

Research Article

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Discourse patterning and recursion in the EU case law

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Abstract: This paper proposes a novel approach to analysing the text organization of legal texts, specifically focusing on discourse patterning and recursion in the context of EU case law. The study investigates the discourse organization of the judgments of the Court of Justice of the European Union (CJEU) by exploring, in a data-driven analysis, the use of multiword expressions that occur with specific colligation properties. One peculiarity of CJEU judgments is that their structure is not readily visible since headings are unsystematically used. The application of the present approach demonstrated that discourse organization can be revealed in terms of discourse patterns, signalling devices, and by exploring the position of linguistic expressions in the text. The findings not only reveal concealed text organization units in CJEU judgments but also offer a methodological model for similar analyses in other legal and non-legal texts. The proposed model suggests an investigation of the interaction between metadiscourse (IMD), discourse patterns (DPD), and textual colligation, positing that when IMD and DPD exhibit textual colligation, they signal discourse patterning. This proposal connects two levels of text organization through textual correlation. The study further explores relations between discourse patterns in terms of the notion of recursion.

Keywords: discourse patterning; metadiscursive linguistic devices; recursion; paragraph-initial expressions; discourse organization

1 Introduction

Recent advancements in the study of language and law have provided valuable insights into the role of linguistic elements in shaping and representing legal issues, as well as influencing the content and form of the law. While much attention has

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been given to investigating lexical meaning and the use of lexical expressions (both single words and formulaic multi-word expressions) in legal texts, there remains a notable gap in research focusing on the discourse structure in legal texts. The study of discourse organization of legal texts is relevant for a comprehensive understanding of legal language for several reasons. Firstly, legal discourse serves as the primary means through which legal professionals communicate and convey legal principles. Analysing the organization and structure of legal discourse can help unveil the unique patterns and conventions that shape legal language, influencing the interpretation and application of laws. Secondly, legal discourse reflects the cultural, social, and institutional norms inherent in the legal system, as well as the dominant patterns of information processing. Thirdly, discourse organization plays a crucial role in shaping legal arguments and persuasive strategies. Understanding how legal professionals structure their discourse can provide insights into the rhetorical techniques employed in legal writing and advocacy.

This paper seeks to bridge the existing gap by examining the discourse organization in the judgments from the Court of Justice of the European Union (CJEU). Building upon my previous research on the discourse organization and metadiscursive features of CJEU judgments, this study aims to deepen our understanding of how legal language is structured and communicated. By exploring the patterns and mechanisms of discourse organization, this paper contributes to the broader field of language and law, offering new insights into the complexities of legal communication.

The present study has two objectives. Firstly, it introduces an approach to text organization, emphasizing two key text properties. The first property pertains to discourse patterning, which is indicated by non-representational metadiscursive linguistic devices, while the second property involves the iteration and recursion of these discourse patterns. The second objective of this paper is to apply the proposed approach to analyze the text organization in judgments of the Court of Justice of the European Union (CJEU). By systematically exploring linguistic properties and their cognitive implications, the study aims at not only demystifying the intricate structure of CJEU judgments but also at offering a methodological model for similar analyses in different legal and non-legal contexts.

Regarding the first objective, the approach proposed here sets itself apart from genre analysis, which typically examines text organization in terms of moves or stages that reflect culture-specific communicative objectives (Bhatia 2014; Eggs 1994; Martin 1984, 1997; Swales 1990). The genre-based approach has been challenged, with one of the reasons being that the ontological nature of its stages or moves is not clearly defined; they are accounted in terms of non-linguistic rather than linguistic reasons (Paltridge 1994). There is a lack of consensus on these non-linguistic factors and on clear criteria for delineating distinct boundaries between stages or moves (Bloor 1998; Lewin et al. 2001). Finally, this approach does not

effectively address how “the text operates *discoursally* – while someone is experiencing the meaning” (Sinclair 1994: 17, emphasis in original). It is doubtful whether the genre approach can provide such insights, considering that genre may constrain but cannot “itself trigger or guide pragmatic inference” (Ifantidou 2014: 66).

As for the second objective, CJEU judgments have no layout-induced structuring which means that discourse organization is not immediately evident from the text layout (e.g. headings and paragraph boundaries). They are composed of a number of paragraphs that lack systematic section labels beyond paragraph numbers. This paper aims to investigate if the proposed approach can reveal concealed text organization by analyzing linguistic expressions as devices for indicating discourse patterning and recursion.

Previous approaches to legal texts are concerned either with text organization or with the investigation of specific linguistic and non-linguistic features found in particular types of legal text. The former typically follows genre-oriented approaches (Cheng 2010; Kurzon 1997), whereas the latter uses either data-driven approaches (Goźdz-Roszkowski 2011; Gozdz-Roszkowski and Pontrandolfo 2015; Mattioli and McAuliffe 2021; Sun and Cheng 2017) or more traditional investigation of pre-established categories such as conventionalized sentences, euphemisms, or archaisms (Mattila 2016; Mellinkoff 1963; Zozula 2019). Both types of research have contributed to our better understanding of stylistic, register, and genre diversity across text types and languages and legal systems. For example, Sun and Cheng (2017), in their analysis of Chinese legislative texts, their English translations, and American legislative texts, demonstrate, in terms of five linguistic dimensions, specific linguistic patterns and features that characterize these texts. The findings reveal both similarities and differences between Chinese and American legislative texts, as well as between original texts and their English translations.

The paper is organized as follows. Section 2 establishes the theoretical foundation for the approach by introducing the notions of *metadiscourse* and *discourse patterns*, as well as the domain of linguistic expressions that signal text organization. Section 3 briefly introduces the concepts of recursion and iteration as defined in syntax and conversation analysis. Sections 4–6 apply the approach to examine the discourse organization of CJEU judgments using corpus methodology. The concluding section provides a general discussion of the approach employed and the results obtained from the analysis.

2 Metadiscourse and discourse patterning

Reading processing efficiency depends on the reader’s ability to predict upcoming text (e.g. McDonald and Shillcock 2003). This ability involves distinguishing between

more and less relevant information, which, in turn, determines the allocation of the reader's attention. It has been demonstrated that linguistic expressions can manipulate the focus of attention (Chafe 2018), and various types of expressions can serve this function (Blakemore 1992; Ifantidou 2014; Wilson 2009; Wilson and Sperber 2012). Blakemore (1992, 2002, and 2006), for example singles out discourse connectives that have procedural rather than representational meaning and that serve to signal the "information about the inferential process that the hearer should use" (Blakemore 2002: 90). The linguistic devices with procedural meaning facilitate reading by guiding readers in understanding the organization, relationships, and dynamics within the discourse.

A comprehensive account of linguistic devices performing the navigational function can be found in studies focusing on metadiscourse (Adele 2006; Hyland 2000; Mauranen 1993). Within this domain, a distinction is made between *interactive* and *interactional* metadiscursive functions (Hyland 2000) and only the latter have procedural meaning. The expressions associated with an interactional function indicate the writer's attitude toward the propositional content of an utterance and they are not relevant for the present investigation. I will refer to interactive metadiscursive devices as IMD. Various typologies of IMD have been proposed in the literature (Adele 2006; Crombie 1985; Deroey 2015; Hyland 2000; Mauranen 1993). Since none of them is readily applicable to the text organization of CJEU judgments, the categorization employed in the present study combines several proposals (Cao and Hu 2014; Crombie 1985; Deroey 2015; Hyland 2005). These categories include Frame markers, Evidentials, Importance markers, and Transition markers.

Frame markers, serve as signposts for delineating text boundaries or elements of the text organisation. By sequencing, labelling, announcing goals and shifting between arguments Frame markers enhance the comprehensibility of the discourse (Hyland 2005). Evidentials signal the source of information and they can be direct or indirect, depending on whether the source of information is explicitly stated or implied. Direct evidentials include expressions such as "according to X" or "X states that", while indirect evidentials include expressions such as "it is widely believed that" or "some scholars argue that". Deroey (2015) proposes the category of Importance markers to describe expressions that draw attention to crucial points in a text. Transitions or Transition markers are types of IMD that make "connections between preceding and subsequent propositional information" (Cao and Hu 2014). Crombie (1985) distinguishes between six kinds of Transition markers. They all signal binary values by means of lexico-syntactic items. The following three types are relevant for the CJEU judgments:

Logico-deductive relations:

- (i) Reason-Result – Reason signals "*why* a particular effect came or will come about." (Crombie 1985: 20).

- (ii) Consideration¹-Conclusion – Consideration signals that “a deduction is drawn on the bases of some observation.” (Crombie 1985: 20)
- (iii) Condition-Consequence – Consequence depends “on a realizable or unrealizable condition or a hypothetical contingency.” (Crombie 1985: 20)

Matching relations:

- (i) Contrast – involves “the comparison of two things, events or abstractions in terms of some particular respect of which they are different.” (Crombie 1985: 19)

Truth and validity relations:

- (i) Statement-Denial – this relation indicates that the truth of a statement or its validity is being denied. (Crombie 1985: 21)
- (ii) Concession-Contra-expectation – this relation indicates that “the truth of an inference is directly ... or indirectly ... denied” (Crombie 1985: 22)

Temporal relations:

- (i) Chronological sequence – this relation signal that there is a semantic link “between event propositions one of which follows the other in time.” (Crombie 1985: 18)

I add also to this list the relation labelled as Contextualization. It is akin to Martin’s (1992) notion of reformulation which serves to clarify meaning and adjust it to get it right. But this type of relation may also involve comparison or providing background information and additional details within a written or spoken text to help the reader or listener better understand the representational content.

In general, IMD reveal textual organization by signalling inter-sentential or inter-clausal relations and thus framing the reader’s interpretation of a text. But, it has also been demonstrated that certain expressions can signal relations between larger discourse units by triggering the reader’s expectation of how a text will develop beyond the sentence level. Hoey (1983, 1985, 1991) refers to this sort of relations as *patterns of discourse* or *discourse patterns*. Discourse patterns can be seen as a kind of blueprint or template that writers use to create a text, and that readers use to interpret that text. Hoey argues that by recognizing and understanding these patterns, readers can make predictions about what will come next in the text, and can better understand the writer’s intended message. The interaction between writer and reader can metaphorically be seen as form of a dialogue. Readers

¹ Crombie identifies the first member in this relation as *Grounds*. However, as the central section of CJEU judgments under analysis shares the same name in order to avoid confusion and building on Trklja and McAuliffe (2019) I have chosen to call this member *Consideration*.

bring their expectations, assumptions, and prior knowledge to the reading process, which shapes their interpretation of the text. At the same time, writers anticipate these expectations and try to shape the text in a way that will be most effective in communicating their intended message. By using patterns that are consistent with the reader's expectations, writers can create more effective and engaging texts that are easier for readers to understand and interpret. Of course, the writer never knows with certainty what the reader's expectations are and the reader never knows with certainty whether their expectations will be met.

Two discourse patterns that I will examine in the present analysis include the Claim-Response and Question-Answer pattern.

In the Claim-Response pattern, Claim is an initial statement put forward as true or false. Either the author makes a claim or presents it as a statement made by someone else. The claim is often the starting point for a larger argument or discussion. The response to this claim might include evidence or reasoning to support or refute the claim, as well as counterarguments or opposing viewpoints that the writer needs to address. I will refer to responses that do not complete the pattern as Ongoing Response and those that do complete the pattern as Conclusive Response.

In the Question-Answer pattern, the Question element contains an inquiry or request for information and Answer forms a reaction. Answer might take the form of a simple statement or a more detailed explanation, depending on the nature of the question and the relationship between speakers. Positive or Negative Evaluation is an optional element that is used to evaluate the answer that has been provided. If a response is being negatively evaluated it will be rejected. A text might occasionally contain a reason for rejection before the pattern again returns to Answer. The pattern is completed when an answer is accepted without being negatively evaluated.

Discourse patterns are typically signalled by linguistic cues that shape reader expectations. I will refer to them as discourse pattern devices (DPD). The reader and writer are not necessarily conscious of cues, patterns, and expectations; typically, the reader becomes aware of them when reading encounters difficulties. To the best of my knowledge the link between metadiscursive expressions and patterns of discourse has not been explored in the existing literature. Currently, I am proposing a model of analysis that connects these two levels of text organization through textual correlation. Textual colligation, introduced by Michael Hoey (Hoey 2004, 2005; Hoey and O'Donnell 2008) again, refers to the property of word "to occur (or to avoid occurring) at the beginning or end of independently recognised discourse units, e.g. the sentence, the paragraph, the speech turn" (Hoey 2005: 115).

Metadiscourse, discourse patterns, and textual colligation represent distinct phenomena. I propose that their interaction yields a novel effect. Specifically, I suggest that when IMD and DPD exhibit the property of textual colligation they

signal discourse patterning. Let's briefly examine the underlying assumptions of this proposal.

Starting from the knowledge that some linguistic expressions serve a metadiscursive function by signalling intra- and inter-sentential relations in a text, (and thus manipulating the reader's attention) and that some linguistic expressions that signal only inter-sentential relations signal discourse patterns we can assume that there is specific subset of linguistic expressions that have the dual capacity of both signalling specific inter-sentential relations and contributing to the overall organization of a text's discourse. In other words, we assume here that there is an overlap between linguistic expressions that have a metadiscursive interactive function (premise 1) and those that signal discourse patterns (premise 2). In addition, given the fact that some linguistic expressions prefer occurring in specific positions in a text (including the position of the beginning of a sentence and a paragraph) and the previous assumption (that some linguistic expressions have a dual function) it will further be assumed that there is an intersection between two sets of linguistic expressions; the linguistic expressions that serve a dual function and have textual colligation.

One challenge for our assumption is that the linguistic units examined in the literature that function IMD, DPD, and that exhibit the property of textual colligation vary in nature. DPD, as explored by Hoey, are typically individual words. For instance, in the sentence *The main difficulty was extremely adverse weather conditions* the Problem-Solution pattern is signalled by the noun *difficulty*. On the other hand, IMD are typically realised as conjuncts (e.g., *so, because, and*), adverbs (e.g., *subsequently, first, therefore*), and adverbial phrases (e.g., *as a result, on the other hand*) (Hyland 2005). When used as conjuncts, IMD serve to introduce an adverbial clause, while as adverbs and adverbial phrases, they function as sentence adverbials modifying an entire proposition. For example, in the sentence *To conclude, a basic script recognition system has been demonstrated*, the expression *To conclude* functions as an IMD.

Consider now the noun *answer* in (1), which serves as a DPD, indicating that within the preceding discourse, an answer to a question has been provided. This signals the occurrence of the Question-Answer pattern in the text. However, it is evident that *answer* does not serve the function of an IMD. Within a corpus comprising 50 million tokens, the phrase *such an answer* appears only three times, and this example is the sole instance where it occurs at the beginning of a sentence. Thus, there is no evident textual colligation in this case. Now, turning to (2), *answer* functions as both a DPD and an IMD while exhibiting the property of textual colligation. Its role in signalling the discourse pattern is akin to (1). But, what about the other two features?

- (1) Such an answer is not affected by the adoption of the decision of 20 May 2005. (62005CJ0433)
- (2) The answer to the questions raised must therefore be that the fact that the denaturing departs even to a slight extent from the method referred to in Regulation no 1844/77 is capable of depriving the trader of the entire benefit of the special aid provided for in that regulation. (61981CJ0272)

Hyland (2005: 51) defines Frame markers as items that serve various interactional functions, including sequencing parts of the text by explicitly labelling text stages (e.g., *to summarize, in sum, by way of introduction*), announcing discourse goals (*my purpose is, the paper proposes*), or indicating topic shifts (*well, right*). In (2), the expression containing ‘answer’ indicates a topic shift, signifying that we have entered a discourse section related to providing an answer. It is important to note that it is not just ‘answer’ itself performing these interactional metadiscursive functions and signalling the Question-Answer pattern, but the entire expression. In fact, 60 % of all instances of *answer* appear with the *to*-prepositional phrase containing *question* as the head noun. In other words, there is a strong co-occurrence association between these two nouns as the members of the same expression and the same discourse pattern.

Quite a few studies (Biber et al. 2004; Moon 2002; Trklja and McAuliffe 2019) have demonstrated that formulaic expressions can serve as text organizers. Turning to the third issue, we observe that only certain multi-word expressions fulfil this dual function and possess the property of textual colligation. In the current corpus, *The answer to the questions* consistently appears either at the beginning of a sentence or follows another formulaic expression that functions as both as an IMD and DPD.

Before examining how discourse patterning operates through formulaic expressions that have dual functions and possess the property of textual colligation, I will provide a brief description of the concepts of *recursion* and *iteration*, upon which the examination of relationships between discourse patterns will be founded.

3 Recursion and iteration

According to Hauser et al. (2002) recursion is the central feature of language and “the sole uniquely human trait of human language” (van der Hulst 2010: xvi). In syntax, recursion is regarded as a property that allows a given structure to contain more than one instance of a given category and “to combine iteratively to form larger units forming hierarchically structured objects” (Citko 2014: 10). In (3), which is an example taken from Bar-Hillel (1964), recursion is illustrated with four relative clauses embedded in the main clause. Subscripts and square brackets indicate the elements embedded in the same constituency sets. As can be seen, recursively used relative

pronouns open patterns and create expectations that are met when the second part of relative clauses with verbs is being completed.

(3) John_{i1}[whom June_{i2}[whom Paul_{i3}[whom Jean_{i4}[whom Dick hates]_{i1} adores]_{i2} prefers]_{i3} detests]_{i4} loves Mary. (Adapted from Bar-Hillel 1964)

Recursion has been observed in phonology, syntax, lexis and conversations (e.g. Karlsson 2007; Koster 2010; Levinson 2013). Some scholars go as far as arguing that recursion is a general property of the human mind (Corballis 2011; Suddendorf and Corballis 2007; Pinker and Jackendoff 2005).

Importantly, recursion should not be confused with iteration (Hunyadi 2010; Karlsson 2007; Tomalin 2007), Kinsella explains the distinction in the following way:

Iteration – Iteration is the simple, unembedded repetition of an action or object an arbitrary number of times.

Recursion – Recursion is the embedding at the edge (tail) or in the centre (nested) of an action or object one of the same type. Recursion entails that the output of the current embedded action or object will become the input to the next. Furthermore, nested recursive embedding leads to the existence of long-distance dependencies, and thus the need for keeping track or adding to memory. (Kinsella 2009: 119).

Regarding the latter, scholars distinguish between tail-recursion and nested recursion (Corballis 2007). Tail-recursion involves adding a constituent at either the end or the beginning of a clause or phrase, as demonstrated in the example below from Corballis (2007: 698).

(4) This is the house that Jack built.
 This is the malt that lay in the house that Jack built.
 This is the rat that ate the malt that lay in the house that Jack built.
 This is the cat that worried the rat that ate the malt that lay in the house that Jack built.

Nested recursion involves embedding one or more elements at some distance from another element of the same type. Cognitively, nested recursion requires storing the first element in our memory, which will then be retrieved once the second element it corresponds with appears. The following example (cf. Figure 1) from Levinson (2013)

Merritt 1976b:136

C:	Do you have master carbons?	(Q (prerequisite): 0)
S:	(pause) Yes, I think we do	(A: 0)
	What kind do you want?	(Q: 1)
C:	How many kinds do you have?	(Q: 2)
S:	Well, there are carbons for gelatin duplicators, and carbons for spirits	(A: 2)
C:	Well I'll take the carbons for spirits, please	(A: 1)
S:	((goes to get))	(Action: 0)

Figure 1: Recursion in conversation (adopted from Levinson 2013:155).

illustrates nested recursion in a conversation. Here, several adjacency pairs are embedded within the adjacency pair Prerequisite-Action.

This brief discussion of the notions of *recursion* and *iteration* should suffice for the exploration of the phenomena of recursion in relation to discourse patterns in CJEU judgments below.

4 Data and method of analysis

The data selected for the present study consist of judgments from the Court of Justice of the European Union (CJEU). The CJEU serves as the highest court within the legal framework of the European Union (EU) and has played a pivotal role in the development of EU law and the EU as such. The task of the CJEU is to ensure that the law is observed in the interpretation and application of the EU Treaties. These treaties are the foundational documents of the EU and provide the framework for its functioning (Harmsen and McAuliffe 2014). According to the Article 19 of the Treaty of on EU:

The Court of Justice of the European Union shall, in accordance with the Treaties:

- a) rule on actions brought by a Member State, an institution or a natural or legal person;
- b) give preliminary rulings, at the request of courts or tribunals of the Member States, on the interpretation of Union law or the validity of acts adopted by the institutions;
- c) rule in other cases provided for in the Treaties. (cited from Chalmers et al. 2010: 144)

In practical terms, this entails the CJEU hearing and issuing rulings on cases of EU law breaches, delivering binding judgments on matters of EU law interpretation. The basic procedure involves two steps. First, a national court of an EU member state submits a case with one or more questions to the CJEU, including arguments from all involved parties. Second, the CJEU reviews these questions, evaluates the arguments in the context of EU law, and provides its interpretation and opinion.

In the present analysis, a corpus comprising 1140 CJEU judgments in English was used. These particular cases were chosen because they are part of the EU *acquis communautaire* which form the core of EU legislation. CJEU judgments are available in 23 linguistic forms, and in accordance with Article 217 of the Treaty of Rome (the very first regulation issued by the European Council), all official languages of member states are recognized as official languages of the European community. It means that English version which is produced partly through translation (Trklja 2018) is considered an official legal document. The corpus has been compiled by using the data from the EUCLCORP (Trklja and McAuliffe 2018).

As explained above, the linguistic units that perform the dual function and possess the property of textual colligation are formulaic expressions. For this reason, the units of analysis selected for this study are n-grams. In line with previous studies

(e.g. Biber 2009), only the five-word long n-grams were considered. In fact, a preliminary analysis demonstrates that smaller expressions do not produce reliable results, as three or four-word fixed expressions tend to be semantically vague, making it challenging to determine their textual function. On the other hand, longer expressions do not provide sufficient data. N-grams are often grammatically or semantically incomplete, and in cases where the dual function of these expressions was unclear, a broader context was examined. For instance, the 5-g *the answer to the first* is both grammatically and semantically incomplete. However, when considered in a broader context, as shown in (5), it becomes evident that it serves the function of a Frame marker and signals the Question-Answer pattern.

(5) **The answer to the first** question must therefore be that Article 27 (1) of the Sixth Directive permits the adoption ... (61986CJ0138)

The data used here are obtained in the analysis reported in (Trklja and McAuliffe 2019). The procedure of analysis comprises the following steps. Initially, all 5-word long and paragraph-initial formulaic expressions were identified using Corpus Workbench (CWB) tools (Evert and Hardie 2011). Data filtering was conducted based on the Mutual Information (MI) score. The MI score is a measure commonly employed in corpus linguistics to assess collocation strength between two terms (A and B) by comparing the joint probability of their co-occurrence with the product of their individual probabilities. A higher MI score indicates a stronger association between the two terms. In this analysis, statistics were utilized to compare the association strength between a multi-word expression and its position within the text. Specifically, I compared the association strength for two positions: paragraph-initial and paragraph-non-initial positions. To execute this task, I developed a Shell script that identifies the positions of expressions within paragraphs and employed Collocate 1.0 (Barlow 2004) to calculate the MI values. Subsequently, MI scores of the identified expressions were compared, and only those expressions that exhibited a higher MI score in paragraph-initial positions than in paragraph-non-initial positions were selected for further analysis. The frequency of the paragraph-initial metadiscursive formulaic expressions (PIMFE) in CJEU judgments varies. For this study, I opted for a conservative cut-off point and considered only those n-grams that appeared at least five times in the paragraph-initial position to be indicative of textual colligation.

A brief description of the structure of CJEU judgments in terms of sections is in place here. The CJEU judgments contain the following sections:² Keywords, Summary, Parties, Subject of the case, Grounds, Decision on costs, and Operative part. The focus of the current analysis lies on the section Ground, which, according to the

2 Some cases published between 1985 and 1999 do not contain Subject of the case and Summary.

current corpus data, constitutes an average of 84 % of the content of CJEU judgments. This is the core part of the CJEU judgment and it offers a brief history of the case, describes the views submitted by the involved parties, and provides the Court's decision. It is divided into enumerated paragraphs, allowing for easy reference to specific parts of judgments, but it does not inherently reveal the textual organization of the judgments. The length of the paragraphs varies from one to 13 sentences, with the majority being quite short. On average, 59 % of paragraphs contain only one sentence, and 90 % of paragraphs are between one and three sentences in length. The average number of paragraphs per CJEU judgment is 36, and, on average, every fourth paragraph in CJEU judgments begins with a PIMFE. This suggests that judgments, on average, contain four sections signalled by textual colligation. It is important to note that this is a rough estimate, as PIMFE are not evenly distributed within and across judgments, but this short description indicates the relevance of PIMFE.

Exploring the relations between paragraphs is a crucial step in understanding the text organization of Grounds. Such relations unveil the strategy for topic development, presenting information, and connecting concepts across paragraphs by examining how they are related. As such they indicate how premises, evidence, counterarguments, and conclusions are presented by the parties and discussed by the Court. Just as sentence adverbs co-textualize the meaning of a proposition by signalling cataphoric or anaphoric relations, PIMFE serve the same function for relations between paragraphs in Grounds.

5 Discourse patterns in CJEU judgments

Using the theoretical frameworks discussed in Section 2, PIMFE are classified according to their metadiscursive functions into the following categories: Transition markers (comprising 39 % of all interactional metadiscursive devices), Frame markers (34 %), Importance markers (14 %), and Evidentials (13 %). The expressions from the former two categories are further subclassified into: Transition markers: Consideration-Conclusion, Transition markers: Contextualization, Transition markers: Concession-Contraexpectation, Frame markers: Topic organizers, Importance markers, and Evidentials. Figure 2 summarizes the frequency of PIMFE in my corpus. I will not go into detail about these results, as they have already been explored elsewhere (Trklja and McAuliffe 2019).

What is more important for the present study is how the expressions from these categories signal discourse patterns. As shown in Table 1, there is a close relationship between categories of metadiscourse and those of discourse patterns. For example, *It follows from the foregoing* is a Transition marker that anaphorically indicates that a

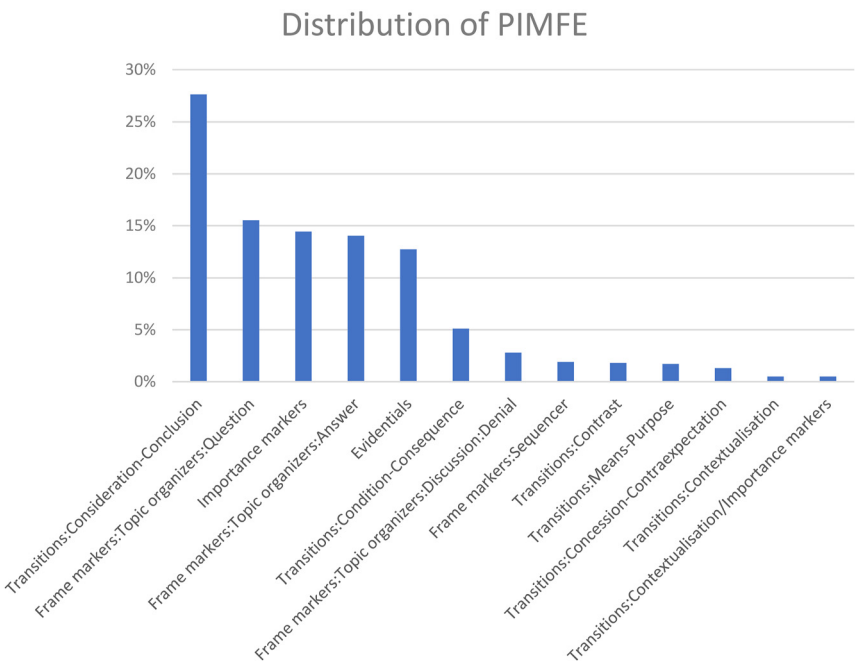


Figure 2: Distribution of PIMFE in CJEU judgments.

Table 1: Relations between metadiscursive categories and discourse patterns.

PIMFE	Discourse patterns
Frame markers: Topic organizers: Question	Question
Frame markers: Topic organizers: Answer	Answer
Evidentials	Claim, ongoing response
Transition markers: Consideration-Conclusion	Conclusive response
Transition markers: Condition-Consequence	Ongoing response
Transition markers: Contextualisation	Ongoing response
Importance markers	Ongoing response

discussion of an issue (or issues) has occurred and cataphorically suggests that a conclusion will be drawn (hence Consideration-Conclusion). Simultaneously, the same expression signals a Conclusive Response within the Claim-Response pattern. As explained earlier, Ongoing Response refers to a continuous or sustained reply to a previously made claim, while Conclusive Response is intended to bring closure to the discussion.

In general, the Claim-Response pattern is signalled by expressions belonging to the following three categories: Evidentials, Transition markers, and Importance markers. The Question-Answer pattern, on the other hand, is signalled by Frame markers: Topic Organizers. I will now describe these patterns in more detail.

Ongoing Response is indicated by expressions from the Consideration-Conclusion category, which is a sub-category of Transition markers. These expressions signify that there is a section in the text containing paragraphs where the Court responds to claims presented by parties (Consideration), followed by a second section where the Court derives conclusions from this argumentation (Conclusion). This type of antecedent-consequent relationship is typically conveyed by predicates such as *follow*, *is clear*, *is apparent*, and the preposition *from*, which contains a determiner phrase signalling Consideration (e.g., *those considerations*, *the foregoing*). Figure 2 indicates that Consideration-Conclusion is the most frequent type of Transition Markers. It can be inferred from Table 1 that this predominance may be due to its uniformity. Unlike Ongoing Response, which comes in various forms, Conclusive Response is exclusively realized through Consideration-Conclusion.

Claims are exclusively signalled through Evidentials. Evidentials typically consist of a noun phrase (often a proper noun such as *The Commission*) referring to the claimer, and a verbal phrase introducing a relative clause (*points out that*, *maintains that*) or a prepositional phrase (*according to*), indicating claim-making. Evidentials are also used to signal the part of the discussion related to Ongoing Response. Interestingly, apart from one exception, nouns referring to the claimer can signal both Claim and Ongoing Response. The exception is collocations consisting of the determiner phrase *the Court* and a reporting verb, typically used in the present perfect tense, such as *As the Court has held* or *As the Court has stated*. Incidentally, this is the most frequent Evidential, accounting for 30 % of all expressions of this kind. In general, Evidentials are more often used to signal Ongoing Response than Claim. The data suggests that the element Claim is less frequently signalled by PIMFE compared to both kinds of responses or Questions and Answers. In some rare cases, Evidentials also signal Conclusive Responses (see (6) below).

Ongoing Responses are also conveyed through Importance markers and two other types of Transition markers. Importance markers are often used in conjunction with Transition markers like Consideration-Conclusion. This is illustrated in the following example, where paragraph 18 contains an Importance marker, and paragraph 19 features a Consideration-Conclusion item.

- (6) 18 **It should be observed next** that no provision of national legislation may permit an undertaking which is responsible for the management of copyrights and has a monopoly on the territory of a member state by virtue of that management to charge a levy on products imported from another member state where they were put into circulation by or with the

consent of the copyright owner and thereby cause the common market to be partitioned. Such a practice would amount to allowing a private undertaking to impose a charge on the importation of sound recordings which are already in free circulation in the common market on account of their crossing a frontier; it would therefore have the effect of entrenching the isolation of national markets which the treaty seeks to abolish.

19 It follows from those considerations that this argument must be rejected as being incompatible with the operation of the common market and with the aims of the treaty. (From the judgment 61980CJ0055)

Let us consider an example to understand how the Claim-Response pattern functions. The following extract contains only the first sentence occurring in a paragraph. In a sequence of nine adjoining paragraphs, we can observe that discourse patterns are signalled by PIMFE in seven instances. In paragraph 27, an Evidential signals the opening of the Claim-Response pattern. The content of that paragraph becomes the subject of discussion in the subsequent seven paragraphs, after which the pattern is concluded in paragraph 35 by means of a Transition marker. The intermediary paragraphs contain discussions where PIMFE typically anaphorically contextualize a previous discussion in terms of Ongoing Responses.

(7) Case: 61982CJ0011

27 The applicants argue first that [Evidential] in the adoption of the contested decision the conditions laid down in Article 130 of the Act of Accession were not met. ...

28 It must be observed that [Importance markers] in order to ascertain whether the measure whose authorization is being considered meets the conditions laid down in Article 130 (3) the Commission must also take into account the situation in the Member State with regard to which the protective measure is requested.

29 In that regard the Commission [Transition marker: Contextualisation] objects that it would be impossible for it, during the brief period within which it must act, to make itself aware of the exact number of contracts meeting that description.

30 That argument cannot be accepted [Transition marker: Condition-Consequence] in the light of the circumstances of this case. Before adopting the contested decision the Commission had sufficient time to obtain the necessary information.

31 In those circumstances it must [Transition marker: Contextualisation] be concluded that the Commission was in a position to obtain sufficiently exact information on the contracts already entered into which were to be performed during the period of application of the decision at issue.

32 The objection of inadmissibility raised by the Commission and supported by the Government of the French Republic must therefore be dismissed, except as regards the two applicants referred to above in paragraph 18.

33 With regard to the substance [Transition marker: Contextualisation] of the case, it appears from the text of the decision in question that the Commission did to a certain extent comply with the requirements laid down by Article 130 (3).

34 Having regard to the particular circumstances of this case, it does not however appear that the Commission took sufficient account of the interests of other Greek traders also affected by its decision.

35 **It follows from the foregoing** [Transition marker: Consideration-Conclusion] that in taking into consideration only those contracts under which shipments had already been sent from Greece and not those which met the description set out above, although nothing prevented it from doing so, the Commission did not entirely comply with the provisions of Article 130 (3).

The Question-Answer pattern is exclusively signalled by Frame markers. Questions are presented either through interrogative sentences or they are lexically indicated. The former type is signalled by the expressions such as *Is it of any significance?* or *Does it make any difference?*, while the latter is conveyed through formulations containing the lexical item *question*, as in *In its first question* or *The questions referred to the*.

The element Answer is lexically indicated through *answer* and *reply*, as in *The answer must therefore be*, *The answer to the first*, or *The reply to the second*. The propositions containing questions and answers are associated not only with their positions within paragraphs but also with various positions within CJEU judgments. PIMFE that indicate questions typically occur in the first part of judgments, while PIMFE associated with answers typically appear in the final part of judgments. This distribution is illustrated in the following two graphs, which depict the prevalence of the two most frequent formulaic expressions indicating questions and answers in various judgments from my corpus. The graphs, created using WordSmith Tools 6 (Scott 2012), demonstrate that in judgments divided into eight equal sections, questions occur in the second or third section, and answers are found in the seventh or eighth section (Figures 3 and 4).

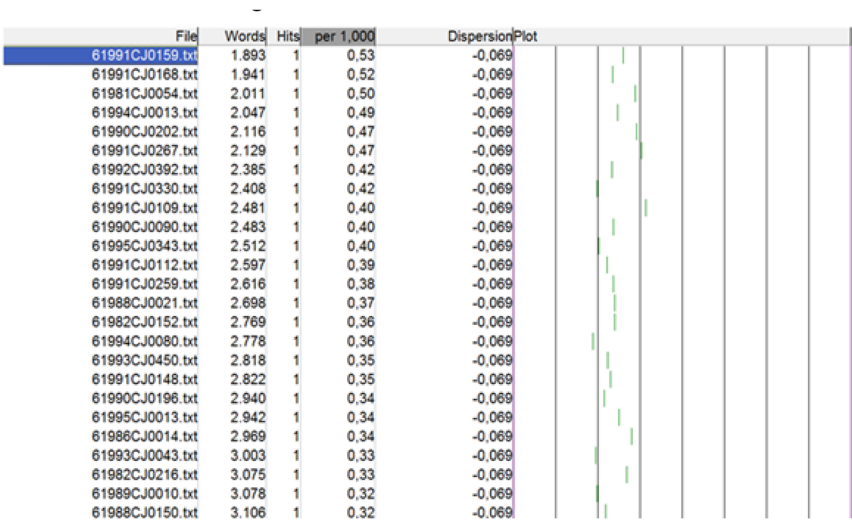


Figure 3: Distribution of ‘those questions were raised’ in the text of CJEU judgments.

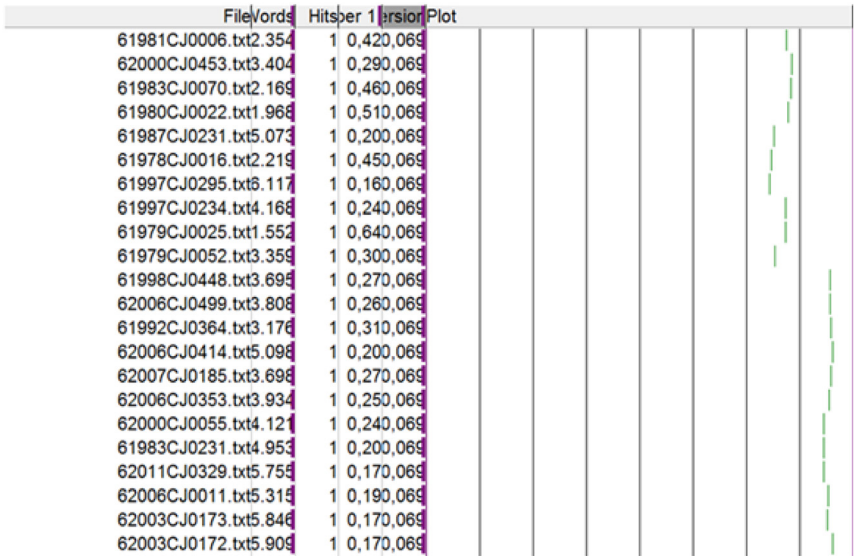


Figure 4: Distribution of ‘The answer to the question’ in the text of CJEU judgments.

6 Recursion and iteration in discourse

The prevailing practice in CJEU judgments is to introduce multiple opening patterns sequentially and then provide corresponding closing patterns. This approach resembles a form of nested recursion, as schematically depicted in Figure 5 for the Claim-Response pattern. Initially, three distinct claims, denoted by superscripts x , y , and z , are introduced, each of which is subsequently linked to a respective response (Figure 6).

However, the relationship between opening and closing patterns can also take the form of tail-recursion and iteration. Tail-recursion arises when a new element is

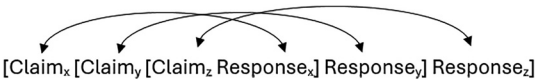


Figure 5: The first type of recursive or iterative relations associated with the claim-response pattern.



Figure 6: Iterative relations associated with the claim-response pattern.

being added on one side of the sequence and when a subsequent element depends on a preceding element, while iteration occurs when there are no such dependency relations between them. In the present context, tail-recursion determines relations between Claim and Ongoing response and iteration between individual responses or between claims. In (8) the responses from the second and third paragraph cannot stand on their own because they make sense only in relation to the initial claim. The relation between Ongoing responses in (8), on the other hand, is that of iteration because they do not depend on each other.

(8) 61986CJ0050

Claim: The applicant maintains that the community has incurred non-contractual liability towards it by virtue of the fact that the council and the commission refused to grant for Granidon, notwithstanding the requests made by the applicant to the commission, the production refunds laid down for products traditionally used in the brewing industry (Maize Gritz and Starch). According to the applicant Granidon, which it describes as wheat starch, is substitutable for such purposes.

Ongoing Response Denial 1: The council maintains that it was never in a position to decide on whether Granidon qualified for production refunds since the commission had never made any proposal on the matter. It is therefore a matter for the commission alone to represent the community before the Court.

Ongoing Response: Denial 2: The commission contends that the application should be dismissed. It maintains in particular that Granidon is a preliminary product in the manufacture of wheat starch which does not correspond to any generally recognized category and that the applicant has by no means established that Granidon is substitutable for products traditionally used in brewing which qualify for refunds.

The following example illustrates iteration when individual claims are being introduced sequentially and independently of each other.

(9) Case: 61998CJ0036

Claim 1: The Portuguese Government observes, first of all, that there is no perfect correspondence between the various language versions of Article 130s(2) of the Treaty as regards the expression management of water resources.

Claim 2: The Finnish Government contends that Article 130s(1) of the Treaty is to be taken as the legal basis of a Community act where the content and objectives of that act relate to the protection of surface or underground waters in the Community and that the regulation of the quantity and use of the water is designed to promote objectives relating to the quality of water.

Finally, there is also an option when the Claim-Response pattern is organised in such a way that individual claims are introduced and immediately addressed. In this case, we simply have pairs of patterns which are adjoined by means of iteration.

Two typical tendencies in nested recursion can be observed in my data. The first tendency is that the Question-Answer pattern is embedded within the Claim-Response pattern. The second option is that the Claim-Response pattern is embedded

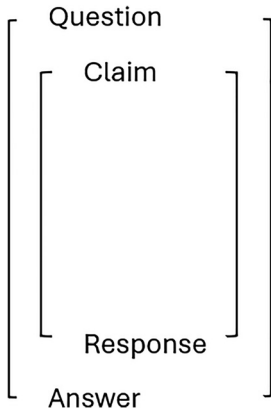


Figure 7: Relations between the question-answer and consideration-conclusion patterns.

within the Question-Answer pattern. It is difficult to estimate which of the two patterns is more common. However, from a case study based on a sample of 200 randomly selected judgments, it appears that the second pattern (cf. Figure 7) might be more prevalent in CJEU judgments, being observed in as many as 160 cases. In other words, the PIMFE signalling the Question-Answer pattern more frequently precede the Claim-Response pattern than the other way around.

(10) illustrates this predominant strategy. Included are only sentences that contain PIMFE and signal metadiscursive relations and discourse patterns.

(10) Case: 62001CJ0215

The question was raised in proceedings brought before the Amtsgericht Augsburg court against Mr Schnitzer for infringement of German legislation on the combating of black-market work. Legal context.

The Portuguese Government contends that the question referred for a preliminary ruling raises two issues: (i) whether an undertaking which is established in a Member State and fulfils the conditions necessary in order to pursue its activity in that Member State must comply with other, purely formal, conditions when it provides services in another Member State ...

As regards the first issue, the Portuguese Government, referring in particular to the judgment in Corsten ...

The Austrian Government submits that the period over which services are provided, even if it is a prolonged period, cannot constitute sufficient grounds for departing from the solution adopted in Corsten

The Commission therefore takes the view that the solution adopted in Corsten is also applicable to circumstances where the activity in question is pursued over a long period ...

Let us explore now on this example how IMD, DPD and textual colligation indicate recursion and iteration in the CJEU judgments. First, the Question-Answer pattern is initially opened by a Frame marker. Afterward, a PIMFE referring to a source of information occurs (Evidential), which opens the Claim-Response pattern. Six stages of text development follow, in which Ongoing response is being signalled through Frame markers, Evidentials, and Importance markers. First, the Claim-Response pattern is closed, and then the Question-Answer pattern. This is being summarised below.

- i. *The question was raised in proceedings* – Question in the Question-Answer pattern (Frame marker)
- ii. *The Portuguese Government contends* – Claim in the Claim-Response pattern (Evidential)
- iii. *As regards the first issue* – Ongoing Response in the Claim-Response pattern (Frame marker)
- iv. *As regards the second issue* – Ongoing Response in the Claim-Response pattern (Frame marker)
- v. *The Austrian Government submits that* – Ongoing Response in the Claim-Response pattern (Evidential)
- vi. *The Commission notes as a preliminary point* – Ongoing Response in the Claim-Response pattern (Evidential)
- vii. *The Commission submits that the* – Ongoing Response in the Claim-Response pattern (Evidential)
- viii. *It is also necessary to prevent* – Ongoing Response in the Claim-Response pattern (Importance marker)
- ix. *The Commission therefore takes the view* – Conclusive Response in the Claim-Response pattern (Evidential)
- x. *The answer to the question referred for a preliminary ruling* – Answer in the Question-Answer pattern (Frame marker).

This example illustrates nested recursion between the Question-Answer and the Claim-Response patterns. As seen in Figure 6, which uses the same representation as in Levinson (2013) mentioned in Section 3, the latter pattern (indexed as ii and ix) is embedded within the former (i and x). The Ongoing responses that populate the distance between the Claim and Conclusive response occur in terms of iteration (iii–viii). There is only one level of embeddedness here. The number of levels of embeddedness in nested recursion is one of the issues discussed in the literature related to syntax and conversation. Exploring it for discourse patterning would be worthwhile; however, the present study cannot do justice to this question here (Figure 8).

Since the Question-Answer pattern cannot be closed until the Claim-Response pattern is being closed we can regard the latter as being embedded in the former and it can be regarded that this relation is indicative of recursion. Similarly, the

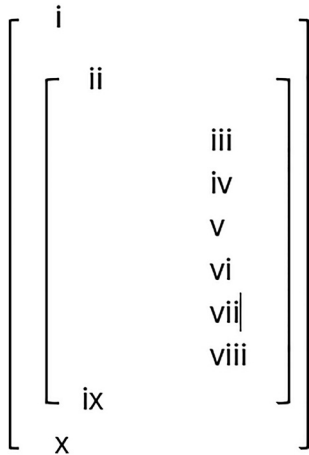


Figure 8: Nested recursion between question-answer and claim-response.

Conclusive Response is blocked until the intermediate stages are being released. This pattern is therefore also indicative of nested recursion. But, the relations between (iii) and (viii) do not involve any sort of dependency relation. Each of these sequences is comprehensible independently of each other and they can be ordered differently, and it will have no effect on their reading. This is therefore an example of iteration.

Tail-recursion can often be observed in the current data for the Question-Answer pattern, as illustrated in (11), where the second question depends on the answer to the first one. The example (12) illustrates iteration for the same pattern when two questions occur independently of each other.

(11) Case 61991CJ0292

Are Articles 366 and 368 of the Act concerning the conditions of accession of the Kingdom of Spain and the Portuguese Republic, read in conjunction with Article 1 of Regulation (EEC) No 449/86 of 24 February 1986 to be interpreted as meaning that, in trade in 1986 between the Federal Republic of Germany and Yugoslavia, goods originating in Portugal within the meaning of Protocol 3 to the Cooperation Agreement between the EEC and the Socialist Federal Republic of Yugoslavia were to be regarded as goods originating in the Community, and is this issue determined according to whether or not the goods were in free circulation within the Community as previously constituted?

If Question 1 is answered in the negative:

Could an error on the part of the customs authority, as a result of which the goods in question were treated as goods originating within the Community, reasonably have been detected by the trader?

(12) 61975CJ0035

The first question asks whether the ‘matisa’ machine for tamping, levelling and adjusting railway-tracks’ is to be classified under subheading 86.04 b (as a mechanically propelled railway coach) or under subheading 84.23 a ii b (as earthmoving machinery) of the common customs tariff.

The second question asks whether the explanatory notes to the Brussels nomenclature relating to the aforementioned headings are binding under community law for the interpretation of the common customs tariff.

7 Discussion

In this paper, I proposed an approach for investigating discourse organization via discourse patterning, textual signalling and textual colligation. Drawing insights from a detailed examination of CJEU judgments, this study enhances our understanding of how legal discourse is organized in this specific context. The suggested approach, based on a data-driven approach, provides a valuable framework for investigating discourse organization in terms of discourse patterning, colligation and recursion.

The phenomena under examination encompass four linguistic properties. First, there is the property of linguistic elements to signal the non-representational function of language in organizing linguistic messages, i.e., interactional metadiscursive function. Second, the text exhibits the property of developing in terms of larger textual chunks, referred to as discourse patterning. Third, there is the property of linguistic elements to prefer co-occurring with other items, giving rise to longer multi-word expressions, i.e., collocations. It is hypothesized that the terminological hybridity of legal texts associates with their terminological features vary according to institutional setting and genre (Ramos and Gerutti 2021). Fourth, multi-word expressions display a tendency to occur in specific positions within the text, i.e. colligation. The analysis that took into account all these properties made it possible to identify a domain of lexical items that possess these characteristics and reveal discourse organisation. One of peculiarities of the CJEU judgments is that their structure is not readily visible. Headings are infrequently used, and when they are used, it is not done systematically. This raises the question of how to navigate through such lengthy texts with a highly specific language are read. The application of the present approach demonstrated that discourse organization can be revealed in terms of discourse patterns, signalling and position of linguistic expressions in the text.

There is still the lingering “so what” question here. A detailed discussion of my perspective is beyond the scope of this paper, as it necessitates another study. However, I would like to briefly assert that linguistic devices signalling discourse

patterns, as well as discourse patterns and recursion, serve a cognitive function. Sperber and Willson (1986) have argued that text comprehension relies on the reader's ability to decode textual information effectively and generate relevant inferences. PIMFE can be seen as tools guiding the reader's "inferential route" (Blakemore 2002), thereby enhancing reading fluency. I propose that the domain of linguistic expressions discussed here, alongside enumeration, play a role akin to what the literature on extended cognition refers to as "cognitive scaffolding" (Clark 2008). Scaffolding involves the idea that specific external structures and resources can be employed to support and enrich cognitive processing. Clark (2008) provides an example of training chimpanzees to use concrete tags (simple and distinct plastic shapes) to understand relations such as sameness and difference. Following this training, the tag-trained chimpanzees (and only they) were capable of grasping the abstract properties of higher-order sameness and difference. Similar to the role labels play in this experiment, external structures support mental scaffolding by enabling us to target our attentional resources. Clark acknowledges language as one of those external structures and I emphasize here in particular the domain of formulaic expressions which are both IMD and DPD and possess textual colligation.

Thus, when the reader encounter The Commission points out that the expression indicates that they are entering the section called Ground dedicated to discussing views and that she is located in the Ongoing Response part of the Claim-Response pattern. Or to return to a previous example, *The applicants argue first that* functions as both an input to the discussion by a party involved and as an opening of the Claim-Response pattern. Subsequent reading provides the reader with the specific content of what is being claimed. These textual elements interact with enumeration and paragraph numbers, enabling the reader to locate the information they need without having to review the entire text. Besides, instead of remembering all the details, they can rely on these labels as addresses that store the location of the relevant information guide them through the text.

The extent to which these properties of discourse patterning, observed in CJEU judgments and their role as mental scaffolding, can be generalized to other text types remains to be explored. CJEU judgments represent an extreme case of a text type characterized by lexical formulaicity and textual uniformity, making them a good candidate for investigating discourse patterning and recursion phenomena. This study, while focused on CJEU judgments, lays a foundation for future research to explore the generalizability of identified discourse patterning properties across diverse legal text types. For example, while recursion is considered a universal linguistic feature (although there are alternative views, as seen in Section 3), one may inquire whether discourse recursion is a universal characteristic across all text types. Answering this question requires empirical investigation in subsequent research.

Finally, it's worth noting that the present study primarily focused on paragraph-initial expressions, but IMD and DPD may appear in various positions within texts. The approach is likely to undergo further refinement and the purpose of the present paper was to put a proposal and emphasize foundational issues and presenting a comprehensive approach is beyond the scope of a single paper. The implications of the specific discourse features of legal texts on legal and other not purely linguistic areas are still not well-understood. However, some recent studies indicate that they can have political implications (Cheng and Liu 2022) or influence drafting strategies. More empirical and theoretical work is to be done in this area of research.

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Bionote

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