The Coding of Discourse Relations in English and German Argumentative Discourse

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Abstract

This paper examines the overt and non-overt coding of discourse relations in the argumentative discourse genre of editorial based on a contrastive study of British English and German editorials. Particular attention is given to the linguistic coding of discourse relations positioned adjacently and non-adjacently, and to the question of granularity. The analysis of the German editorials is based on the syntactic unit of sentence, while their British counterpart is based on the syntactic unit of clause.

In the data at hand, the two languages code the discourse relation of Contrast overtly in adjacent and non-adjacent positioning but employ different strategies as regards the overt coding of the coordinating discourse relation of Continuation and the subordinating discourse relations of Elaboration, Explanation and Comment. The rate of overt marking for adjacently positioned coordinating relations is higher in the German data. In the British data, there is hardly any difference between the overt marking of adjacently positioned discourse relations holding between clauses and sentences. The overt marking of subordinating discourse relations is lower in the German data, and in the British data, there is a clear preference for coding adjacently positioned subordinating discourse relations in an overt manner on the level of clause. In the experimental discourse-comprehension tasks the German subjects show a slight tendency to code discourse relations overtly if they are non-adjacent, while the British subjects prefer to code discourse relations overtly on the level of clause in both adjacent and non-adjacent positioning.

1. Introduction

The concept of discourse is used in all kinds of context, and it is often used in a rather intuitive manner without clear-cut delimitations. From a quantity-oriented perspective, discourse analysis examines "language patterns above the sentence" (Widdowson 2004, 3). This implies that discourse is composed of more than one sentence, and that the composition of these sentences needs to be in accordance with some kind of a more general pattern, if not a rule. Another premise of that definition is that the constitutive parts of discourse are sentences (in Widdowson's terms). But is that really a felicitous definition of discourse?

Research on discourse in general, and on discourse coherence in particular, is fundamentally concerned with the nature of the connectedness between parts and wholes. For the quantity-oriented perspective mentioned in the previous paragraph that would mean that discourse is concerned with the nature of the connectedness between sentences as regards the connectedness between parts, and some kind of frame which delimits the connected sentences and assigns them the status of a whole. That frame of reference is a discourse genre[1], which Thibault (2003, 44) defines as follows: "Genres do not specify the lexicogrammatical resources of word, phrase, clause, and so on. Instead, they specify the **typical** ways in which these are combined and deployed so as to enact the typical semiotic action formations of a given community". In other words, genres are neither stable nor normative and for this reason

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[1] In this paper, discourse genre is used as a functional synonym for communicative genre, activity type and communicative project, to name but the most prominent ones (cf., Levinson 1979, Linell 1998, Martin and Rose 2008).

allow for variation as regards syntactic linearization, lexical representation, and overt or non-overt coding of discourse relations, which this chapter is concerned with.

To account for the patterned linearization of sentences and the overt and non-overt coding of discourse relations in a discourse genre, it is necessary to additionally accommodate a quality-anchored perspective which may account for (1) the semantics and pragmatics of the joints, metaphorically speaking, connecting the constitutive parts of discourse, (2) the semantics and pragmatics of the constitutive discourse units, and (3) the semantics and pragmatics of discourse as a whole. Qualitatively oriented discourse studies generally share the assumption that discourse comes in with the presumption of being coherent (cf. Bublitz, Lenk and Ventola 1999, Gernsbacher and Givón 1995), and it is not the 'language patterns above the sentence' and their semantic well-formedness which makes them cohere but rather its recipients who construe discourse coherence locally and globally. Hence, discourse coherence does not lie in the discourse itself but in the minds of language users and is thus a socio-cognitive construct. This holds for both the constitutive parts of discourse and for discourse-as-a-whole.

Discourse coherence feeds on semantic coherence and on pragmatic coherence (cf. van Dijk 1980). The former captures logical relations between discourse units and lexical coherence holding amongst lexical units. The latter refers to language users' coding and implicating, and decoding and inferring speaker-intended meaning in local and global contexts. The construal of semantic coherence is based on logical reasoning, for instance deduction and entailment, while pragmatic coherence is construed through inference and abductive reasoning (Givón 2005). Different modes of communication, e.g., spoken and written discourse, employ mode- and genre-specific linguistic means to signal semantic, pragmatic and discourse coherence, such as meta-communicative comments ('as has been examined thoroughly in the previous section', 'coming back to what I've said before') and discourse connectives ('and', 'but', 'however') (cf. Biber 1988). The necessary cognitive operations to construe discourse coherence, pragmatic coherence and semantic coherence are based on directly and non-directly adjacent discourse units, lexical units and illocutions, on discourse-genre specific constraints and requirements, and on encyclopaedic knowledge as well as on generic expectations (cf. Martin and Rose 2008, Thibault 2003).

The socio-cognitive construct of coherence is connected intrinsically with cohesion and cohesive ties, viz. linguistic items which express the nature of the connectedness between discourse units on a horizontal and vertical levels, that is to say amongst clauses and sentences, sentences and paragraphs, and paragraphs and discourse as a whole (Hasan and Halliday 1987, Halliday 1994. In general, discourse contains numerous cohesive ties, but there are also discourses which do not contain any cohesive ties but are still considered to be coherent, and there are discourses which display numerous cohesive ties but are nevertheless considered to be incoherent. So the presence of overt cohesive markers does not entail coherence (see also Schiftner, this volume).[2] Both kinds can be found in literary discourse and are constitutive for, e.g., comedy, where discourse coherence is construed on a meta-level. However, there is no coherent discourse without coherence strands, to use a term from Givón (1993), viz. referential continuity, temporal continuity, spatial continuity and action continuity. The communicative value of discourse relations can be implicit in these coherence strands and it can be represented overtly by using cohesive ties. It is the linguistic coding of discourse relations with discourse connectives and meta-communicative comments in adjacently and non-adjacently positioned discourse units in the discourse genre of editorial, which is at the heart of our analysis. Since discourse genres are neither stable nor normative,

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[2] This is also shown by the fact that in language acquisition, discourse relations tend to be left implicit by the language learner; explicit marking is acquired at a later stage (cf. e.g. Evers-Vermeul, this volume)

we expect to find patterned linearizations of discourse units and preferred contexts for the overt and non-overt coding of discourse relations.[3]

The discourse genre of editorial is an argumentative genre par excellence. In argumentation theory, argumentation is assigned a dual status. It refers to the process of calculating intra-subjective meaning (Anscombe and Ducrot 1983), and it refers to an intersubjective activity, in and through which situated communicative meaning is negotiated, and discourse coherence is construed accordingly. Argumentation is thus assigned a key function in the internal and external relationships between premises and conclusions. Moreover, the discourse genre of editorial is also a persuasive genre and that is why we expect its producers to strategically employ various cohesive ties which may signify their preferred interpretations. The overt representation of discourse connectives and meta-communicative comments is thus expected to be of great importance, as they make the intersubjective processes of reasoning explicit, signalling how the producer intends her/his local contributions and the overall editorial to be interpreted by the reader. Since the object languages English and German of our contrastive analysis are both Germanic languages and thus related quite closely, we may expect the use of similar cohesive ties for the overt coding of discourse relations (but see Clyne 1987, Fetzer 2005, 2008, House 1996). Both languages did not only develop a system of semantically specified subordinating conjunctions but also a system of discourse markers. Since both Old High German and Old English have had discourse markers, it is likely that the parent language must have already had some of them as well. However, the development of discourse markers followed different paths: in German several classes of particles fulfil the function of a discourse marker (like *ja, doch*, etc.) and are sensitive to discourse relations (among other things; cf. e.g. Brinton 1996, König 1997, Karagjosova 2003, Lenker 2010), discourse markers in English usually come from the class of adverb (e.g., *well, ok, right*) but they may also have a parenthetical-clausal shape (e.g., *I think, you know*).

The goal of this chapter is to analyse the linguistic coding of the discourse relations Continuation, Contrast, Elaboration, Explanation and Comment in the discourse genre of editorial, paying particular attention to their overt coding by discourse connectives and meta-communicative comments in those contexts in which they are positioned adjacently and non-adjacently.[4] To avoid possible overgeneralizations, a comparative analysis of German and British English editorials has been undertaken as the linguistic coding of discourse relations may well be language-preferential, if not language-specific.

The methodological framework of our contrastive discourse-based corpus analysis is an integrated one, supplementing the Segmented-Discourse-Representation-based definition of discourse relation (Asher and Lascarides 2003) with the Systemic-Functional-Grammar concepts of multiple themes and thematic progression, and applying them to a quantitative and qualitative corpus analysis using the pragmatic concepts of inference and implicature, and the discourse-analytic tools of sequencing and coherence. Context is accommodated explicitly in the analysis: social context is accounted for through the discourse genre of editorial, linguistic context is accounted for through adjacency, and cognitive context is accounted for through inference.

The paper is organized as follows: Section 2 examines discourse relations and thematic progression, section 3 analyses adjacency and granularity, section 4 presents the results of the contrastive analyses, followed by the results from the experimental discourse comprehension tasks in section 5, and section 6 summarizes the most important findings.

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[3] Genre has a high impact on the overt representation of cohesive ties, such as the discourse connectives discussed here, see e.g. van der Vliet and Redeker (this volume).
[4] The choice of the relations is motivated by their distribution and overall frequency in the data at hand. Relations which occurred in one editorial only were not considered.

2. Discourse relations and thematic progression

Discourse relations are of key importance to the construal of discourse coherence as they do not only express the nature of the connectedness between the constitutive units of discourse but also signal their sequential ordering with respect to chronology and/or logic. A relation between discourse units may be represented overtly through discourse connectives or meta-communicative comments, and it may be represented non-overtly through coherence strands, such as referential continuity, temporal continuity, spatial continuity and action continuity with respect to the continuity of the illocutions of generic stages which contribute to the overall illocutions and inherent social purpose of a genre.

Discourse semantics as put forward by Segmented Discourse Representation Theory (SDRT) anchors its definition of discourse relation to a hierarchical model of discourse (Asher and Lascarides 2003) and bases its definitions on the unit of semantic proposition and its representation in discourse, viz. utterance. It distinguishes between coordinating discourse relations and subordinating discourse relations whose definition is not based on syntax but rather on their semantics and the pragmatics of information packaging. Prototypical coordinating discourse relations are, e.g., *Narration*, *Continuation,* and *Contrast*, and prototypical subordinating relations are *Elaboration, Explanation,* and *Comment*, to name but the most prominent ones. A more functional conceptualization of discourse relation is promoted by systemic functional linguistics and its differentiation between paradigmatic relations among genres and syntagmatic relations between genres (e.g., Martin and Rose 2008).

In Systemic Functional Grammar (SFG), discourse relations have been examined in the framework of thematic progression, considering the structured interplay of theme and rheme, and their progression in discourse (Bloor and Bloor 1995, Halliday 1994). Theme and its refinement as multiple themes are anchored firmly to the clause, and it is that unit of investigation which is going to be our bridging point between SFG and SDRT. In SFG every clause has thematic structure, and theme is defined as its initial position, while the remainder of the clause is called rheme. Initial positions are of key importance to the analysis of texture and discourse coherence. The initial position as the ''point of departure of the message'' (Halliday 1994, 38) signifies how a preceding clause is to be taken and how the discourse is to proceed. From a SFG-based perspective on discourse, comprising the textual, ideational and interpersonal metafunctions and their local and global instantiations in discourse, themes and their refinement as textual, topical and interpersonal theme express a connectedness between what has just been said or written, thus realizing anaphoric reference to the three metafunctions, and at the same time they express connectedness with what is going to be said or written, thus fulfilling cataphoric reference to the three metafunctions, as is elaborated on in section 2.2.

2.1 Discourse relations

Discourse relations (or: rhetorical relations) have been the subject of several dynamic semantic models, such as Rhetorical Structure Theory (Mann and Thompson 1987, 1988), Discourse Representation Theory (Kamp and Reyle 1993) and, more recently, SDRT (Asher and Lascarides 2003, Asher and Vieu 2005, Benz and Kühnlein 2008). We adopt the latter frame of reference. In SDRT, a Discourse Relation is a function which takes two propositions as its arguments. A Discourse Relation is thus the logical connection between a proposition π^1 as part of a discourse D and some other proposition π^2 in D. The propositions π^1 and π^2 stand in the Discourse Relation R iff the inferences the hearer/reader makes and the logical

connection s/he draws between π^1 and π^2 are in accordance with the ones defined for R. The definitions of the relations relevant to our investigation are as follows:

In an *Elaboration* relation, π^2 offers additional information about one of the referents in π^1. This might be the topic of π^1, but need not be. There is no temporal sequence between π^1 and π^2, rather, π^2 is temporally included in π^1 (Asher and Lascarides 2003,159ff.).

The *Explanation* relation is a special case of Elaboration. Here, π^2 provides the cause or reason for π^1, or at least for a part of π^1. π^2 temporally precedes π^1 (Asher and Lascarides 2003, 159ff.).

A further subordinate, or rather superordinate relation is '$\Downarrow$' (Asher and Lascarides 2003, 146ff.). It is defined as π^2 selecting π^1 as topic. In our research, we use the term *Comment* for this relation.

From the rich array of coordinating relations, only two occur reasonably frequently in the data, namely Continuation and Contrast. *Continuation* denotes a relation in which π^2 shares a common topic with π^1, but does not involve a temporal sequence. It is veridical (Asher and Lascarides 2003, 146). *Contrast* is also veridical; the relations π^1 and π^2 must have similar semantic structures, but there must be a semantic dissimilarity between π^1 and π^2 (cf. Asher and Lascarides 2003, 168).

SDRT is based on the premise that discourse has a multi-layered structure, as is demonstrated in (1).

(1) π^1: Mary went to a restaurant. π^2: It was one of the best Italian restaurants in town. π^3: Mary liked their food very much. π^4: She saw her best friend sitting at a table near the bar.

In (1), π^1 and π^4 share the same topic, they involve a temporal consequence, and they are veridical. Hence, they are in a Narration relation, which is defined like Continuation but additionally involves a temporal sequence, and thus is on the same level of discourse. This is not the case with π^2 and π^3, which do not develop the story line of the discourse any further. Rather, they suspend the main narrative by adding information about the restaurant. Thus, π^2 is an example of Elaboration, π^3 one of Continuation of π^2. They have an insertion-like status, and the inserted information constitutes a sub-discourse which depends on the main discourse but not vice versa. This can be represented graphically as in (2):

(2)

π^1 —— *Narration* ——→ π^4

$\quad\downarrow$ *Elaboration*

$\qquad$ *Continuation*

π^2 ——————→ π^3
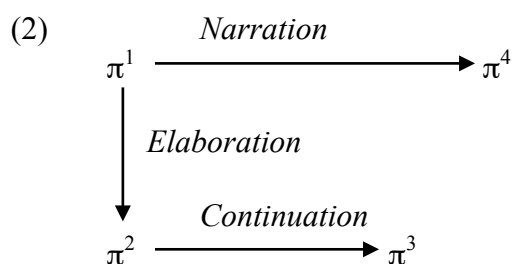
In SDRT, and in other theories of discourse, discourse is not a one-dimensional string of utterances, which progresses thematically, but rather a hierarchically organized system, as has already been pointed out by Grosz and Sidner (1986), for instance. This is of prime importance to our contrastive analysis of the overt and non-overt representation of discourse relations in adjacent and non-adjacent positioning, as it entails that discourse relations do not only hold between directly adjacent propositions, but also between non-adjacently positioned propositions, as has been the case with the Narration relation between two distant propositions, namely π^1 and π^4 in (1).

There is also ample evidence for discourse relations between non-adjacently positioned propositions in naturally occurring discourse. From a theory-driven perspective it would be reasonable to assume that non-adjacently positioned coordinating and subordinating discourse relations are represented overtly by discourse connectives or meta-communicative comments to ensure felicitous communication. In general, if the semantics of the discourse relation is not represented overtly, it must be inferred, adding to the processing load on the side of the reader/hearer. As for (1), the Narration relation holding between π^1 and π^4 could be represented overtly by the discourse connectives *then*, *and then* or simply *and* with the implicatum 'chronological concatenation'. The subordinating relation Elaboration holding between π^1 and π^2 could be represented overtly with a non-defining relative clause and the pronoun *which* or *that*, and the Continuation relation between π^2 and π^3 could be represented by the discourse connective *and*. As the discourse relation of Narration is positioned non-adjacently, a discourse connective or meta-communicative comment would facilitate the construal of discourse coherence. The non-adjacent positioning is indicated by the cohesive link 'the first thing' implying a chronological sequence, which is a necessary condition for the definition of Narration.

Explicit hints, or contextualization cues in interactional-sociolinguistic terminology (Gumperz 1992), which signify how the speaker/writer intends the reader/hearer to connect the propositions, can be represented through word order, especially the sequential organization of the 'theme zone' (Fetzer 2008), or through lexical means, for instance discourse connectives, particles or adverbs, such as *denn, aber, dazuhin* in German, or *because, but, moreover* in English, which are often positioned in the initial position or theme zone, as discussed below.

2.2 Thematic progression and multiple themes

Discourse relations have been examined from a both structural and discourse-semantic perspective in SFG considering cohesion and thematic progression (Bloor and Bloor 1995, Halliday 1994). SFG is anchored to a tripartite system of experiential, interpersonal and textual metafunctions. The experiential metafunction looks upon the clause as representation and is based on its semantic representation within a system of transitivity and thus provides one of the bridging points with SDRT and their semantics-based definitions of discourse relations. The interpersonal metafunction considers the clause as exchange and is based on its modal representation within a system of mood, and is of no immediate relevance to our present analysis. The textual metafunction looks upon the clause as message and is based on its bipolar conception as theme and rheme and their structured interplay within a system of thematic structure. While the experiential and interpersonal metafunctions are primarily discourse-semantic in nature, the textual metafunction is both syntactic and discourse-semantic considering continuative, structural and conjunctive phenomena. The initial position, or theme zone in Hannay's terms (1994), provides the syntactic slot for the overt coding of discourse relations with textual themes (or discourse connectives), as is discussed in the following. In German, the theme zone is somewhat variable with respect to its position, depending on the syntactic status (part of speech, constituent status) of the discourse connective. It can be represented by the *Vorvorfeld*, the *Vorfeld*, or even the left parts of the *Mittelfeld* (on the terms see e.g. Wöllstein 2010). We can say, however, that discourse connectives are positioned as far to the left as the syntactic idiosyncrasies of the lexemes allow in German.

In SFG every clause has thematic structure, and theme is defined as its initial position, while the remainder of the clause is called rheme.[5] In line with the three metafunctions, theme has been further categorised as topical (or experiential) theme, interpersonal theme and textual theme, which are subsumed under the header of multiple themes. They are realized in the theme zone and linearized in the default configuration [[textual theme][interpersonal theme][topical theme]] (cf. Fetzer 2008). A topical theme is a necessary constituent in the configuration of a clause. It is defined as the first element in the clause carrying ideational meaning and can be seen as functionally equivalent to topic in the topic-comment paradigm. Textual and interpersonal themes are optional elements in the configuration of a clause. Regarding their status in a discursive frame of reference, however, they need to be considered as necessary parts. Hence, topical themes, which are underlined in (3) and (4), need to be represented overtly, while textual themes printed in bold, and interpersonal themes printed in bold italics, that is the textual themes **yet** and **that** in (3) and (4), and the interpersonal theme ***true or not*** in (4), can be represented overtly or non-overtly, as is illustrated with the following examples (3) and (4) from the Corpus of British editorials. If the textual and interpersonal themes were only implied, the propositional content of the clause would not change:

(3) **Yet** <u>the underlying truth</u>, visible even in the 2005 election, is **that** Britain long ago fell out of love with Mr Blair. (BLAIR)

(4) ***True or not***, <u>a full year on</u>, Hurricane Katrina should continue to cause outrage about the rottenness and misery of the lives still lived in <u>what</u> Michael Harrington once famously called "the other America". (KATRINA)

Based on the structured interplay of theme and rheme, thematic progression has been further refined with respect to more linear and more hierarchical orderings of discourse, viz. constant theme patterns, linear theme patterns, split rheme patterns and derived themes (Bloor and Bloor 1995). Constant-theme-patterned discourse and linear-theme-patterned discourse are straightforwardly unfolding types of discourse with chronological and logically ordered story lines, and split-rheme-patterned discourse and derived-theme-patterned discourse are more complex types of discourse and may display non-chronological story lines with sub-discourses. In real-world discourse, it is more appropriate to consider the two types of thematic progression as scalar concepts with more or less chronologically and logically ordered discourses, as is the case with excerpts (3) and (4), and more complex types of discourse.

Thematic structure refers to the structured interplay between theme and rheme, which is based on direct adjacency, while multiple themes and thematic progression feed on both directly adjacent and non-adjacent relations. The latter provide another bridging point between SDRT and SFG, and are thus of relevance to our empirical analysis of British and German editorials.

In the following the fundamental concept of adjacency, which has so far been used in its structural meaning only, will be further refined for our contrastive analysis.

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[5]The definition of theme and rheme in SFG is based on syntax only. For this reason, it is not a functional synonym for the information-structure and information-packaging based concept of topic, which encodes a relation of aboutness in discourse, and its counterpart, the comment. Theme and topic, and rheme and comment may conflate, but they do not need to (cf. Gómez-González 2001, Krifka and Féry 2008).

3. Adjacency and granularity

Adjacency is a fundamental notion in linearization and is thus of particular importance to the ordering of parts (or constituents) and their sequential status in a whole. Depending on the unit of investigation, those parts may refer to phonemes, morphemes, phrases, clauses, sentences, paragraphs, episodes or even texts, they may be speech acts, or they may be social actions and turns, sequences or conversations. Against this background, the concept of adjacency is connected intrinsically with granularity: the conversation-analytic conception of adjacency pair is based on the units of turn and social action, and in syntax, adjacency is anchored to two constituents, such as NP, VP or ADV, which may be positioned adjacently or non-adjacently. In the following, the nature of the connectedness between adjacency and granularity is examined by teasing the two apart.

3.1 Granularity

In the discussion of discourse above, discourse has been described as some unit 'above the sentence', and based on that description, the unit of investigation of discourse has generally been the sentence. For the analysis of the German data the sentence as the basic unit of investigation is straightforward. This is because in German, unlike in English, subordinate clauses tend to be 'embedded'. Following Reis (1997), embedded clauses need to be positioned in a structural slot (complement, specifier, adjunct) within the verb phrase. There are certain diagnostics for embeddedness, such as free positioning within the clause, especially in the *Vorfeld* (that is, the zone before the finite verb in German main clauses), long *wh*-movement (which in English works only for complement clauses, hence the others are putatively non-embedded), variable binding into the superordinate clause. What is of relevance to our analysis is the following: since embedded clauses in German cannot form a separate focus unit, they are part of the information unit of their matrix clause, and since they cannot assign a nucleus of their own, they are a part of the intonation contour of the matrix clause (cf. e.g., Reis 1997). This shows that the sentence-as-a-whole functions as a prototypical information unit in Modern German.[6] In earlier stages of German, when adverbial clauses were not embedded as deeply as they are in Modern German, clauses were independent informational units (cf. Speyer 2010). English seems to share the patterns rather with the earlier stages of German in that respect, where clauses, not sentences, are seen as prototypical information units.

For the British data, an analysis of the data based on the unit of a sentence only did not provide any satisfactory results. This is because "[t]he notion 'sentence' is particularly polysemous since it can refer both to the simple clause ('simple sentence') and to the clause complex ('complex sentence'). Furthermore, the notion of sentence is often understood in terms of 'orthographic sentence'. It is therefore not surprising that the notion of sentence has been discarded or critically reviewed in recent literature" (Esser 2006, 43).

The question of granularity has also been addressed in functional-grammar-based analyses of English (e.g., Givón 1993, Quirk, Greenbaum, Leech and Svartvik 1985, Halliday 1994), and in studies focussing on representation in language, as for instance, Esser (2006, 12-13):

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[6] The dividing line is actually not between sentence and clause, but between embedded clauses on the one hand and non-embedded clauses (including matrix clauses) and non-embedded clauses functioning as independent discourse units on the other. The subordinate clauses in the texts were all embedded, so the distinction is not relevant here. The relative independence of non-embedded clauses shows in their positional restrictions (only postponed possible), their independent illocutionary potential, and their prosodic properties mentioned in the text. So the relevant discourse unit is to be defined as: matrix clauses and non-embedded subordinate clauses including their respective embedded clauses.

The choices which directly affect the sentence structure have the clause as a central unit. Internally, this is a configuration of functional elements occurring in a specified basic pattern, e.g. SV, SVO, SVC, SVA, SVOO, SVOC, SVOA , cf. Quirk et al. (1985: 53). With the exception of the V-element all clause elements can be subject to recursive embeddings of new clauses. Embeddings and structural changes of the basic patterns affect the length, complexity and arrangement of the clauses or clause complexes.

Granularity is connected intrinsically with adjacency as has been seen in the configuration of functional elements. However, adjacency is a far more complex concept, as is examined below.

3.2 Adjacency

Adjacency seems to be a fairly straightforward notion, if considered from a syntactic perspective as regards the concatenation and linearization of syntactic units. From a context- and discourse-based perspective, however, adjacency turns out to be rather complex comprising adjacency position, adjacency relation and adjacency expectation (cf. Levinson 1983, Schegloff 1995). In a pragmatics-based theory of discourse, adjacency is one of the most fundamental discursive relations holding between the constitutive parts of discourse and discourse-as-a-whole, relatively speaking, that is local and not-so-local parts, and local and not-so-local wholes. Adjacency relations holding between adjacently positioned units, and adjacency expectations resulting from those configurations are of prime importance to account for the relevant inference processes involved in the construal of discourse coherence of local and not-so-local discourse units, whose order of inclusion corresponds to the order of accessibility (cf. Sperber and Wilson 1986), which is an adjacency relation par excellence.

Adjacency position is a structural notion which occurs at any stage in the process of linguistic linearization. We are interested here mostly in supra-syntactical adjacency, that is, not adjacency within the clause/sentence as the basic unit of syntactic organisation, but in adjacency amongst clauses/sentences beyond syntactic derivation. Adjacency has been analysed thoroughly in the research paradigm of ethnomethodological conversation analysis with respect to the sequential organization of conversation (cf. Sacks 1995), describing conversational patterns in adjacently positioned opening, closing and topical sections. Local adjacency is anchored to the concept of adjacency pair, that is, patterned co-occurrences of two social actions produced by different speakers, such as greeting and greeting, request and acceptance/refusal, offer or invite and acceptance/refusal; assessment and agreement /disagreement, and question and expected answer/unexpected answer or non-answer (cf. Sacks 1995, Levinson 1983, 336). The second parts of the adjacency pairs just listed are not of equal standing. They sub-classify in preferred and dispreferred seconds, as has been examined in the framework of preference organization by Pomerantz (1984), for instance. The classification as preferred and dispreferred second is not based on the interlocutors' psychological disposition, but rather on structural and distributional features and hence is connected closely with the linguistic concept of markedness (cf. Levinson 1983, 307).

Adjacency relation refines structure-based adjacent positioning by considering the semantic and pragmatic nature of the connectedness between two adjacently positioned parts. The semantics of the connectedness can be made explicit by a discourse connective, as is the case with additive *and* or causal *because,* for instance, or it may be assigned a presuppositional status and thus would need to be inferred. Adjacency relation may have a narrow scope and be assigned the status of a local constraint, as is the case with adjacently positioned discursive units, and it may have a wider scope and be assigned the status of a less-

local constraint, as is the case with insertion sequences and topical digression. Adjacency relation is not only of great importance to thematic progression but also for the dynamics of discourse. Closely related to the concept of adjacency relation is the notion of adjacency expectation.

The cognitive concept of adjacency expectation is a discourse notion par excellence. It is the foundation against which two adjacent utterances may be classified as a particular adjacency pair with a preferred or dispreferred second, or against which a discourse relation holding between two utterances may count as Elaboration or Explanation, or as Narration or Continuation. The discourse relation holding between the two units [*Susan bought a sandwich*] [*She was hungry*] counts as Explanation because the second part is interpreted as providing a reason for the action performed in the first part, while the relation between [*Susan bought a sandwich*] and [*It was vegan*] counts as Elaboration because the second part is interpreted as expanding on the first part. A similar line of reasoning holds of the interpretation of narrative and continuative relations. In Narration, the second part is interpreted as an event which is temporally subsequent to the event described in the first part which is not necessary for Continuation.

Adjacency does not only comprise the conversation-analytic conception of adjacency holding between turns, that is to say adjacency pair / position / relation / expectation, which has been discussed above. It may also refer to the discourse-internal concatenation of utterances, which is of key importance to our analysis of discourse relations. This is because syntax-based adjacency, that is adjacency position, does not only open up a structural slot for a prior discourse unit and for a succeeding discourse unit. It also signals a discourse-semantic type of connectedness, as is reflected in the discourse relations of Continuation or Contrast, for instance. The relation of Continuation can be made explicit by the overt representation of a discursive move, e.g. *the following utterance is going to resume the argument* , it can be represented by a multi-functional discourse connective, e.g. *and*, and thus left underspecified, and it can be left empty. As regards the latter two modes of representation, the discourse relation needs to be pragmatically enriched through inference.

Building on the tripartite differentiation of adjacency as adjacency position, adjacency relation and adjacency expectation, we hypothesize that there are preferred contexts in which the semantics of a discourse relation is made explicit by the overt representation of an argumentative move or by a discourse connective. Those contexts, we assume, are defined by the constraint of structural non-adjacency. Spelling out the nature of the connectedness between non-adjacently positioned utterances facilitates discourse production and discourse processing. Against that background, discourse relations which are anchored to two directly adjacent discourse units and in which adjacency position and adjacency relation conflate, tend to be a straightforward matter with respect to production and processing. They can generally be processed without the accommodation of extra contextual information, and the information contained in them and communicated through them can be attributed directly to discourse common ground. In that scenario, the type of discourse relation is usually not represented overtly but rather is implicit. It thus needs to be inferred from the local linguistic context coded in the semantics of the lexical units and the syntactic configuration of the discourse unit.

In discourse it is also possible that adjacency position neither conflates with adjacency relation nor with adjacency expectation, as is the case with ad-hoc side sequences in spoken discourse, which are generally introduced with *by the way*, or ad-hoc follow-ups signalled by *coming back to what we discussed before*, for instance. In that kind of scenario, we assume that discourse relations also tend to be represented overtly in written discourse in order to facilitate discourse production and discourse processing (cf. Liedtke 1997). Against this background, discourse connectives may be assigned the status of some kind of indirect directive, requesting the hearer/reader to perform inferences of a certain kind. For instance,

the discourse connective *but* may signify an upcoming contrastive context and request the hearer to perform the corresponding inferencing processes to accommodate the incongruent information introduced by 'but'. Or, the discourse connective *in addition* may signify another argument in a line of arguments with a stronger force, requesting the hearer to perform the corresponding inferencing processes.

To shed more light on the theoretical concepts of discourse, discourse relation and adjacency, and on their overt and non-overt representation in particular discourses, a contrastive analysis of editorials is undertaken in order to avoid a possible bias resulting from language-specific preferences for representing discourse relations overtly and non-overtly. We argue that the overt representation of a discourse relation does not only depend on its semantics but also on its locality, that is to say its structural positioning as directly adjacent and as non-directly adjacent.

4. Contrastive analysis of English and German argumentative discourse

In contrastive analysis "any two objects can be compared with respect to various features and they may turn out to be similar in some respects but different in others" (Krzeszowski 1989, 60). For instance, the contrastive conjunct *but* and its German counterpart *aber* may have similar sentential/clausal positions in English and German, but they may be different in their distribution in negative and non-negative contexts. To be compared in a felicitous manner, the phenomena at hand need to have at least some features of similarity (Chesterman 1998).

This study of discourse relations in English and German argumentative discourse starts off with a quantitative analysis of the two sets of data. Adopting the three classical steps of description, juxtaposition and comparison (Krzeszowski 1989, 57) to identify cross-linguistic similarities and differences, we additionally examine the embeddedness of the discourse relations in their local and not-so-local contexts, paying particular attention to granularity and adjacency. The two sets of data share similar contextual features: they are instances of written argumentative media discourse.

Our corpus contains 24 written editorials: 9 British editorials adopted from the quality newspaper *The Guardian* with 4,826 words, 192 sentences and 596 clauses, and 15 German editorials taken from the quality newspaper *Frankfurter Rundschau* with 4,784 words in 258 sentences. The data are manually tagged for discourse relations and discourse connectives positioned in the theme zone and then hand-counted in order to capture subtle aspects of analysis. In spite of the corpora's limited size, we expect to find patterned co-occurrences of discourse connectives depending on (1) the semantics of the discourse relation, and (2) adjacent and not-adjacent positioning.

4.1 The British editorials

The British data comprise 9 editorials with an overall of 192 sentences (S) and a mean of 21.33 sentences per text. They contain an overall of 596 clauses (C) and a mean of 66.22 clauses per text. The quantitative analysis of the British editorials has focused on the identification of the coordinating discourse relations of *Continuation* (CONTIN) and *Contrast* (CONTR), and on the subordinating discourse relations of *Elaboration* (ELABOR)*, Explanation* (EXPLAN) and *Comment* (COMM).

For the sentences, the discourse relation of Continuation is the most frequent one in 6 of 9 editorials, while in the other editorials the subordinating discourse relation of Elaboration is more frequent in two texts, and the discourse relation of Comment in one text. Explanations are used in three editorials only. As regards distribution across the British data, there are 40.6% Continuations, 28.6% Elaborations, 10.4% Contrasts, 11.4% Comments, and 4.1%

Explanations. For the clauses, the discourse relation of Elaboration is the most frequent one in all 9 editorials. As regards distribution, there are 54.5% Elaborations, 26.6% Continuations, 6.7% Contrasts, 6.7% Explanations, and 4.5% Comments. The results for the units of investigation of S and C are summarized in table 1; the results for each editorial can be found in the appendix in table E_1.

Table 1: Distribution of the most common discourse relations, English data

	Sentences	Clauses
CONTIN	78 (40.6%)	159 (26.6%)
CONTR	20 (10.4%)	40 (6.7%)
ELABOR	55 (28.6%)	325 (54.5%)
EXPLAN	8 (4.1%)	40 (6.7%)
COMM	22 (11.4%)	27 (4.5%)

The distribution of discourse relations across the editorials provides some interesting tendencies indicating a preference for the discourse relations Continuation and Elaboration. However, it is their overt (ov) and non-overt (non) representation which is of prime interest to our contrastive analysis of British and German texts. The results obtained are systematized in table 2; the results for each editorial can be found in the appendix in table E_2.

Table 2: Overt and non-overt representation of discourse relations, English data

	S_{ov}	S_{non}	C_{ov}	C_{non}
CONTIN	14 (17.9%)	64 (82.1%)	42 (26.4%)	117 (73.6%)
CONTR	20 (100%)	0	40 (100%)	0
ELABOR	15 (27.2%)	40 (72.8%)	250 (76.9%)	75 (23.1%)
EXPLAN	0	8 (100%)	15 (37.5%)	25 (62.5%)
COMM	5 (22.7%)	17 (77.3%)	4 (14.8%)	23 (85.2%)

Research on the primarily overt representation of the discourse relation of Contrast in English discourse (Doherty 2003, Fetzer 2008) is confirmed by our analysis, where not a single occurrence of non-overt representation has been found. All of the other discourse relations under investigation are represented more frequently in a non-overt manner on the level of sentence. The discourse relation of Explanation with its function of signifying causality is only represented non-overtly on the level of sentence, and its preferred representation on the level of clause is also non-overt with only 37.5% Explanations represented overtly.

As regards their distribution across the British editorials, there are 17.9% overt Continuations on the level of sentence and 26.4% overt Continuations on the level of clause, and 82.1% non-overt Continuations on the level of sentence and 73.6% non-overt Continuations on the level of clause. For both units of investigation the non-overt representation of Continuation is preferred. This also holds for Comments with 77.3% represented non-overtly for sentences and 85.2% represented non-overtly for clauses. However, things are different for Elaborations. Here, the overt representation is preferred for the unit of clause with 76.9% overt Elaborations for clauses but only 27.2% overt Elaborations for sentences. For sentences, 72.8% Elaborations are represented non-overtly, but only 23.1% Elaborations are represented non-overtly for clauses. Thus, there is a clear preference for the overt representation of Elaborations on the level of clause.

The primarily quantity-based analysis of the overt and non-overt representation of discourse relations is refined by the explicit accommodation of context, investigating the question whether directly adjacent (ADJ) or non-directly adjacent (-ADJ) positioning of

sentences connected with a particular discourse relation has a decisive influence on its overt or non-overt representation. The results for overtly coded discourse relations in -ADJ positioned discourse relations are systematized in table 3. The results for each editorial can be found in tables E_3 and E_4 in the appendix.

In the data at hand only the coordinating discourse relation of Continuation is positioned non-adjacently across all editorials. There are 38.4% non-adjacent and 61.6% adjacent Continuations with 20% of the non-adjacent Continuations represented overtly for the level of sentence. For clauses, the situation is quite similar with only 28.5% of the non-adjacently positioned Continuations represented overtly. The subordinating discourse relations of Comment and Elaboration are positioned non-adjacently in one editorial each: for sentences, non-adjacent Comments are represented non-overtly only. Non-adjacent Elaborations are represented overtly only for sentences, and for clauses merely 66.6% are represented overtly. Non-adjacent Explanations are found for clauses only and all of them are overt.

The tendency to represent discourse relations which are positioned non-adjacently in an overt manner is more pronounced for Continuations and Elaborations for both sentences and clauses, and for Explanations for clauses. For Continuations there are only 16.6.9% overt representations for adjacent sentences but 20% for non-adjacent sentences; on the level of clause, the increase is rather marginal with 16.6% overt representations for sentences and 23.5% for clauses. For Elaborations there are only 27.7% overt representations for adjacently positioned sentences but 100% for non-adjacently positioned sentences, and 77.0% for adjacent clauses and only 66.6% for non-adjacently positioned clauses. For Explanations, there are 35.8% overt representations in adjacently positioned clauses and 100% in non-adjacent clauses.

In the data at hand, the continuative, explanatory and comment discourse relations are more frequently signalled by lexical coherence, while contrastive and elaborative discourse relations are signalled more often through discourse connectives.

4.2 The German editorials

The analysis of German argumentative discourse is based on 15 editorials of varying length, containing 258 declarative verb-second sentences (V2-S) that bear a discourse relation to a preceding sentence in total. The quantitative analysis of the German editorials is given in whole in table G_4 in the appendix; a digest is in table 4 below. A comparison between the digest and the full version reveals that there are significant differences between the texts; the overall distribution of discourse relations in the whole corpus is however somewhat mirrored in each text.

Table 4: Distribution of the most common discourse relations, German data

	V2-S
CONTIN	31 (11.7%)
CONTR	42 (15.8%)
ELABOR	65 (24.5%)
EXPLAN	30 (11.3%)
COMM	11　(4.2%)

Only main clauses are taken into consideration for the analysis of discourse relations because the overt representation of discourse relations between subordinate clauses and their matrix clause is obligatory in German where it is coded by the choice of the complementizer. The syntactic unit of sentence as unit of investigation has never been controversial in any analysis

of German. Besides, subordinate clauses do not play a very important role in the German data, as can be seen in the ratio in the randomly chosen text 'Menetekel für die Zukunft' which contains 25 main clauses, 17 subordinate clauses, of which 2 are control infinitives, 10 are relative clauses and 2 are adverbial participle constructions. Hence, it is not necessary to determine the discourse relation between clauses, which are embedded so deeply. The only class of subordinate clauses in which discourse relations might be determined are adverbial clauses, but they tend to be deeply embedded in German as well. In the text at hand there are only 3 adverbial clauses (2 temporal, 1 conditional), and they are all embedded.

If we look at the frequency of the discourse relations, we can see that Elaboration is either the most frequent relation or is in a tie for first place with other relations in 9 of the 15 texts. Explanation is the most frequent relation in 3 texts. As regards coordinating relations, Contrast is the most frequent relation in 4 of the 15 texts, or it is in a tie, whereas Continuation is the most frequent relation in 1 text only.

The second step is to look for overt representation of the relations. Table G_5 in the appendix adds this parameter to the results reported in table 4; a digest of table 5 is given below.

Table 5: Overt and non-overt representation of discourse relations, German data

	S_{ov}	S_{non}
CONTIN	6 (20.0%)	24 (80.0%)
CONTR	33 (78.6%)	9 (21.4%)
ELABOR	17 (26.2%)	48 (73.8%)
EXPLAN	11 (36.7%)	19 (63.3%)
COMM	9 (81.8%)	2 (18.2%)

As regards their overall mean, per text there are 0.4 overt and 1.6 non-overt Continuations, 2.2 overt and 0.47 non-overt Contrasts (not displayed in table 5), 1.13 overt and 3.2 non-overt Elaborations, 0.73 overt and 1.27 non-overt Explanations, and 0.6 overt and 0.13 non-overt Comments (see Table 6). The numbers are for sentences alone. We can see that some relations seem to be represented overtly in any context in the data at hand. This goes for Contrast and Comment. The preference for Contrast to be represented overtly is in line with the English data. The relation Explanation is also represented overtly fairly frequently, which is in contrast to the English data where Explanation is represented non-overtly throughout. Continuation and Elaboration are not very frequently represented overtly in the German data.

As has been the case with the British data, there is a strong correlation between the overt representation of a discourse relation in a discourse unit and the locality of the discourse unit standing in relation to the discourse unit under consideration. Plainly speaking: If a discourse unit A, represented (in German at least) by a sentence S^A, stands in a relation to a discourse unit B, expressed by a sentence S^B that does not immediately precede S^A, but that is separated from S^A by at least one discourse unit, the readiness to represent relations overtly is much more developed. This ties in with the result in van der Vliet and Redeker (this volume) for Dutch that connectives can mark relations higher up in the RST tree. Table 6 gives the numbers for the relations investigated in this study.

Table 6: Rate of overt marking, German data

		OVERT	NON-OVERT	TOTAL	RATE OF OVERT MARKING
Adjacent	coord	29	28	57	50.8 %
	contin	5	22	27	18.5 %

	contr	24	6	30	80.0 %
	subord	26	67	93	28.0 %
	elabor	7	46	53	13.2 %
	explan	10	19	29	52.6 %
	comm	9	2	11	81.8 %
	Total	55	95	150	36.7 %
Non-adjacent	coord	10	3	13	76.9 %
	contin	1	2	3	33.3 %
	contr	9	1	10	90 %
	subord	11	2	13	84.6 %
	elabor	10	2	12	83.3
	explan	1	0	1	100 %
	comm	0	0	0	-
	Total	21	5	26	80.8 %

It is obvious at first glance that the ratio of overt marking is dramatically higher if the antecedent partner of the relation pair is non-adjacent. This is true for all relations, however with varying degrees. Relations that are represented overtly regularly, such as Contrast, show only a slight increase (80 % in adjacent pairs, 90% in non-adjacent pairs) whereas others that tend to be left unmarked when in adjacent positioning show a clear increase: Continuation is represented overtly in 18.5 % of adjacent cases, but in 33.3 % in non-adjacent cases, which is an increase by the factor 1.8. Even more dramatic, Elaborations, that are left unmarked in adjacent positioning in 13.2 % of cases, are represented overtly in 83.3% of cases where the partner is non-adjacent. This is an increase by the factor 6.3.

4.3 Comparison between German and English editorials

German and English argumentative discourse have a quite different distribution of discourse relations, as can be seen from table 7. Table 7 shows the means of relations per text in the German and English data. To have a more balanced comparative analysis, the German numbers have been multiplied by 1.67, the result are the virtual means that would hold if the number of texts in German had also been 9 as in the English data (this is the column 'German corrected). The comparison is done by ratios (that is, by which factor the corrected number for German was multiplied in order to obtain the English number), separately for English clauses and sentences.

Table 7: Mean distribution of discourse relation in English and German data compared

		English (sentence)	English (clause)	German (sentence)	German corrected	Ratio Engl. (sent.) to German (sent.)	Ratio Engl. (cl.) to German (sent.)
CONTIN	ov	1.55	1.66	0.4	0.67	2.31	2.48
	non	7.11	13	1.6	2.67	2.67	4.87
	total	8.66	14.66	2.0	3.33	2.61	4.40
CONTR	ov	2.22	4.66	2.2	3,67	0.60	1.27
	non	0	0	0.47	0.78	0	0
	total	2.22	4.66	2.67	4.45	0.50	1.05
ELABOR	ov	1.66	7.77	1.13	1.88	0.88	4.13

	non	4.44	8.33	3.2	5.33	0.83	1.56
	total	6.1	16.1	4.33	7.22	0.84	2.23
EXPLAN	ov	0	1.66	0.73	1.22	0	1.36
	non	0.88	2.77	1.27	2.12	0.42	1.31
	total	0.88	4.43	2.0	3.33	0.26	1.33
COMM	ov	0.55	0.44	0.6	1	0.55	0.44
	non	1.88	2.55	0.13	0.22	8.55	11.59
	total	2.43	2.59	0.73	1.22	1.99	2.12

We can see that German has a relatively even distribution, roughly 7 Elaborations per texts, 4 to 5 Contrasts per text, 3 Continuations and 3 Explanations per text and 1 Comment per text. In English, however, taking sentences into account, Continuation is much more common (8 to 9 instances per text, that is 2.31 times more frequent than in German). Comment is somewhat more common (2 to 3 per text, which is almost double compared to German) whereas the other relations are less frequent than in German: 6 Elaborations (0.84 times higher than in German), 2 Contrasts (half as frequent as in German) and 1 Explanation, which is almost a quarter of the German mean.

However, the two sets of data have similar preferences for the overt coding of the discourse relation of Contrast, and the preferred non-overt representation of Continuation, Elaboration, Comment and Explanation, as is systematized in table 8.[7]

Table 8: Preferences for overtly represented relations, English and German data compared[8]

British data (sentence)	British data (clause)	German data (sentence)
28.6% elaboration (2nd)	54.5% elaboration (1st)	24.5% elaboration (1st)
72.8% non-overt	23.1% non-overt	73.8% non-overt
40.6% continuation (1st)	26.6% continuation (2nd)	11.7% continuation (3rd)
82.1% non-overt	73.6% non-overt	80% non-overt
10.4% contrast (4th)	6.7% contrast (3rd)	15.8% contrast (2nd)
100% overt	100% overt	78.6% overt
4.1% explanation (5th)	6.7% explanation (4th)	11.3% explanation (4th)
100% non-overt	62.5% non-overt	63.3% non-overt
11.4% comment (3rd)	4.5% comment (5th)	4.2% comment (5th)
77.3% non-overt	85.2% non-overt	81.8% non-overt

On the level of clause, Elaboration is also the most frequent discourse relation in the British data. The use of this discourse relation demonstrates a decisive difference between British and German editorials with respect to the relevant unit of description. Whereas Elaboration in the English data is mostly a relation between clauses, it is an important relation between sentences in German, where the sentence as a hierarchical structure composed of clauses is a more fundamental unit. In the German data, Elaboration can even hold between two non-adjacent sentences (see table 9).

The differences between the preferred overt and non-overt representation of discourse relations across the two sets of data does not really show significant differences. As regards the overt and non-overt representation of discourse relations in non-adjacent contexts, however, there are further differences, as systematized in table 9.

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[7] A similar result is reported in van der Vliet and Redeker (this volume) for Dutch: Semantic relations, among which is Contrast, are more prone to be represented overtly than Expansion relations such as Continuation (Conjunction in RST) or Elaboration. That the overt representation of contrastive relations is essential is known from e.g. Soria and Ferrari (1998) and also visible in Schiftner (this volume).
[8] The rank of the discourse relations is given in brackets.

Table 9: Preferences for overtly represented relations and adjacency

Relation, overtness	British data (sentence)	thereof non-adjacent	British data (clause)	thereof non-adjacent	German data (sentence)	thereof non-adjacent
continuation	40.6%		26.6%		11.7%	
					20%	
				61.9 %	80%	100 %
				53.8 %		16.7 %
overt	17.9 %	42.8 %	26.4 %	61.9 %	20 %	100 %
non-overt	82.1 %	37.5 %	73.6 %	53.8 %	80 %	16.7 %
comment	11.4%				4.2%	
	22.7%				81.8%	
	77.3%	0 %			18.2%	22.2 %
overt		5.8 %				0 %
non-overt						
elaboration			54.5 %		24.5%	
			76.9%		26.2%	
			23.1%	0.8 %	73.8%	58.8 %
overt				1.3 %		4.2 %
non-overt						

The percentages are to be read as follows, illustrated with the example of 'British data (sentence), continuation (top row, left column): 40.6% of all sentences are continuations (taken from Table 1). Of those, 17.9% show an overt marking of continuation, whereas 82.1% do not (see Table 2). Of the overtly marked Continuations, 42.8% are non-adjacent, that is: the most prominent relation holding with a discourse unit other than the immediately preceding one. And of the non-overtly marked Continuations, 37.5% are non-adjacent.

While all of the overtly coded Continuations are non-adjacent in the German data, only 61.9% are non-adjacent in the British data (clauses). As regards Comments, approximately a quarter of the discourse relation is coded overtly in German, which is not the case in the British data. There does not seem to be any connectedness between the overt coding of Comment and its positioning in discourse. As regards Elaborations, there is a similar pattern in the German data: almost 60% of the non-adjacent Elaborations are coded overtly. Does that pattern also hold for the clause-based analysis of the British data?

There is a difference between the overt coding of Continuations as regards discourse relations holding between sentences and clauses in the British data. This is particularly true if finite and non-finite contexts are accommodated explicitly in the analysis, as is systematized in table 10 for the 26.6% of the Continuations found in the data. As regards their overall distribution on the level of clause, more than half of the overtly coded Continuations are non-adjacent. There are a total of 42 overtly coded Continuations, and 26 occur in non-adjacent contexts: 25 (96.2%) of them occur in finite contexts and only 1 (3.8%) occurs in a non-finite context. There are a total of 117 non-overtly coded Continuations, and 63 (53.8%) are positioned non-adjacently, and all occur in finite contexts:

Table 10: Non-adjacent Continuations in British data: finite and non-finite contexts

British data (clause)
26.6% CONTINUATION
overt: 96.2% finite
overt: 3.8% non-finite
non-overt: 100% finite
non-overt: 0% non-finite

The overall rate of overt representation across the two sets of data is systematized in table 11.

Table 11: Rate of overt representation in comparison, all relations

		RATE OF OVERT MARKING (S / C) BRITISH	RATE OF OVERT MARKING (S) GERMAN
Adjacent	coord	41.1% / 51.8%	46%
	subord	24.0% / 72.5%	29%
	Total	31.7% / 67.3%	39%
Non-adjacent	coord	20% / 28.5%	68%
	subord	50% / 22.5%	85%
	Total	22.5% / 27.8%	74%

The rate of overt marking for adjacently positioned coordinating relations is higher in the German data, where almost half of the coordinating relations are represented overtly. The rate is lower in the British data, and there is only a 10% difference between the overt representation of adjacently positioned discourse relations holding between clauses and sentences. As regards adjacently positioned subordinating discourse relations, a different pattern appears: the overt representation of subordinating discourse relations is lower than the overt coding of coordinating discourse relations in the German data.

In the British data, there is a clear difference between the overt coding of subordinating discourse relations anchored to clauses and sentences: while almost three quarters of the subordinating discourse relations are coded overtly in adjacent positioning for clauses, only roughly a quarter are coded overtly in non-adjacent positioning; it is just the opposite for sentences with 50% of the non-adjacently positioned subordinating discourse relations being coded overtly, as is systematized in table E_4 in the appendix.

The rate of overt marking for non-adjacently positioned discourse relations shows a clear preference for both coordinating and subordinating relations in the German data, and a less clear preference for the coordinating relations in the British data for clauses. Only 20% of the non-adjacently positioned coordinating relations are coded overtly for discourse relations across sentences, and only 28.5% are coded overtly for non-adjacent coordinating discourse relations across clauses. Fifty percent of the non-adjacently positioned subordinating relations for sentences are coded overtly, but only 22.5% for clauses. There seems to be a preference for coding discourse relations through lexical coherence in non-adjacent positioning for clauses.

In the following the results of a follow-up discourse-comprehension experiment motivated by the results of the contrastive analysis is presented. It is based on one British and one German editorial, and on four fabricated texts with overtly and non-overtly represented discourse relations in adjacent and non-adjacent positioning.

5. Experimental discourse comprehension

From a theory-driven approach to discourse comprehension, the overt representation of discourse relations is expected to facilitate the processing of discourse (see Degand, Lefèvre and Bestgen 1999 and former studies cited there). This seems especially relevant to those discursive contexts in which discourse relations are positioned non-adjacently, as here the relation is not as easy to identify, given that the relevant antecedent is not immediately evident. Our corpus-based study identified a number of differences in the overt and non-overt representation of discourse relations. These results have been tested in our experimental discourse comprehension task. Thus, evidence from corpora, being reflexes of mediated language production, has been complemented by immediate production and comprehension tasks.

The experimental set up combines these two kinds of evidence. For the discourse-comprehension experiment, one German and one British editorial were selected. The texts were manipulated with respect to two parameters: overt representation and adjacency. The combination of the two parameters resulted in four manipulated texts with (1) discourse relations only between adjacent discourse units in which all discourse relations are represented overtly, (2) discourse relations only between adjacent discourse units with no overt representation of discourse relations, (3) discourse relations holding between non-adjacently positioned discourse units in which all discourse relations are represented overtly, and (4) discourse relations holding between non-adjacently positioned discourse units and in which discourse relations are represented non-overtly. The participants were given one of these variants and instructed to read the text and then to write a summary. They were given 6 minutes for the comprehension task and another 6 minutes for the production task.[9] We hypothesized that the production task was influenced by the two parameters, the overt representation of the discourse relation and the adjacent positioning, viz. subjects should be more ready to represent relations overtly if they were represented overtly in the text – and that they should be more willing to use an explicit expression for discourse relations when summarizing the versions that had a non-linear argumentative pattern.[10]

The experiment was conducted with German native speakers (students; n = 36) and English native speakers (students; n = 36). Let us first turn to the German results. Table 12 shows that the expectation is borne out. The numbers are the counts and percentages of explicit realization of the discourse relation, the columns and rows represent the parameters of the text versions they had to summarize. For the same reasons as in the corpus study, only main clauses are taken into account (in the summaries, there were very few subordinate clauses anyway).

Table 12: Ratio of overt representations in the German production experiment

	produced	original all relations adjacent	original with non-adjacent relations
original with overt	overt	15 (35 %)	15 (38 %)
	non-overt	28 (65 %)	25 (63 %)

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[9] As we did not test for comprehension versus processing, as Degand, Lefèvre and Bestgen (1999) do, we chose a different set up. We took for granted their result that overt representation of discourse relations does not lead to 'shallow' comprehension, but that the comprehension of texts was equally good in the presence and absence of discourse relation markers, respectively.

[10] Note that all of these text versions were globally coherent to an equal degree; the non-adjacency of prominent discourse relations contributes to the local, but not to the global coherence (see e.g. Schiftner, this volume). So we would not expect a similar outcome as in Schiftner's (this volume) study on the relationship between the overt representation of discourse relations and the degree of global coherence..

realizations	*Total*	*43*	*40*
original with	overt	11 (29 %)	16 (31 %)
non-overt	non-overt	27 (71%)	35 (69 %)
realizations	*Total*	*38*	*51*

The effect is not very strong, but we see that (1) the subjects are slightly more likely to represent relations overtly when they had to summarize versions that made consistent use of overt representation (top rows versus bottom rows), and (2) the subjects represented the relations slightly more often overtly in texts with non-local dependencies (left versus right column). The numbers in table 12 are given for sentences alone. The participants did not use subordinate clauses very frequently in their summaries. This is telling, as it corroborates the assumption that the relevant discourse unit for argumentative progression is the sentence in German.

Similar results have been obtained in the experiments with the English subjects. For clauses, there is an almost even distribution of overtly and non-overtly realized discourse relations (rows 4 and 6) in the context of overtly realized discourse relations in the originals, irrespective of their local dependencies. For sentences, there is a pronounced preference for the non-overt representation of discourse relations for both adjacent and non-adjacent positionings (rows 3 and 5). In originals with non-overtly represented discourse relations, similar results have been obtained. There is a clear preference for the non-overt representation of discourse relations, irrespective of their local dependencies, as is systematized in table 13.

Table 13: Ratio of overt representations in the English production experiment

		original all relations ADJ		original with non-ADJ relations	
	produced	Sentence	Clause	Sentence	Clause
originals	overt	14 (36.8%)	50 (47.6%)	4 (16%)	38 (52.7%)
with overt	non-overt	24 (63.1%)	55 (52.3%)	21 (84%)	34 (47.2%)
realizations	*Total*	*38*	*105*	*25*	*72*
originals with	overt	7 (28%)	30 (50%)	12 (38.7%)	42 (45.1%)
non-overt	non-overt	18 (72%)	30 (50%)	19 (61.2%)	51 (54.8%)
realizations	*Total*	*25*	*60*	*31*	*93*

As has been the case with the linguistic representation in the editorials under investigation, there are more clauses than sentences, and the discourse relations holding between clauses tend to be represented more often in an overt manner irrespective of local dependencies. For sentences, however, there seems to be a preference for representing discourse relations non-overtly irrespective of local dependencies. These results from the text-summary task support our claim that the clause is the appropriate unit of investigation in discourse analysis both from quantitative and qualitative perspectives.

6. Conclusions

This investigation of discourse relations in English and German discourse is based on the premise that discourse comes with the presumption of being coherent as regards its constitutive discourse units and as regards the discourse as a whole. Furthermore, discourse is seen as hierarchically structured, as is reflected in the classification of discourse relations as coordinating and subordinating relations. To capture language-specific units of investigation,

viz. clause in English and sentence in German, the contrastive analysis is based on the units of sentence and clause. The discourse relations under investigation are the coordinating relations of Continuation and Contrast, and the subordinating relations of Elaboration, Explanation and Comment, and their overt and non-overt representation in adjacently and non-adjacently positioned propositions.

The analysis of the British data is based on the units of sentence and clause, and their finite and non-finite contexts, whereas the analysis of the German data is based on the unit of sentence. This is because 'sentence' is a logic-based unit in German, while it is more of an orthographic, and less of a logic-based unit in English. An analysis of clauses in German is not considered to be appropriate because of their rather high degree of embeddedness. In the German data, the subordinating discourse relations are very frequent and they are positioned both adjacently and non-adjacently. They tend to be represented overtly only in the latter case. This is especially true for Elaboration, which tends to be a relation between clauses in the British data, but a relation between sentences in the German data, where the sentence as a hierarchical structure composed of clauses is a more fundamental unit and can even hold between non-adjacent sentences. In the British data, only Continuation is positioned non-adjacently in clauses and sentences.

In both sets of data, there is a strong correlation between the overt representation of a relation in a clause/sentence and the locality of the clause/sentence standing in relation to the clause/sentence under consideration. More precisely, if a sentence S^A in German stands in a relation to a sentence S^B that does not immediately precede S^A, but that is separated from S^A by at least one sentence, the readiness to represent relations overtly is much more developed. For the British data, the situation is different. Here, the readiness to represent subordinating discourse relations between directly adjacent clause-anchored discourse units overtly is much more developed than for sentence-anchored non-adjacently positioned discourse units.

The results of our follow-up experimental discourse comprehension and production task confirm the preference for English texts to have overtly represented discourse relations holding between clauses in both adjacent and non-adjacent positioning, and the preference for German texts to represent discourse relations overtly in non-adjacent positionings.

A contrastive analysis of discourse relations in a pragmatic theory of discourse has the potential of identifying language-preferential patterns for coding coordinating and subordinating relations. It would be of interest for future studies to find out whether these differences also hold for spoken discourse, and whether there are similar differences with other languages. Being aware of language-preferential strategies for the overt and non-overt representation of discourse relation could not only refine research in educational L_1 and L_2 discourse but also in the field of intercultural communication.

Acknowledgement

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Appendix:

Table E₁: Distribution of the most common discourse relations, English data

TEXT	CONTIN		CONTR		ELABOR		EXPLAN		COMM	
	S	C	S	C	S	C	S	C	S	C	S	C
Lebanon	15	56	**6**	10	3	5	4	**28**	0	11	1	1
Iran	15	57	**5**	17	1	2	4	**30**	2	3	2	4
Turkey	16	50	**6**	10	2	2	3	**31**	3	4	1	3
Katrina	28	70	9	19	1	4	**14**	40	0	2	3	4
Ceasefire	26	84	9	19	4	5	**10**	53	0	1	2	5
Environment	25	79	**15**	32	2	7	6	**38**	0	1	1	1
Obesity	24	68	**11**	19	3	3	6	**42**	0	0	3	3
France	16	44	**11**	12	1	3	2	**16**	0	12	1	1
Blair	27	88	6	21	3	9	6	**47**	3	6	**8**	5
∑	192	596	**78**	159	20	40	55	**325**	8	40	22	27

Table E₂: Overt and non-overt coding of discourse relations, English data

TEXT	CONTIN Ov		CONTIN Non		CONTR Ov		ELABOR Ov		ELABOR Non		EXPLAN Ov	EXPLAN Non	COMM Ov		COMM Non	
	S	C	S	C	S	C	S	C	S	C	C	C	S	C	S	C
Le.	2	2	**4**	**8**	3	5	0	**24**	4	4	0	**11**	0	0	1	1
Ir.	2	5	**3**	**12**	1	2	2	**22**	2	8	2	1	0	0	2	4
Tu.	1	2	**5**	**8**	2	2	0	**28**	3	3	2	2	0	0	1	3
Ka.	1	4	**8**	**15**	1	4	5	**27**	9	13	1	1	**2**	**2**	1	2
Ce.	1	6	**8**	**13**	4	5	3	**42**	7	11	0	**1**	0	0	2	5
En.	6	16	**9**	16	2	7	2	**26**	4	12	1	0	0	0	1	1
Ob.	0	1	**11**	**18**	3	3	1	**33**	5	9	0	0	1	1	2	2
Fr.	1	2	**10**	**10**	1	2	1	**14**	1	2	7	5	0	0	1	1
Bl.	0	4	**6**	**17**	3	9	1	**34**	5	13	2	**4**	2	1	**6**	**4**
∑	14	42	**64**	**117**	20	40	15	**250**	**40**	75	15	**25**	5	4	**17**	**23**
∑ (%)	18	27	**82**	**74**	100	100	27	**77**	**73**	23	38	**63**	23	15	**77**	**85**

Table E₃: Overt and non-overt coding in adjacent and non-adjacent positioning, English data

TEXT	CONTIN -ADJ				COMM -ADJ				ELABOR -ADJ				EXPLAN -ADJ	
	S		C		S		C		S		C		C	
	OV	NON	OV	NON	OV	NON	OV	NON	OV	NON	OV	NON	OV	NON
Lebanon	1	2	2	3	0	0	0	0	0	0	0	0	0	0
Iran	1	1	2	3	0	1	0	0	0	0	0	0	0	0
Turkey	0	2	2	5	0	0	0	0	0	0	0	0	0	0
Katrina	1	5	1	7	0	0	0	0	0	0	0	0	0	0
Ceasefire	1	4	5	10	0	0	0	0	0	0	0	0	0	0
Environment	2	2	8	5	0	0	0	0	0	0	0	0	0	0
Obesity	0	4		7	0	0	0	0	0	0	0	0	0	0
France	0	2	2	9	0	0	0	0	1	0	1	0	0	0
Blair	0	2	3	14	0	0	0	0	0	0	1	1	1	0

∑		6	24	25	63	0	1	0	0	1	0	2	1	1	0
∑(%)		25% ov		28.2% ov		0% ov			0%ov		100% ov		66.6% ov		100%ov	

Table E₄: Overall frequencies of overt and non-overt coding in adjacent and non-adjacent positioning, English data

		OVERT		NON-OVERT		TOTAL		RATE OF OV. MARKING	
		S	C	S	C	S	C	S	C
Adjacent	**coord**	**28**	*56*	**40**	*52*	**68**	*108*	**41.1%**	*51.8%*
	contin	8	16	40	52	48	68	16.6%	**23.5%**
	contr	20	40	--	--	20	40	100%	**100%**
	subord	**20**	262	**63**	99	**83**	361	**24.0%**	72.5%
	elabor	15	248	39	74	54	322	27.7%	**77.0%**
	explan	--	14	8	25	8	39	0%	**35.8%**
	comm	5	4	16	23	21	27	23.8%	**14.8**
	Total	*48*	*316*	*103*	*151*	*151*	*469*	*31.7%*	*67.3%*
Non-adj	**coord**	**6**	*26*	**24**	*65*	**30**	*91*	**20%**	28.5%
	contin	6	26	24	65	30	91	20%	**28.5%**
	contr	--	--	--	--	--	--	---	---
	subord	**1**	7	**1**	24	**2**	31	**50%**	22.5%
	elabor	1	2	--	1	1	3	100%	**66.6%**
	explan	--	1	--	--	--	1	--	**100%**
	comm	--	--	1	--	1	--	--	----
	Total	*7*	*34*	*25*	*89*	*31*	*122*	*22.5%*	*27.8%*

Table G₄: Distribution of the most common discourse relations, German data

TEXT	SENT.	V2-SENT.	CONTIN	CONTR	ELABOR	EXPLAN	COMM
Assad	11	7	**3**	0	1	1	0
Blair	17	10	1	2	1	**3**	0
Bleiben	35	27	5	5	**6**	2	0
Ökologie	39	33	3	3	**8**	4	3
Vertrauen	46	39	8	4	**9**	5	2
Gespalten	13	13	1	**4**	**4**	1	0
Panik	14	11	0	**4**	1	0	1
Knapp	16	14	3	**4**	3	0	0
Kunden	13	10	1	2	2	**3**	0
Kuscheln	14	11	0	1	2	**3**	1
Markig	15	13	1	1	**5**	1	0
Menetekel	25	23	2	**5**	**5**	2	0
Milderung	31	31	1	5	**10**	5	3
Optionsspiele	14	10	1	2	**4**	0	1
Risikofaktor	14	13	1	0	**4**	0	0
∑	317	265	31	42	65	30	11

Table G₅: Overt and non-overt coding of discourse relations, German data

TEXT	V2S	CONTIN Ov	CONTIN Non-ov	CONTR Ov	ELABOR Ov	ELABOR Non-ov	EXPLAN Ov	EXPLAN Non-ov	COMM Ov	COMM Non-ov

Assad	7	1	**2**	0	0	**1**	**1**	0	0	0
Blair	10	0	**1**	2	**1**	0	**2**	1	0	0
Bleiben	27	0	**5**	4	3	3	1	1	0	0
Ökologie	33	**2**	1	3	0	**8**	2	2	**2**	1
Vertrauen	39	1	**7**	3	0	**9**	1	**4**	1	1
Gespalten	13	0	**1**	2	2	2	0	**1**	0	0
Panik	11	0	0	3	0	**1**	0	0	**1**	0
Knapp	14	0	**3**	3	1	**2**	0	0	0	0
Kunden	10	0	**1**	2	**2**	0	**2**	1	0	0
Kuscheln	11	0	0	1	1	1	**2**	1	**1**	0
Markig	13	0	**1**	1	2	**3**	0	**1**	0	0
Menetekel	23	0	**2**	4	0	**5**	0	**2**	0	0
Milderung	31	0	**1**	3	2	**8**	0	**5**	**3**	0
Optionsspiele	10	**1**	0	2	2	**2**	0	0	**1**	0
Risikofaktor	13	**1**	0	0	1	**3**	0	0	0	0
Σ	265	6	**24**	33	17	**48**	11	**19**	9	2
% overt		20.0		**78.6**	26.2		36.7		**81.8**	