On the polysemy of connectives introducing subordinate clauses of cause in English and Croatian / O polisemiji veznih sredstava kojima se uvode uzročne zavisne klauze u engleskom i hrvatskom jeziku

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Abstract

Adverbial subordinators are the most abundant and complex group of subordinators in the English language. Not only are they the richest group of subordinators in English, but they are as common in other languages across the world, including Croatian. This complexity can be seen in the fact that, unlike other groups of subordinators, adverbial subordinators were designed to convey a certain meaning or semantic reading within a complex sentence. The clauses they introduce, i.e., adverbial clauses, by no means represent complement clauses like subject or object clauses, but may be added as additional circumstantial information or supplementary context. Moreover, the division of adverbial clauses into different semantic groups has never been unanimously agreed upon, especially when one considers how differently various languages mark abstract circumstances like condition, concession, etc. However, the more intriguing part about adverbial subordinators is the fact that sometimes, some of them may lend themselves to expressing other than their primary semantic function, i.e., they may be polysemous. A typical example are temporal subordinators also/alternatively expressing cause. This paper covers adverbial subordinators in English and Croatian. The focus is on subordinators that primarily and/or exclusively express causality but more so on those that have other primary functions, like the expression of time, but may lend themselves to causal interpretations. The paper surveys some of the relevant literature in the field and uses authentic corpus examples for purposes of illustration.

Keywords: adverbial subordinators, adverbial clauses, polysemy, cause.

Contents

1. Introduction

There is a rich tradition in the survey of complex sentences, especially subordination, and adverbial clauses as the most prominent and diverse type of subordinate clauses.

It has been stressed in the past forty years that adverbial subordinate clauses and adverbial subordinators are primary and crucial subordinators to which little importance was given in traditional linguistic studies. However, this has changed as there is now a significant increase in research into adverbial subordinators and their patterns in clause systems (Kortmann 1997: 12). Among the more recent contributions of considerable note are two typological surveys, viz. by Hetterle (2015) and Kortmann (1997). Specifically, these two studies discuss at length patterns of polysemy in the systems of adverbial subordinators, which is the central focus of this study.

For the matter of discussion of the polysemy of subordinators, we will first need to lay the groundwork by discussing some fundamental theoretical and descriptive notions in the analysis of complex sentence structure. First and foremost, there is the question of the distinction between coordination and subordination, then of course, the definition of adverbial subordinators and finally the question of their polysemy. Namely, it is a well-known fact that some of the simplest and most common subordinators like English *since* may have more than one semantic function in complex sentences; *since* is used in both the temporal and the causal context (see examples in section 2.3.). The possibility that there are more cases like that speaks to the complexity of the system of adverbial subordinators. Kortmann (1997) and Hetterle (2015) each discussed the polysemy of adverbial subordinators in which the notion of cause proved to be central, especially in its polysemy link with the notion of time.

The focus of this research paper will thus only be on one part of the vast space of adverbial subordinate clauses, viz. subordinate clauses of cause in English and Croatian so as to chart how the semantic space of causality is coded in the two systems of subordinate clauses. Specifically, the aim of this research is to present the polyfunctionality/polysemy of Croatian and English subordinators introducing adverbial clauses of cause by illustrating this with examples retrieved from corpora.

The study is organized into several sections. Section 2 presents the theoretical background, focusing on (a) the criteria to distinguish between subordination and coordination in complex sentences, (b) the definition and demarcation of subordinating conjunctions, (c) polysemy from the perspective of earlier (largely typological) studies that looked at the polysemy of subordinators introducing adverbial clauses in general, and (d) the polysemy of adverbial subordinators expressing cause in particular. Section 3 presents the methodology of the study,

specifically the sources of the examples, which were used in Section 4 to illustrate the polysemy patterns discussed in earlier sections of the paper. The paper concludes with Section 5.

2. Theoretical background

2.1. Distinction between coordination and subordination

The difference between coordination and subordination must be clarified as it is fundamental to the topic discussed in this paper.

On the one hand, some take the distinction between subordination and coordination for granted. This is especially the case with generative grammar, where this distinction is an important basis for research into deletion and anaphora (cf. Haiman and Thompson 1988: ix). On the other hand, there are those who claim that maintaining a dichotomous view of the distinction between the two is suspect. For instance, Hetterle (2015: 22) from her typological perspective claims that "both the notion of subordination and the categorial distinctions that the definitions suggest are not without problems when it comes to cross-linguistic comparison" (Hetterle 2015: 22). For this reason, we must agree with Haiman and Thompson (ibid.), who claim that more research needs to be done in the area, since the motivations for clause combination are semantically and pragmatically varied, and the correlations between formal (such as those proposed by Lehmann, see below) and semantic/pragmatic indicators of subordination are not consistent. Below, we introduce some of the basic assumptions and parameters used in discussing subordination and coordination, as well as some problems associated with them.

Coordination and subordination stand for syntactic relationships indicating various kinds of clause linkage at the level of complex sentences (Hetterle 2015: 22). Coordination, usually portrayed as the linkage of independent clauses, is a term commonly used both for syndetic and asyndetic linkage of such clauses (Quirk et al. 1985: 918). These clause linkages, alternatively called conjoined clauses, are those that "exhibit the same kinds of intonation patterns as conjoined nominals and predicates" (Mithun 1988: 335). Subordination, on the other hand, prototypically represents the polar opposite of coordination. Marked by subordinating conjunctions (Quirk et al. 1985: 918), subordination represents a linkage of two clauses put in a hierarchy of superordination and subordination, i.e. the main semantic feature that distinguishes them is that the subordinate clause usually holds information on the lower scale of importance (Quirk et al. 1985: 919).

This fairly traditional view of coordination and subordination anchors the distinction between the two in the dichotomy between independent and dependent clauses. This reliance on the

notions of "main clause" and "subordinate clause" belongs "to the stock-in-trade of the ordinary working grammarian" (König & van der Auwera 1988: 101). König and van der Auwera (1988: 101) thus proposed a list of syntactic and semantic properties that are commonly said to underlie the distinction between coordination and subordination, but they also suggested that these criteria are unreliable as a basis for the distinction. Various solutions have been proposed to alleviate issues of demarcation. Some linguists like Van Valin (1984) proposed a more elaborate typology of clause linkage by treating "embedding" and "dependence" (see explanation below) as independent and non-related parameters, and using them to define four different types of clause linkage. Haiman and Thompson (1984), in turn, suggest that a unitary grammatical category "subordinate clause" be abandoned altogether; in their system "subordination" is considered a composite term, which can be analysed into independent parameters, and each parameter indicates a different relationship between two clauses adjacent in discourse (König & van Der Auwera 1988: 101-102). A proposal for a more elaborate description of subordination came from Lehmann (1988), who describes six formal parameters of clause linkage. Lehmann (1988: 183) proposes a list of parameters assessing various types of clause linkage, i.e. whether or not a clause is subordinate. The six parameters include: (a) hierarchical downgrading of subordinate structures, or the rate of their subordinateness and relatedness to the matrix, i.e. embedding (b) syntactic level of subordinate structures, closely related to the first parameter as relative hierarchical position between a subordinate and superordinate, (c) possibility of desententialization of the subordinate clause, or the possibility of the expansion or reduction of a clause into a phrase, (d) grammaticalization of the main verb, or the ability to turn finite constructions to auxiliary and modal ones, (e) interlacing between two clauses, or the sharing of elements between the subordinate clause and its matrix, and (f) explicitness of the connectivity, or the issue of syndetic and asyndetic connection (Lehmann 1988: 183). We will not go into detail explaining Lehmann's parameters, but of note is that they are all of syntactic nature, and have virtually nothing to do with meaning or a conceptual understanding of subordination. Lehmann states himself that, while semantics have always played a prominent role in discussions and classifications of subordinate clauses, for a cross-linguistically valid classification of clause linkage semantics are useless, i.e., there is no typologically valid notion of e.g. concessive clauses that would have constant structural features (1988: 183).

The distinction between coordination and subordination thus proves to be more complicated than previously thought. Traditionally, the two were considered to constitute a dichotomy, but modern grammarians like Van Valin, Haiman, and Thompson saw this distinction as unreliable

and false – thus proposing the aforementioned solutions to the coordination-subordination problem.

Hetterle (2015), like Van Valin (1988), also discussed embedding and dependency as major subordination criteria.

Dependency, as explained above, is the category which assumes "that subordinate clauses are structurally dependent on the associated main clause and cannot occur in isolation" (Hetterle 2015: 23). As cited in Hetterle, Lyons (1968: 78) divides complex sentences into those "in which the constituent clauses are grammatically co-ordinate" (2015: 23) and those "in which one of the clauses in 'modified' by one or more subordinate clauses grammatically dependent on it and generally introduced […] by a subordinating conjunction" (2015: 23-24). Dependency is either marked by a "subordinating conjunction" (Hetterle 2015: 24), i.e., subordinator, or by the omission of inflection in verbs in dependent clauses. Haiman (1985: 216-218) and Cristofaro (2003: 15-16), on the contrary, have proven "that dependence does not equal subordination" (Hetterle 2015: 24). There are many instances in which independent or main clauses are also proven to be dependent on their subordinate counterparts and cannot stand alone, be it in spoken or in written discourse. This can be illustrated by the following examples borrowed from Hetterle (2015: 24):

(1) *I think

(2) *I'm going out and

It is unequivocal that this pair of examples features a main clause (in 1) and a coordinate clause (in 2), but neither can stand alone without their subordinate counterpart or their coordinate.

Embedding is the criterion of subordination which refers to constituency, i.e. a clause's function as a constituent in the higher-level clause (Hetterle 2015: 24). For instance, in sentence 3 there is an object clause, which can easily be pronominalized as seen in sentence 4, because embedding clauses results in the same behaviour patterns of clauses as that of phrases, namely those that are complements. According to Van Valin (1984: 542-543), embedding involves one clause functioning as an argument of another clause, and this is especially the case with object and subject clauses.

(3) I told him *that I can't withhold my anger anymore*.

(4) ~ I told him *that*.

Constituency is, however, additionally present with coordination, with the distinction being that "in coordination the units are constituents at the same level of constituent structure, whereas in subordination they form a hierarchy, the subordinate unit being a constituent of the superordinate unit" (Quirk et al 1985: 918). This distinction involves the two types of syntactic arrangement that are traditionally referred to as parataxis and hypotaxis (Quirk et al. 1985: 918). The opposition between these arrangements and that between coordination and subordination are frequently treated as equivalent oppositions (Quirk et al. 1985: 919), but there is room for distinction:

> Parataxis applies not only to coordinate constructions, but to other cases where two units of equivalent status are juxtaposed: for example, an appended clause as discussed in 12.70 is in a paratactic relation to the clause preceding it; and a tag question is in a paratactic relation to the statement preceding it. But in neither of these cases could we insert an overt coordinator. Similarly, there are other hypotactic relations (such as the embedding of one phrase in another, cf. 2.8), quite apart from the relation between a subordinate clause and the clause of which it is a part. (Quirk et al. 1985: 919)

It must be noted, however, that seeing embedding as the main subordination feature is rather problematic, as it excludes a number of non-embedded structures that are considered subordinate (Hetterle 2015: 25). For instance, some subordinate clauses may resemble independent main clauses in behaviour. That is, like independent, i.e. non-embedded clauses, they may allow so-called main clause phenomena (MCPs), like negative adverb preposing or locative inversion, which were originally supposed to be restricted to independent clauses (Hetterle 2015: 27). Most notably for our purposes, Hetterle (2015: 28) also claims, and rightfully so, that it is highly questionable that there is embedding in the case of a special case of adverbial clauses (causality on the epistemic, rather than content level):

(5) I'm leaving, *because here comes my bus*.

Be that as it may, we must also keep in mind that constituency exists at various syntactic levels. Some clauses function as (embedded) constituents of the main clause - where they act as obligatory complements of the predicator.

(6) She built *what she hoped would be world's second Burj Khalifa*.

In other cases, a clause may act as a constituent at the level of the sentence, but is not an obligatory complement of the predicator, like with many adverbial clauses (see example 7a and b). The latter appear to be less embedded than the former, because the "embedding" occurs at a higher level in the syntactic hierarchy, giving the whole structure a "looser" appearance. From

this we conclude that, like with so many other syntactic parameters, embedding is also a matter of degree.

(7) a. I bought her a present *when you called me to tell me you just did the same*.

b. I bought her a present.

Finally, and importantly from a theoretical-descriptive perspective, seeing "embedding" as a crucial criterion for subordination is also a problem from a cross-linguistic perspective, as not all languages use embedded constructions to express the same function, namely subordination (Hetterle 2015: 25). Embedding, i.e., constituency, is, therefore, problematic as a way to theorize the difference between coordination and subordination, especially if it implies a binary opposition between the two (Hetterle 2015: 25). As a consequence, it can be proposed that coordination and subordination should rather be viewed as lying on a continuum and not as an opposition, which is the view espoused in this paper. We should also add that the controversy surrounding the categories subordination and coordination are not immediately relevant for the purposes of this paper, as we will focus our attention on some fairly undisputed cases of adverbial subordination in English and Croatian.

2.2. Adverbial subordinators

Subordinators, also called *subordinating conjunctions*, are a large group of conjunctions that are considered as overt markers of subordinate clauses (Quirk et al. 1985: 918). What follows is a brief discussion of their formal properties and possible classification, with an unavoidable look back at the notion of subordinate clauses discussed above (see also section 2.1.).

The English language recognizes three different groups of subordinate clauses: finite clauses, which contain subordinating conjunctions, non-finite clauses, whose only marker are non-finite verb elements, and verbless clauses, which have no marker of subordination, but are capable of being analysed as subordinate structures (Quirk et al. 1985: 992). The focus here, however, is on finite clauses, as they are the ones that most consistently contain subordinators in their structure. Important to note, subordinators may also precede non-finite clauses (Quirk et al. 1985: 1077).

According to Quirk et al. (1985: 998), subordinators can be divided into simple, complex, and correlative subordinators. Simple subordinators contain one word, complex subordinators contain a minimum of two words, ending with obligatory *that*, or optionally *that*, *as*, etc.; correlative subordinators are a set of subordinators whose counterparts appear both in main and subordinate clause (Quirk et al. 1985: 998). A similar division of subordinators has been proposed by Kortmann (1997: 78), who sees subordinators as forking into those that: (1) contain

a single monosyllabic morpheme (*as*, *since*), (2) contain a single polysyllabic morpheme (*after*), (3) contain more than one morpheme in a single word (*whereas*), (4) contain more than one word (*as long as*), (5) are discontinuous (esp. those with a correlative in the matrix clause, like *the – the*), (6) form patterns, such as English *wh-ever* series. It must be noted that this is the distinction of subordinators according to their morphosyntactic structure. For purposes of this research, a semantic classification of subordinators, specifically adverbial subordinators, deserves special attention.

Adverbial subordinators establish a link between a circumstantially marked subordinate clause and its matrix clause (Kortmann 1997: 5). An adverbial subordinate clause, i.e. a subordinate clause marked by an adverbial subordinator, is usually the one that expresses circumstances like place, time, or reason, and thus modifies the meaning of a matrix clause. Kortmann examines the semantic classification of adverbial subordinators proposed in what he – at the time – called "the only typological study of adverbial clauses" (1997: 80), viz that by Thompson-Longcare (1985). The classification is shown below:

(8) Time ('when, after, before'), Place ('where'), Manner ('as, as if'), Purpose ('in order that (not)'), Reason ('because'), Circumstantial ('by, without'), Simultaneous ('while'), Conditional ('if, even if, unless'), Concessive ('although, except that'), Substitutive ('instead of, rather than'), Additive ('besides, in addition to') (Kortmann 1997: 80)

Kortmann (1997: 80-81) goes on to describe his own list of generalized groups of adverbial subordinators (later taken up by Hetterle 2015: 46-54), which he categorized as interclausal relations of time, CCC (causal, conditional, concessive), modal, and other. They will be presented in more detail below.

Interclausal relations of time, i.e., temporal subordinators, are further divided into interclausal relations of simultaneity overlap (*when*), which are deemed the least specific ones from this category (Hetterle 2015: 47), simultaneity duration (*while*), simultaneity co-extensiveness (*as long as*), anteriority (*after*), immediate anteriority (*as soon as*), *terminus a quo* (*since*), posteriority (*before*), *terminus ad quem* (*until*), and contingency (*whenever*) (Kortmann 1997: 80).

Interclausal relations which are marked as CCC for causal, conditional, and concessive relations, involve the following interclausal relations: cause/reason (*because*), condition (*if*), negative condition (*unless*), concessive condition (*even if*), concession (*although*), contrast

(*whereas*), result (*so that*), purpose (*in order that*), negative purpose (*lest*), degree/extent (*insofar as*), exception/restriction (*except, only that*) (Kortmann 1997: 80-81).

Modal interclausal relations divide into those of manner (*as, how*), similarity (*as, like*), comment/accord (*as*), comparison (*as if*), instrument/means (*by*), and proportion (correlative *the… the*) (Kortmann 1997: 81).

The last category of unclassified interclausal relations contains relations of place (*where*), substitution (*instead of*), preference (*rather than*), concomitance (such as German *wobei*, 'in which'), negative concomitance (*without*), and addition (*in addition to*) (Kortmann 1997: 81).

Kortmann's extensive list of semantic relations of hypotactic constructions was based on an examination of eight languages (1997: 81), as the majority of them proved to have similar or identical systems of interclausal relations. He also elaborated on the system of adverbial subordinators by considering their polyfunctionality, i.e. polysemy (more in section 2.3.) (Kortmann 1997: 90). Hetterle, however, made her survey on a sample of forty-five languages. However, her definition of adverbial subordinators is more liberal than that of Kortmann, who narrows adverbial subordinators down to only free forms that connect a subordinate and matrix clause (1997: 5).

> In contrast, I define adverbial clause linkers as items of any formal type and position that specify one or more adverbial relations between an adverbial clause and an associated main clause. This definition is much less restricted than that of Kortmann or Dryer, opening the range of items to a formally diverse set. Adverbial subordinators may be polysemous to varying degrees; […]. (Hetterle 2015: 106)

Hetterle further states that mechanisms for conveying semantic relations could be divided into three categories: the conceptually widespread free forms, non-finite verb derivates, and sometimes devices used in independent main clauses (2015: 107).

Nevertheless, since free forms are usually still the most discussed items used in adverbial subordination, they will be the focus of the following sections. In other words, in our analysis, we shall consider items that are traditionally discussed under the rubric of subordination (e.g. Quirk et al. 1985: 1077-1120), specifically subordinators introducing adverbial clauses of cause (the list of these subordinators will be given in the Sources of data section).

2.3. Categorization of adverbial subordinators in terms of their polysemy

Another classification of adverbial subordinators important to mention is one based on their polyfunctionality or polysemy (the two terms that are often used synonymously, e.g. Kortmann 1997: 358).

Kortmann (1997: 89-90) defines the polyfunctionality of adverbial subordinators not as the ability of an item to appear in different syntactic functions, among them in the function of subordinator. He defines it as the range of meanings and values an item has in its role as a subordinator, whereby some of these meanings/values prioritized as primary, while others are secondary.

Kortmann thus raises three questions in relations of polyfunctionality: how one can distinguish between different meanings, how to differentiate between meanings and implicatures (contextual readings, which are not established meanings of those items), and how to distinguish between primary and secondary meanings (1997: 90). Quirk also speaks of the difficulty in the semantic analysis of adverbial clauses as many adverbial subordinators may introduce clauses with various meanings (Quirk et al. 1985: 1077). As with adverbial subordinators in English and other languages, the same can be observed in Croatian. The Croatian language is no exception to having polysemy among its adverbial subordinators. According to Silić and Pranjković (2005: 343), subordinate clauses, among which adverbial clauses as well, are prone to semantic ambiguity in at least two directions: they can either express structurally the same message with a different meaning or be completely different and represent the exact same thing (cf. the English examples in 9a,b and 10a,b, respectively). The first case can easily be portrayed by the small difference between restrictive and non-restrictive causal clauses (Quirk et al. 1985: 1077): a sentence of the same content may portray a different context just by an input of a single coma – which, in turn, is an example of difference between restrictive and non-restrictive clauses of cause (Quirk et al. 1985: 1075-1077).

(9) a. He didn't go home early *because* you were here. (~ He left for another reason.)

b. He didn't go home early, *because* you were here. (~ He stayed a little bit longer because you were there.)

(10) a. I think you can do it yourself *because* you are an expert.

b. I think you can do it yourself *since* you are an expert.

Although important, the question of how to establish the priority and the status of meanings/functions in polyfunctional subordinators will not be addressed in this study in detail. We will rather note patterns of polysemy in our data and how they mirror the observations made

in the two typological studies, viz. those by Hetterle (2015) and Kortmann (1997). After all, we consider it important to establish the semantic value of subordinators in their particular uses, and this is usually achieved with the help of context. Still, as Hetterle claims (2015: 146), the pragmatic use of language shows that it is often up to other constructions in a clause to disambiguate the meaning of the clause (Hetterle 2015: 146). The most obvious example for this is the subordinator *since*, which is primarily used in temporal adverbial clauses (11a), but can also be used in causal relations (11b) (Quirk et al. 1985: 1077):

(11) a. *Since* I came, you have been very silent.

b. *Since* you are here, you could help me take these boxes upstairs.

Since as a temporal subordinator has always been primarily used in sentences containing the main clause predicator in the perfective aspect, but contemporary trends in spoken discourse feature this subordinator as a causal linker as well. One of the crucial differences here is that temporal and causal uses of *since* are subject to different syntactic constraints (cf. Hopper & Traugott 2003: 80–81 as cited in Hetterle 2015: 203). Temporal *since* can only be used with the adverbial clause in the past tense (see example 12a below). On the other hand, any tense form is compatible with a causal reading (12b, c):

(12) a. *Since* you came back home, grandma has been acting weird.

b. *Since* you're so kind to offer help, you can bring these baskets with me upstairs.

c. *Since* you'll be leaving tomorrow for vacation, I could do some planning to clean up the backyard.

What also goes in hand with the afore-mentioned overlap between cause-time in the adverbial subordinator *since* is Kortmann's observation (1997: 188) that temporal adverbial subordinators show stronger affinities to so-called CCC relations (cause, condition, concession) than to any other non-temporal interclausal relation.

This affinity of temporality to causality may also stem from so-called *post hoc ergo propter hoc* phenomenon. This term signifies a tendency to see a logical relationship between temporality and causality, such that temporally antecedent events are construed as causes for temporally subsequent events. In other words, one is tempted, often erroneously, to read causality into events that are only chronologically associated, without considering other factors that may be responsible for the result (Hetterle 2015: 203; Kortmann 1997: 190).

For now, Kortmann's analysis and commentary on the relation of time and cause will be side lined, while the next paragraphs are going to briefly introduce some of the most typical patterns

of polysemy in adverbial subordinators in a cross-linguistic perspective. Here, we will rely on Hetterle (2015) since her work is more comprehensive and based on a more representative sample of data. Both authors, however, agree that adverbial subordinators exhibit a considerable number of polysemy patterns.

According to Hetterle's findings (2015: 211-230), it is clear that most typically polysemous adverbial subordinators stem from the group of temporal adverbials, namely simultaneity overlap *when*, *while*, anteriority *after*, and *since*, while the most typically monosemous notions are those of comparison and concession. Other relations worthy of mentioning as polysemous are those of manner/instrumental, condition, result, purpose, and cause. This scale of division may also reflect on the real mapping of notions that share one subordinator. For instance, simultaneity overlap *when* seems to be shared by a total of five other notions (simultaneity duration *while*, manner/instrument, cause, anteriority *after*, and condition), simultaneity duration *while* additionally intertwines with manner/instrument and posteriority *before*, while the only semantic relation standing on its own is that of simile/comparison (Hetterle 2015: 241).

According to Hetterle, the most common polysemy overlaps include the following, of which we only illustrate several: (1) simultaneity overlap (*when*) and condition, (2) simultaneity overlap (*when*) and simultaneity duration (*while*), (3) anteriority (*after*) and simultaneity overlap (*when*), (4) posteriority (*before*) and simultaneity duration (*while*), (5) *terminus ad quem* (*until*) and result (ex. 13), (6) concession and condition (ex. 14), (7) purpose and result (ex. 15), (8) purpose and cause, and (9) manner/instrument and simultaneity duration (*while*) (ex. 16) (2015: 230).

(13) Stir well *until* the sauce is perfectly smooth. ~ Stir well so the sauce is perfectly smooth.

(14) *If* you bring that to me, I still won't help. ~ *Even if* you bring that to me, I still won't help.

(15) I need to study *in order to* get a good grade. ~ I need to study for getting a good grade.

(16) *While* I hold the button, the blade works continuously. – By holding the button, the blade works continuously.

2.4. Overview of the treatment of polysemy of adverbial subordinators expressing cause in English and Croatian literature

Keeping the data from section 2.3. in mind, in this chapter we zoom in on how some cases of polysemy involving the function of cause have been described in some representative literature concerning English (Quirk et al. 1985: 1080-1118) and Croatian (Belaj 2021: 300-308).

For instance, a couple of temporal subordinators could semantically overlap with causality, with the subordinator *since* being one of the most representative examples of this overlap (see ex. 11a and b section 2.3.). However, the polysemy between temporal and causal readings of adverbial subordinators is not deemed one of the most representative polysemy overlaps in the English language, and Hetterle does not even mention this polysemy overlap as one of the cross-linguistically most common overlaps. It is not found listed among the significant, most common polysemy overlaps enumerated above (see section 2.3.) (Hetterle 2015: 230). Nevertheless, it does not make it a less important component of English, especially considering how commonly the cause-time polysemy is actually used. It must be also noted that the English language is not the only one which shows this type of polysemy. According to Dixon and Aikhenvald (2009: 20), the Jarawara language also contains the same type of polysemy, where one complex sentence with the same subordinator (*jaa*) may showcase both temporality and causality simultaneously, and this simultaneity of meanings can be applied to many other world languages. The same researchers also found that the Korean suffix *-ese* serves both temporal and causal functions, much like the English *since* (Dixon & Aikhenvald 2009: 21).

Another temporal subordinator with which causality overlaps is the previously mentioned 'simultaneity overlap' *when* (Hetterle 2015: 225).

(17) *When* (*because*) you come, it's like a madhouse here.

(18) *When* you're already here, could you take the boxes upstairs?

In sentence (17) there is a clear indication of semantic overlap between causality and so-called simultaneity overlap, i.e. every time the subject comes, it is like a madhouse, whereas in sentence (18) the subject is asked to take the boxes upstairs due to themselves being at a given location, but the subordinator *when* by no means expresses exclusively the temporality of the person being at the spot, but also the cause for a request. Kortmann confirms this in his work, explaining that *when* and its Dutch (*toen*) and German variants (*als*) are semantically ambiguous (1997: 182), especially because of their usage in causal contexts. In comparison, such polysemantic relationship can also be found in Croatian where temporal connectors like *kada*, 'when', *čim*, 'as soon as', *dok*, 'while', *nakon što*, and *pošto* (both 'after') may sometimes introduce clauses of cause (Belaj 2021: 300).

(19) *Nakon što* je čula buku, dotrčala je do dvorišta. (Dotrčala je do dvorišta *jer* je čula buku.) ~ *After* she had heard some noise, she ran to the backyard. (She ran to the backyard *because* she heard some noise.)

(20) *Pošto* je primijetila da te često nema doma, izgubila je povjerenje. (Izgubila je povjerenje *jer* je primijetila da te često nema doma.) ~ *After* she noticed that you're often not home, she lost her trust. (She lost her trust *because* she noticed you're often not home.)

(21) *Kad* je uvidjela svoje greške, odustala je od svega. (Odustala je od svega *jer* je uvidjela svoje greške.) ~ *When* she realised her mistakes, she gave up on everything. (She gave up on everything *because* she realised her mistakes.)

(22) *Čim* je vidjela tebe, nasmijala se. (Nasmijala se *jer* je vidjela tebe.) ~ *As soon as* she saw you, she smiled. (She smiled *because* she saw you.)

(23) *Dok* je on na vlasti, u državi nema mira (U državi nema mira *jer* je on na vlasti). ~ *While* he governs, there's no peace in the country. (There's no peace in the country *because* he governs.)

Purpose more commonly shows overlap with cause in English (see section 2.3.). Hetterle considers purpose a special case, because purpose is not a primitive semantic relation, but rather consists of notions borrowed from other ones (like *because, want, think*), yet it is present in all languages (2015: 252). She states further that it is easy to derive a reading of purpose from cause, when the clause is conceptualised as a "final cause" (Hetterle 2015: 255). That would imply that additional context from other clause material, like that in example 24, would provide a reading that denotes purpose in a typical *because*-clause (Hetterle 2015: 252). However, it seems that the context needs to be provided by verbs denoting a need, an obligation or a want.

(24) I was running, *because* I <u>had to</u> catch the flight. ~ I was running to catch the flight.

Furthermore, cause and concession are also closely related within their own "CCC" semantic group, especially in Croatian (Belaj 2021: 308). In Croatian, a formally causal clause may appear with a concessional meaning as per examples 25a and b (Belaj 2021: 308).

(25) a. Nije loš film *zato* što nema akcije. ~ It is not a bad movie *because* it doesn't contain action. (~ Not containing action doesn't make the movie bad.)

b. ~ Nije loš film *iako* nema akcije. ~ It is not a bad movie *though* it doesn't contain action.

Another polysemy pattern common to Croatian is that of cause and manner (Belaj 2021: 306). This relation is possible in clauses introduced by the subordinator of manner *kako*, 'how' (26), which translates into English with a complex causal subordinator *seeing as* rather than with the actual lexical equivalent *how*. A complex subordinator worth mentioning in this polysemy type is *time što* ('by' + *-ing*, as in example 27d), which can easily be attributed both to cause (*jer*, 'because') and manner (*tako što*, 'by') (27a, b, c) (Belaj 2021: 307).

(26) *Kako* imaš gips, ne možeš drukčije doći do tamo osim u kolicima. ~ *Seeing as* you have a cast on, you can't get there any other way except for in wheelchair.

(27) a. *Time što* je radila preko ljeta, omogućila si je lagodno školovanje tokom zime.
b. Omogućila si je lagodno školovanje tokom zime *tako što* je radila preko ljeta.
c. Omogućila si je lagodno školovanje tokom zime *jer* je radila preko ljeta.
d. ~ *By working during summer*, she was able to study comfortably during winter.

The adverbial subordinator *because* also deserves a quick comment. *Because* is an adverbial subordinator with a primarily, or rather exclusively, causative meaning. Moreover, it is the most prototypical causal subordinator in English (28).

(28) I want chocolate ice-cream, *because* I like chocolate flavour the best.

It is important to notice, however, that prototypical causality rarely lends itself to developing other adverbial readings both in English and Croatian. In other words, it is never the source from which other adverbial meanings develop by semantic extension. Rather it is vice-versa. In most languages it is usually other adverbial notions that lend their subordinators to expressing causal meanings. The only exception would be purpose in English, constituted of a typical clause of cause with a final reading, and concession in Croatian.

Let us add one final important note on the polyfunctionality of any adverbial subordinators, including those involved in the expression of cause. In some cases, their different meanings in particular examples may be considered established senses of the subordinators themselves (e.g. in the case of temporal and causal *since*), and these are really the only cases where we would be fully justified in using the term polysemy to describe the status of those meanings and their relationship. In other cases, alternative readings can hardly be considered part of the conventionalized lexical content of the subordinator – but can at best be considered artefacts of particular contextual readings, i.e., as nothing more than contextual implications that may but need not be evoked/accessed in the process of communication, as in the case of *nakon,* 'after' (whose causal interpretations is an unnecessary but easily cancellable contextual implication (29)). This is a very important theoretical and descriptive point to make, and we are fully aware of the theoretical implications of this distinction, but for space constraints we will not focus on it in the analysis of our data.

(29) *Nakon* što sam to pročitala, postala sam druga osoba. (Postala sam druga osoba *zato što* sam to pročitala.) ~ *After* I read that, I became a different person. (I became a different person *because* I read that.)

3. Sources of data

For purposes of illustrating the semantics/polysemy of adverbial subordinators involving the meaning of cause in English and Croatian, authentic corpus examples featuring the subordinators explicitly discussed in the Croatian and English reference grammars as introducing adverbial clauses of cause were retrieved. The following Croatian and English subordinators will be illustrated: *because, being that, seeing that*. *seeing as*, *by the virtue of the fact, on account of the fact, in the light of the fact, in view of the fact, owing to the fact*, *due to the fact*, *jer*, *zato što*, *zbog toga što*, *s obzirom na to, budući da*, *when*, *whenever*, *since, as long as*, *such that*, *inasmuch as*, *kad, dok, čim, nakon što, pošto, kako,* and *time što.*

The following corpora were sources of our examples: COCA (Corpus of Contemporary American English) and the Croatian National Corpus. For each subordinator, corpus examples that illustrate its various uses were selected.

4. Causality in adverbial subordinators illustrated

4.1. Typically monosemous subordinators expressing cause in English and Croatian

Having presented some issues in the adverbial expression of cause, in this section I pull together some authentic corpus examples to illustrate adverbial subordinators expressing cause in English and Croatian. I first present examples of causal subordinators that are not polysemous and then move on to those that do exhibit polysemy.

English contains a rich quantity of subordinators which primarily express causality, with *because* as the most commonly used causal subordinator. Furthermore, the most typical causal subordinators in both languages are in fact not polysemous. Examples from COCA enumerated below (30-39) illustrate their non-ambiguous semantics – all of the causal subordinators were exclusively found to express causality. A more specific case stems from prepositional expressions such as *by the virtue of*, as they usually form appositive structures with *the fact that* which denote causality (Quirk et al. 1985: 1105-1106). Additionally, these subordinators are also found alone, preceding non-finite *-ing* clauses (34b, 35b, 36b, 37b, 38b, 39b). Nevertheless, they are not forms commonly used in causal subordination, as they are considered stylistically clumsy (Quirk et al. 1985: 1105).

(30) A California mom is in jail *because* her kids didn't go to school.

(31) *Being that* we are native American, it would have stood to reason.

(32) I hope Linklater works more often with Black and McConaughey *seeing that* he seems to get the best out of the two stars.

(33) *Seeing as* he didn't know much about his, I encouraged him.

(34) a. We just -- *by the virtue of the fact* that our parent's peers were in the business, -- mixed with those kids.

b. These were laws, at first, *by the virtue of* the sovereign power residing in the people; […]

(35) a. No matter what the survey says, very few CEO will less than the average *on account of the fact* he or she is below median.

b. This was during the time when I was taking my morning showers at the office gym, *on account of* not having gone home the night before.

(36) a. […] when you analyse this overwhelming response *in the light of the fact* that 45% of hackers said they had already tried to exploit vulnerabilities in the cloud, you begin to see the scale of the problem, […]

b. I travel a lot, so when I travel, I'm doing it *in the light of* taking care of them.

(37) a. *In view of the fact* that the original set was destroyed in Generations, this one is as close as we can get.

b. As Heads of the Orthodox Churches we can not remain indifferent towards the challenges facing our region, *in view of* the political and socio-economic changes taking place there nowadays.

(38) a. I learned it when I was trying to sorcer my way to power, entirely undeserved by my accomplishments, but entirely deserved *owing to the fact* that I am the Great Me.

b. Email open rates are susceptible to error *owing to* counting pixels not loading.

(39) a. Many of the major differences between soccer and basketball are being subdued, *due to the fact* that basketball is becoming more and more popular in Europe, […]

b. And Romney is no stranger to terminating people on a broad scale *due to* outsourcing their jobs to foreign countries or closing domestic plants.

In comparison, the Croatian system of causal subordinators is not so numerous, but it also features adverbial subordinators that do not participate in the expression of any other adverbial relations. The examples retrieved from Croatian National Corpus are featured below (40-44). Moreover, there are complex prepositional expressions like *s obzirom na* which were found to either be followed by the cataphoric demonstrative *to* (‘that’) or the noun like *činjenica* (‘fact’) (43a and b).

(40) One žive u pijesku i teško su uočljive, *jer* im izviruje samo mali dio. ~ They live in the sand and are hard to see, *because* only a small part of them emerges.

(41) Nastradao je *zato što* i u hrvatskoj policiji ima nesavjesnih djelatnika, pa je od "prekoračenja ovlasti" jednako tako mogao stradati i Hrvat. ~ He was killed *because* there are unscrupulous employees in the Croatian police, so even a Croat could have been killed by "exceeding his authority".

(42) Podržavamo ovaj projekt *zbog toga što* se njime zbrinjavaju nedužne žrtve rata, te zato što se nastoji ostvariti povratak imovine bivšim stanovnicima. ~ We support this project *because* it takes care of the innocent victims of war, and because it seeks to achieve the return of property to former residents.

(43) a. Oni se, *s obzirom na to da* govore strane jezike i imaju dobru naobrazbu, često zapošljavaju u hrvatskim ministarstvima. ~ *Seeing as* they speak foreign languages and have a good education, they are often employed in Croatian ministries.

b. To je posve razumljivo *s obzirom na činjenicu da* granica između Hrvatske i Slovenije na nekim mjestima još nije definitivno utvrđena […]. ~ That is completely understandable *by the virtue of the fact* that the border between Croatia and Slovenia has not yet been definitively established in some places […].

(44) *Budući da* na gostovanje izložba nije mogla otići u istom obimu, redukcijom eksponata donekle se promijenila i njezina koncepcija. ~ *Seeing as* the exhibition could not go abroad in the same scope, the reduction of the exhibits changed its conception to some extent.

4.2. Typically polysemous subordinators expressing cause in English and Croatian

This section covers subordinators that may have temporal, final, or concessional meanings, but lend themselves to the expression of cause both in English and Croatian.

The first subgroup of adverbial subordinators which may express causality is that of temporal subordinators. Both the most prototypical simple ones (*when, since,* see sections 2.3. and 2.4.) and the complex ones (*as long as*) have been found in COCA to express causality (45b, 46b, 47b, 48b) in addition to temporality (45a, 46a, 47a, and 48a). However, some of them only marginally express cause (cf. *post hoc ergo propter hoc* fallacy mentioned in section 2.3.). Some of the examples were also commonly found to convey a conditional reading, on top of the causal reading, like the subordinator *when* (46b), which is consistent with Hetterle's account of the cross-linguistically common polysemy patterns (see section 2.3.).

(45) a. I mean, *when* we had segregation, we also had many businesses that served the African-American community and that we went to as African-Americans

(46) a. How you always knows it's me *when* I call?

b. Great tip, but Amanda, please take your rings off *when* you work with food by hand.

(47) a. But if there were permanent pool lifts that would me the freedom and independence to get in and out of the pool *whenever* I wanted.

b. *Whenever* I hear these words, I become hyper-vigilant, as should every American.

(48) a. So, it has been a while *since* I've talked with you guys.

b. So we are missing recipes, who cares, *since* they would yield a useless and mediocre item.

(49) a. You're just going to have to love her *as long as* you have her.

b. As long as the criteria and methodologies are not clear, the perceptions of the quality of a think tank may differ a lot.

As for subordinators expressing manner, the one that has been found to express causality is *such that* (50a), although the instances of causality are limited, as this subordinator is more likely to express result (50b).

(50) a. Those who are too young *such that* they have not started menstruating yet, those who are too old whose menstruation has stopped and those who are pregnant.

b. It should scale *such that* I don't have to worry about performance and replicate data sufficiently that I'll always have access to my data.

Finally, when it comes to English subordinators, the subordinator *inasmuch as* from the group of subordinators introducing clauses of degree/extent (51a) may introduce causal clauses (51b) as well.

(51) a. *Inasmuch as* I am blessed to live in the United States of America where freedom and stability are the regular order of our existence, it is too easy for me to reproach those who would trade one for the other.

b. Yes, Obama is scary *inasmuch as* he openly sides with the most grievous evils plaguing our culture, but we must govern our actions in the fear of the Lord, not in the fear of Obama.

In comparison, Croatian also contains a similar pattern of polysemy between the relations cause and time. Contrastively identical subordinators were also found to have identical polysemy patterns, such as *when* (Croatian 'kad(a)') being found in temporal, causal, and conditional use (52a, b, c). Interestingly, the temporal subordinator *dok* ('while') was frequently found to express contrast in the Croatian National Corpus (53c), while the correlative subordinator *čim* (... *to/tim*) ('as soon as' and alternatively 'the… the') also introduces clauses of proportion (54c).

(52) a. Stoga u jesen *kad* se pretače mlado vino čitav grad miriši po tom zlaznom piću. ~ Therefore, in autumn, *when* the new wine is poured, the whole city smells of that delicious drink.

b. Bili su razočarani *kad* su shvatili da bi trebali biti smješteni u baraci zajedno s nekoliko sunarodnjaka, ali i s grupom Kurda, kosovskih Albanaca i Somalijaca. ~ They were disappointed *when* they realized that they should be accommodated in a shed together with several compatriots, but also with a group of Kurds, Kosovo Albanians and Somalis.

c. *Kad* budemo u trećoj, vidjet ćemo. ~ *When* we're in the graveyard shift, we'll see.

(53) a. Novim zakonom se također reguliraju prava dužnosnika na smještaj, plaću, naknadu materijalnih troškova, uporabu službenih automobila *dok* obnašaju dužnost. ~ The new law also regulates the rights of officials to accommodation, salary, reimbursement of material costs, use of official cars *while* performing their duties.

b. *Dok* je kuna stabilna, nema bojazni da bi se "naglo vratila" u matičnu zemlju, a sve kad bi se to i dogodilo, količine kune što cirkuliraju u BiH, u vrhu monetarnih vlasti ne smatraju se zabrinjavajućima. ~ *As long as* the kuna is stable, there is no fear that it would "suddenly return" to the home country, and even if that were to happen, the amount of kuna circulating in BiH is not considered worrisome by the top monetary authorities.

c. Posebice je važno da se na plažama ne dozvoli nakupljanje algi i ostalog bilja, a potrebno je osigurati pristup invalidima, *dok* je strogo zabranjeno kupanje životinja. ~ It is especially important that the accumulation of algae and other plants is not allowed on the beaches, and it is necessary to ensure access for the disabled, *while* it is strictly forbidden to bathe animals.

(54) a. *Čim* izađež iz Janjeva, odmah si na srpskom terenu. ~ *As soon as* you leave Janjevo, you are immediately on Serbian territory.

b. *Čim* je u subotu navečer u nekdašnjoj katoličkoj crkvi sv. Magdalene najavljen zbor "Palma", Zagreb, Hrvatska, zaorio se snažni pljesak podrške. ~ *As soon as* the choir "Palma" from Zagreb, Croatia was announced on Saturday evening in the former Catholic church of St. Magdalene, there was a strong applause of support.

c. *Čim* jači interes *tim* tanji principi! ~ *The* stronger the interest, *the* thinner the principles.

(55) a. *Nakon što* se tamo već predstavila kao keramičarka i grafičarka, sada nastupa i kao slikarica. ~ *After* presenting herself there as a ceramist and graphic artist, she now also performs as a painter.

b. *Nakon što* su Nijemci zauzeli Pariz, Ciliga se je vratio u domovinu, ali su ga ustaše, unatoč antikomunizmu koji je propovijedao, uhitile krajem 1941. godine. ~ *After* the Germans

occupied Paris, Ciliga returned to his homeland, but the Ustashas, despite the anti-communism he preached, arrested him at the end of 1941.

(56) a. Umro je od iscrpljenosti u veljači 1941. *pošto* se pridružio mojoj majci u Sanaryja na Azurnoj obali, gdje su živjeli i drugi pisci, poput Thomasa Manna. ~ He died of exhaustion in February 1941 *after* joining my mother in Sanary on the Cote d'Azur, where other writers, such as Thomas Mann, also lived.

b. No, *pošto* je ranjen, zarobljen je i odvezen u Genovu. ~ However, *since* he was wounded, he was captured and taken to Genoa.

Then there are also subordinators preceding clauses of manner, namely *kako* (57a) and *time što* (58a). It was relatively easy to find examples of *kako* preceding clauses of cause (57b), while the clauses of manner may be frequently translated to English as those of comparison (57a).

(57) a. Tajna kontrola telefonskih razgovora ni približno nema razmjere *kako* se to ponekad želi predstaviti i ljudi, što se toga tiče, mogu biti spokojni. ~ The secret control of telephone conversations is not nearly *as* big *as* it is sometimes presented, and people can be calm about it.

b. *Kako* je većina kupona (između 60 i 70 posto) već podijeljena, broj onih koji "razmišljaju" je prilično velik. ~ *As* most of the coupons (between 60 and 70 percent) have already been distributed, the number of those "thinking" is quite large.

(58) a. Svoja je djela pokrivao *time što* se radi o prostoru u vlasništvu Biskupije. ~ He covered up his actions *by* saying that it was an area owned by the Diocese.

b. Samim *time što* se prijavila za članstvo u Uniji, Hrvatska je učinila veliki iskorak. ~ Just *by* applying for membership in the Union, Croatia took a big step forward.

5. Conclusion

This paper presented various subordinators introducing clauses of cause in English and Croatian. The idea was to present them from the semantic point of view, i.e. from the perspective of the typical polysemy patterns attested in cross-linguistic research. To set the stage for later sections of the paper, we first discussed the distinction between coordination and subordination, then the classification of adverbial clauses and subordinators, and then discussed subordinators with regard to typical patterns of polysemy as attested in typological research.

After arguing that the distinction between coordination and subordination is one of degree rather than a dichotomy, we focused on subordinating conjunctions as the most typical and overt signals of finite subordinate clauses (Quirk et al. 1985: 992). Beyond their classification into

simple, complex, and correlative subordinators, the kind of classification that matters most for our purposes was semantic. Adverbial subordinators are famous for their semantic diversity, making up a complex semantic system, although its limits and division have not yet been unanimously agreed upon: for instance, Kortmann (1997: 80) lists eleven adverbial notions, categorized into four clusters (see section 2.2.), whereas Quirk (1985: 1078-1118) recognizes a total of fourteen semantic notions.

Analysing the semantics of adverbial subordinators inevitably lands us in the discussion of polyfunctionality/polysemy, since many adverbial notions lend themselves to various semantic extensions, such as temporality being reconstrued as causality. Although this usually opens the question of the distinction between the primary and secondary meanings and how widespread these meanings are comparatively, there was no room in this paper to address these complex issues. We focused on examining some general patterns of polysemy in English and Croatian adverbial subordinators used for the expression of causality. Very often, a subordinator receives a particular reading only as a result of contextual implications (e.g. causal reading of *after*), rather than through fixed polysemous meanings (such a case would be causal and temporal *since*). As far as *since* is concerned, not only is it truly polysemous, but its causal meaning may even be more widespread than its primary temporal meaning. Also, the English subordinator *when* expressing simultaneity overlap may lend itself to alternative readings, involving as many as five different semantic notions: cause, simultaneity duration *while*, manner/instrument, condition, and anteriority *after* (Hetterle 2015: 241).

The patterns discussed in Section 2 were illustrated in Section 4 with authentic corpus examples, indicating once again the polyfunctionality of some causal subordinators. In that way we not only once again confirmed the typological prevalence of some polysemy patterns in the system of adverbial subordination, but also showed that causal subordinators are rarely subject to further semantic developments toward other adverbial notions, but instead tend to develop themselves from those other adverbial notions, especially time, but also, and especially in Croatian, manner.

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