markers, shows that the EN-EU corpus contains virtually no such markers.

Table 7. Medium-level adverbial markers of epistemicity in EN-EU, PL-EU and PL-DOMESTIC corpora (>5 NF)

MEDIUM LEVEL	Tokens	Modal	Perspective			Opinion		Time		
			C	P	I	F	A	T	P	F
EN-EU										
TOTAL	0	0	0	0	0	0	0	0	0	0
PL-EU										
najwyraźniej [evidently]	7	7	7	0	0	7	0	2	5	0
prawdopodobnie [probably]	7	7	4	0	3	7	0	1	6	0
TOTAL	14	14	11	0	3	14	0	3	11	0
PL-DOMESTIC										
niejako [so to speak]	19	19	19	0	0	19	0	4	15	0
zapewne [probably]	11	11	11	0	0	9	2	7	2	2
TOTAL	30	30	30	0	0	28	2	11	17	2

Each of the two remaning corpora contain two types of medium-level markers, with the PL-DOMESTIC corpus having a two times higher distribution.

Table 8. Low-level adverbial markers of epistemicity in EN-EU, PL-EU and PL-DOMESTIC corpora (>5 NF)

LOW LEVEL	Tokens	Modal	Perspective			Opinion		Time		
			C	P	I	F	A	T	P	F
EN-EU										
<i>allegedly</i>	47	47	47	0	0	47	0	33	14	0
<i>possibly</i>	19	19	19	1	0	19	0	2	16	2
TOTAL	67	67	66	1	0	67	0	35	30	2
PL-EU										
<i>rzekomo</i> [allegedly]	30	30	30	0	0	31	0	21	10	0
<i>jakoby</i> [purportedly]	27	27	22	5	0	28	0	6	22	0
TOTAL	57	57	52	5	0	59	0	27	32	0
PL-DOMESTIC										
<i>jakoby</i> [purportedly]	34	34	15	13	6	34	0	13	4	0
<i>rzekomo</i> [allegedly]	9	9	9	0	0	9	0	3	1	0
TOTAL	43	43	24	13	6	43	0	16	5	0

Low-level epistemic markers, on the other hand, are distributed very evenly across the corpora, each of which has two types of synonymous markers (cf. Table 8). EU judges use *rzekomo* [allegedly] and *jakoby* [purportedly] alternately, whereas national judges exhibit preference for the marker *jakoby* [purportedly].

Table 9. Summary of adverbial epistemic markers in the EN-EU, PL-EU and PL-DOMESTIC corpora

	Tokens	Modal	Perspective			Opinion		Time		
			C	P	I	F	A	T	P	F
HIGH LEVEL (>50 NF)										
EN-EU	664	664	653	9	2	664	0	129	526	9
PL-EU	911	911	897	7	7	911	0	147	757	7
PL-DOMESTIC	899	899	869	8	22	897	2	402	483	12
MEDIUM LEVEL (>5 NF)										
EN-EU	0	0	0	0	0	0	0	0	0	0
PL-EU	14	14	11	0	3	14	0	3	11	0
PL-DOMESTIC	30	30	30	0	0	28	2	11	17	2
LOW LEVEL (>5 NF)										
EN-EU	67	67	66	1	0	67	0	35	30	2
PL-EU	57	57	52	5	0	59	0	27	32	0
PL-DOMESTIC	43	43	24	13	6	43	0	38	5	0
EN-EU - Total	731	731	719	10	2	731	0	164	556	11
PL-EU - Total	982	982	960	12	10	984	0	177	800	7
PL-DOMESTIC - Total	972	972	923	21	28	968	4	451	505	14

If we compare the total distribution of analyzed epistemic adverbs in the language of translated EU judgments and non-translated Polish judgments, we will observe that they are almost equally represented in both PL-EU and PL-DOMESTIC judgments. They are, however, underrepresented in EN-EU judgments by ca. 25%. With regard to the first and second contextual dimension, that is the Perspective and the Opinion, both courts express

predominantly their own views on the basis of factual information. In the case of the third contextual dimension adverbial exponents of epistemicity behave similarly to verbal markers in the case of both EU corpora; in the case of the PL-DOMESTIC corpus there is a noticeable difference in that regard, as adverbs are embedded mostly in sentences referring to the present, but almost equally frequently in sentences referring to the past. Epistemic adverbs are used to discuss future events only very rarely.

7. Conclusions

The expression of epistemic modality is indispensable to judicial justification and reasoning across legal systems and languages. The results of the corpus-based analysis confirm that both EU and Polish judges rely heavily on epistemic verbs and adverbs to provide justification based on facts rather than beliefs and attitudes, while rarely reporting other parties' stance. The highest degree of convergence has been determined in the case adverbial epistemic markers; on the other hand, verbal markers are overrepresented in Polish-language versions of EU judgments as compared to non-translated Polish judgments (cf. Tables 5 and 9). Despite the limitations imposed on this study it was possible to determine that there occurs a transfer of certainty between the judges and the primary and secondary audience of the judgments (Salmi-Tolonen 2005: 61), as frequently occurring high-level markers of epistemic modality act as linguistic tools which help the courts to present non-negotiable interpretation of the law, while presenting their propositions as having a high-level of commitment to their truth-value, thus raising the overall level of authoritativeness and rhetorical force of judgments.

Further research should refine the presented model for categorizing epistemic markers by further adapting it to the genre (cf. Rubin 2010), analyze other word classes, such as adjectives and nouns (cf. Pontrandolfo and Goźdz-Roszkowski 2014, Goźdz-Roszkowski 2017a, Goźdz-Roszkowski 2017b). Furthermore, it should be borne in mind that manual categorization of epistemic markers based on the examination of their context of occurrence

(concordances) is a time-consuming endeavor, therefore, studies examining the nature of epistemicity in judgments could be conducted on corpora of fragments of judgments comprising exclusively justifications, so as to potentially limit the number of exponents expressing reported perspective and focus on the courts' own perspective. In addition, special attention should be paid to the subjective nature epistemic markers, which impedes any attempts at categorizing epistemic markers according to their level.

In general, the high salience of epistemic markers in the language of judgments confirms their importance to the genre, thus raising them to the status of a generic feature (cf. Coulthard and Johnson 2010: 10).

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