

1 Defining Connectives and Discourse Relations

1.1 INTRODUCTION

When people use language to communicate, their sentences don't follow each other randomly: there is usually a logical link between them that is easily identifiable and that makes the content they try to convey coherent. As Hovy and Maier (1994: 1) note, "One of the first observations that one makes in analyzing discourse is that it exhibits internal structure." Discourse relations and connectives each contribute in their own way to structure discourse and make it a coherent whole. In this first chapter, we will start by defining and illustrating the notions of discourse relations and connectives, showing their connections but also insisting on their differences. We will see that even though the role of discourse connectives is to make discourse relations explicit in discourse, their use is not always needed for a discourse relation to be communicated. Conversely, connectives are not always associated with a specific discourse relation: many of them can convey various relations depending on the context. Another goal of this chapter is to situate discourse relations and connectives within the more general concepts of discourse cohesion and coherence. We will see that connectives represent one type of cohesive tie and that discourse relations are crucial elements ensuring local coherence within a discourse. In the last part of the chapter, we will present some important underlying methodological and theoretical choices that were made when selecting the topics covered in this book and the data presented in each chapter. We will also emphasize that the study of discourse connectives and relations has many interfaces with other domains of linguistic analysis such as semantics, pragmatics and syntax, and will explain how and where these interfaces will be integrated in the book.

1.2 DEFINING THE MAIN CONSTRUCTS

1.2.1 Discourse Relations

The term ‘discourse relations’ designates the logical links that hold between discourse segments, and make the succession of discourse segments appear coherent. As a first illustration of their role in discourse, let’s consider a short excerpt from a real book review (1) written by an anonymous reader from the United States.

- (1) Usually after I finish a book, I write my review immediately while everything is still fresh in my head. This one, I had to stew about overnight while I decided how I wanted to rate it. I won’t go into the premise of the book since this novel has been out for quite a while now and there are plenty of other reviews that do.
[Amazon.com]

In this short text, every clause – defined as a grammatical unit containing a subject and a predicate – is logically linked to at least one other clause. For example, the events of finishing a book and writing a review are presented as temporally sequential, whereas the act of stewing overnight is presented as simultaneous to the act of deciding how to rate the book. These two temporal relations describing either synchronous or asynchronous events each represent a specific type of discourse relation that can hold between discourse segments. Another example of discourse relation is causality. This relation is illustrated in the text by the link between the fact that the book has been out for quite a while, which is presented by the author as a reason for not going into its premise in the review. A last example of relation found in this short text is the relation of addition. The two clauses: ‘the book has been out for a while’ and ‘many other reviews already present its content’ are listed as two congruent facts that add up and lead to the same conclusion: the premise of the book does not need to be presented again.

This first example illustrates the fact that discourse relations cover different types of meanings such as addition, causality and temporality. This list is, however, far from exhaustive. Other discourse relations include concession, contrast, condition, restatement, exemplification and many others. Even though the notion of discourse relations is quite intuitive, as we observed from our analysis of example (1), there isn’t a unanimously accepted list of all possible discourse relations to be found in the literature. In fact, the number of relations varies from 16 in some models (Mann & Thompson, 1988) to over 70 in others

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(Hovy & Maier, 1994). The reason for these wide discrepancies is that the way discourse relations are defined depends a lot on researchers' more general view of what is discourse and how to analyze its structure. Some models take a lexically grounded approach (Prasad et al., 2008) and therefore focus on relations that are conveyed by connectives such as *after* and *while*. Others take a more holistic approach to discourse structure and decide that every discourse segment must be linked to another by a discourse relation, regardless of whether it is explicitly marked by a connective or not (Carlson & Marcu, 2001). Others still take a cognitive approach to discourse relations and focus on the underlying features that make them easier or more complex to read, understand and remember (Sanders, Spooren & Noordman, 1992). In Chapter 2, we will present the lists of discourse relations that are used in major frameworks of discourse coherence such as Segmented Discourse Representation Theory (Asher & Lascarides, 2003), Rhetorical Structure Theory (Mann & Thompson, 1988), the Penn Discourse Tree Bank corpus (Prasad et al., 2008) and the Cognitive Coherence Relations model (Sanders et al., 2018). We will also explain the underlying assumptions that each of these models makes about discourse and analyze the impact of these assumptions on their definition of discourse relations and connectives.

But first of all, we need to explain what exactly we mean by the word 'discourse', a term that we have already used repeatedly without defining it. The important point to emphasize is that this term is used more broadly in linguistics compared to its meaning in everyday conversation, where it tends to focus on spoken and often monological productions. In linguistics, the term 'discourse' is often used to describe any form of linguistic production that goes beyond the level of the sentence, be it spoken or written, monologic or dialogic. Some authors use the term 'text' with a similarly broad meaning. For example, Halliday and Hasan (1976: 1) define a text in the following way: "the word text is used in linguistics to refer to any passage, spoken or written of whatever length, that does form a unified whole." In this book, we will use the word 'discourse' over 'text' for this broad category because it has become more widespread in recent literature, but it is important to bear in mind that it covers the same productions that other authors describe as texts.

Another important element for the analysis of discourse compared to other levels of linguistic analysis is that it focuses on language in use rather than on linguistic forms (Brown & Yule, 1983), even though we will see below that connectives can also be analyzed as linguistic forms that contribute to making a discourse cohesive and therefore form an

integral part of its analysis. Yet, a discourse should not be defined solely based on its structure. In fact, the fundamental defining feature of a discourse is that it forms a coherent whole. Coherence is a cognitive rather than a linguistic notion, denoting readers' and hearers' ability to interpret it based on linguistic content and inferences linked to context, rather than on its linguistic features alone (see 2.4).

Finally, the linguistic structure and meaning conveyed by a piece of discourse are obviously quite varied depending on whether it is a spoken informal chat between friends, a spoken political address, an email to work colleagues, or a written literary work. This variation is often characterized in terms of the notions of 'genre' and 'register.' Stukker, Spooren and Steen (2016: 9) define the notion of genre as "a conventional way to perform linguistic activities through language" and list novels, speeches, debates, conversations and chats as examples of genres. Additionally, the notion of genre is often linked with the notion of register. In this book, we define register as the degree of formality of the language used in a given genre. For example, the genre of political speeches typically includes language from a high register, whereas the genre of chats involves a low register (but see Conrad & Biber, 2019 for an alternative definition of these notions). We will discuss the use of discourse relations and connectives across various genres and registers in Chapter 7.

Going back to the short excerpt in (1), you may have noticed that the examples we gave of discourse relations were systematically linked to the use of a specific connective: the relation of temporal sequence was indicated by *after*, the relation of temporal simultaneity by *while*, the causal relation by *since*, and the additive relation by *and*. Discourse relations are indeed very often signaled by a connective, and this is the reason why this book includes an analysis of both discourse relations and connectives, as these two concepts are very closely intertwined. In fact, the short excerpt of sixty-six words presented in example (1) contains as many as five occurrences of connectives (*after*, *while*, *while*, *since*, *and*), which illustrates both the importance of connectives as indicators of discourse relations and their high frequency in discourse. As we will see in Chapter 6, the frequent use of connectives in discourse can be explained by the fact that they play an important role in the way discourse is understood and remembered. They also facilitate the online processing of discourse by speeding up reading.

Yet, despite the importance and prevalence of connectives for the communication of discourse relations, they are not compulsory for a discourse relation to be conveyed between two discourse segments.

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In fact, discourse relations can also be left implicit and recovered by inference. For instance, in excerpt (1), there is a relation of contrast between the usual process described by the author for reviewing a book in the first sentence – “Usually after I finish a book, I write my review immediately while everything is still fresh in my head” – and the second sentence describing how this particular review was performed – “This one, I had to stew about overnight while I decided how I wanted to rate it.” Yet, this relation of contrast is not marked by any connective, even though a contrastive connective such as *whereas* could have been inserted between the two sentences, as illustrated in (2).

- (2) Usually after I finish a book, I write my review immediately while everything is still fresh in my head, **whereas** this one, I had to stew about overnight while I decided how I wanted to rate it.

[adapted from: Amazon.com]

However, the author of (1) chose not to use a contrastive connective, trusting her audience to recover the intended relation by inference. This example illustrates the fact that connectives are not compulsory for discourse relations to be communicated. We will discuss in Chapter 6 the cognitive differences between relations that are conveyed explicitly with a connective or implicitly. We will see that connectives facilitate the processing of a discourse relation but at the same time add an additional word to the sentence that needs to be decoded and processed. For this reason, speakers usually (unconsciously) decide to use a connective or not by striking a balance between the burden of uttering an additional word and the benefit of a connective facilitating the processing and comprehension of the intended discourse relation.

Finally, let’s note that when conveying a discourse relation, the speaker is not faced with a binary choice between using and not using a connective. Depending on the relations, there are an array of alternative signals that they may use to indicate the intended discourse relation (e.g., Das & Taboada, 2018; Hoek, Zufferey, Evers-Vermeul & Sanders, 2019; Crible, 2022). For example, a relation of causality can be conveyed by using a relative clause (3) or even a punctuation mark such as a colon (4).

- (3) I won’t go into the premise of this book that has been out for quite a while now.
- (4) I won’t go into the premise of this book: it has been out for quite a while now.

[adapted from: Amazon.com]

Similarly, a relation of contrast can be conveyed by a lexical contrast between the words used in the two discourse segments. For example, in (2), a contrast could be established thanks to the use of “a book” in the first sentence and “this one” in the second. Usually, discourse relations that can be expressed by various alternative signals are also those that are less frequently conveyed by means of a connective (Das & Taboada, 2013). The availability of such signals is not, however, the only relevant factor. Discourse relations that are cognitively easy to infer because they are highly expected in discourse such as causality and addition (Murray, 1997; Sanders, 2005) are also conveyed implicitly much more frequently compared to relations that are more unexpected and therefore difficult to infer (Hoek, Zufferey, Evers-Vermeul & Sanders, 2017). Crible (2022), on the other hand, found that rather than relational complexity, it is the ambiguity of the connective that influences the use of alternative signals: signals co-occur more with ambiguous connectives than with more informative ones.

In sum, discourse relations are the links that hold sentences together within a discourse and contribute to making it coherent. These links rely both on linguistic elements such as connectives to indicate them, and also on the cognitive ability of the addressees to derive appropriate inferences based on context.

1.2.2 Connectives

Connectives form a functional category of lexical items used to explicitly mark discourse relations between discourse segments. It includes words like *after*, *while* and *since*, as illustrated in example (1), but also many others like *if*, *when*, *in addition*, *however*, *but*, etc. In fact, most Indo-European languages possess a vast repertoire of connectives including several hundred different lexical items.¹ For example, the German dictionary of connectives DiMLex contains 275 entries (Stede, Scheffler & Mendes, 2019) and the French database of connectives Lexconn contains 328 entries (Roze, Danlos & Muller, 2012).

The definition of connectives that we just gave is the one we will use in this book. However, this is not the only definition that can be found in the literature, nor is it a unanimously accepted one, as we will see in Chapter 3. As we observed in the case of discourse relations, the definition of connectives can vary depending on the goal of the research and its domain. This variability is first noticeable in the

¹ Lexicons of connectives in many different languages can be found at: <http://connective-lex.info/>.

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various names given to the same lexical items, for example, discourse markers (Schiffrin, 1987), pragmatic markers (Fraser, 1996) and, somewhat less frequently, cue phrases (Knott & Dale, 1994) and discourse relational devices (Stede, Scheffler & Mendes, 2019). Even though the element of connectivity, mentioned in our definition, is quite widely accepted in most definitions (Crible, 2018), there are important differences in the type of links envisioned across various frameworks. While we focus exclusively on discourse relations such as cause and condition in our definition, other frameworks extend these connections to what Schiffrin (1987) calls other “planes of discourse.” For example, the word *so* in (5) links the new utterance to previous ones by introducing a topic shift and acts as a turn-taking device. This example is taken from a real telephone exchange recorded for the Switchboard corpus² (Godfrey, Holliman & McDaniel, 1992).

- (5) A: I would think so, um seems like these all they all went to uh to leaf and it wasn't until late in the summer they started making fruit so I don't know if my mom would say you planted them in the wrong sign of the moon “you know but I don't”.
- B: So, a lot of times I'd help her with that. I haven't had much opportunity to work on any other craft stuff lately we've been trying to start up a business and then trying to get my garden going.

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In her work, Schiffrin is interested in the role of discourse markers across these various planes of discourse. For this reason, the lexical items she considered in her analysis are only partly convergent with the items that we include in the category of connectives: elements like *since* and *but* that can signal discourse relations, but also elements like *well*, *I mean*, *uh* and *you know* that typically play different roles in discourse. For example, the uses of *um* and *uh* in (5) are linked to discourse planning. Other markers like *you know* and *I mean* are often used for the management of interpersonal relations, as in (6) taken from another excerpt of the same exchange in Switchboard:

- (6) No, no, no like that Joe, Jose Canseco [laughter] **you know, I mean**, oh.

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² <https://catalog ldc.upenn.edu/LDC97S62>.

For this reason, we will consider in this book that the notion of discourse markers covers a broader category of items from which connectives – defined as markers of discourse relations – represent only one particular subtype.

It is important to note that while the categories of discourse connectives and markers are partially divergent, they cannot be treated as two entirely separate categories. In many cases, the same lexical item can have both connective and marker uses. For example, in addition to its function as a turn-taking device illustrated in (5), *so* can also be used to convey a discourse relation, namely a relation of consequence, as illustrated in another occurrence of this word from the same exchange in (7).

- (7) It wasn't until late in the summer they started making fruit so I don't know if my mom would say you planted them in the wrong sign of the moon.

[sw2093A-ms98-a-0058]

We will come back to the complex relations existing between the categories of connectives and discourse markers in Chapter 3. In addition to the ambiguity between connective and marker usages, many connectives can also be used in contexts in which they do not play a role in linking discourse segments at any level but rather act as semantic components of the sentence. For example, such non-discursive uses are found in yet another occurrence of the word *so* from the Switchboard dialogue (8) and is also illustrated by the use of *while* from the book review presented above (9).

- (8) I would think so.

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- (9) This novel has been out for quite a **while** now.

[Amazon.com]

We will discuss this kind of ambiguity in more detail in Chapter 4, where we will show how different syntactic distributions may distinguish between connective uses and non-connective uses. Let's note for the time being that the polyfunctionality of words used as connectives and markers is no accident. Historically, connectives evolved through a process of grammaticalization (Hopper & Traugott, 2003) by which lexical words progressively lose their semantic meaning and start incorporating other non-lexical functions. Similarly, connectives that act as linking devices between semantic contents, for example, relating

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facts or events in discourse, progressively take on more pragmatic functions, for example, acting as turn-taking devices or indicators of interpersonal relations through a process sometimes called “pragmaticalization” (Degand & Evers-Vermeul, 2015). We will discuss the grammaticalization and pragmaticalization processes underlying various connective uses across languages in Chapter 5.

At the beginning of this section, we defined connectives as a functional category of words. Indeed, connectives do not form a grammatical class in the same way as adjectives or verbs do. In fact, connectives come from a series of different grammatical categories, comprising mostly coordinating conjunctions (*and, but, so*), subordinating conjunctions (*although, because, if, since, when, while*) and adverbs (*even though, however, nevertheless, therefore*) but also prepositions (*before, after*). In other words, connectives are grouped into a single category not because of their common grammatical features but because they have the same function in discourse: indicating discourse relations. It would thus be tempting to conclude that grammar plays little role in the study of connectives. We will argue in Chapter 4 that this is not the case. The grammatical category to which a connective belongs limits the positions that it can take in the sentence. For example, coordinating conjunctions are not used in sentence final position (or when they are, their function changes, see Chapter 5). Yet, some discourse functions seem to be preferentially communicated in specific syntactic positions within the sentence (Dupont, 2021). For example, interpersonal functions of discourse markers seem to be associated with turn-final positions (Degand, 2014; Degand & Crible, 2021). We will address the syntactic aspects of connectives and, more generally, the interface between syntax and discourse in Chapter 4.

To conclude, it is important to stress that even though connectives and discourse relations are two closely related notions, there are generally no one-to-one mappings that can be established between them. On the one side, most discourse relations can be conveyed by more than one connective. For example, in the Penn Discourse Treebank annotated corpus, the relation of concession is alternatively conveyed by the connectives *although, but, even if, even though, however, still, though* and *while*. On the other side, the connective *although* is used to convey, in addition to a relation of concession, relations of comparison, contrast, and juxtaposition, among others. The connective *but* receives as many as twenty-nine different sense tags (PDTB Research Group, 2008). Thus, the study of connectives as indicators of discourse relations raises many important issues related to the complex form–function mappings that they involve. Throughout this book, we will discuss the

differences of meanings between several uses of the same connective depending on context, and the subtle meaning and usage differences that exist between different connectives that can be used to express the same discourse relation across various genres and in different languages. We will also discuss the impact of the multifunctionality of some connectives for the way children, learners and adults process, use and understand them.

1.2.3 Cohesion and Cohesive Ties

The related notions of cohesion and coherence play important roles for the analysis of discourse structure. In this section and the next one, we will briefly present them in order to explain what roles connectives and discourse relations play in discourse cohesion and coherence.

The notion of cohesion has been analyzed in some depth in Halliday and Hasan's (1976) seminal book *Cohesion in English*. Halliday and Hasan observe that what makes discourses coherent wholes is that they exhibit "texture", or in other words, the fact that they are made of elements that bind sentences together. For example, in the excerpt of the book review presented in (1), the first sentence mentions "a book". In the second sentence, the author references the book she wants to review by using the expression "this one" and at the end of the sentence simply by "it". These uses of different referential expressions at various points in the discourse are examples of texture. Starting the review with a referent other than "a book" in the first sentence would have made it impossible for the audience to identify which referent was intended. Conversely, later on in the discourse, repeating the first referential expression "a book" or even "this book" would produce an impression of incoherence, as illustrated in (10).

- (10) This book, I had to stew about overnight while I decided how I wanted to rate this book.

[adapted from: Amazon.com]

Thus, referential expressions are what Halliday and Hasan call cohesive ties that contribute to giving texture to a discourse. More generally, cohesive ties designate all pairs of elements in a discourse that are cohesively related. We will briefly discuss the different types of cohesive ties in this section. But before that, we still need to provide a more detailed definition for the notion of cohesion.

According to Halliday and Hasan (1976: 4), the notion of cohesion is a semantic one that characterizes the relation of meaning between two elements within a discourse that are linked by a cohesive tie. In other words, there is a cohesive relation between two elements when the