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Syntax from and for Discourse: Adverbial Clauses as Item-Specific Constructions in Spontaneous Spoken English

Abstract: This paper seeks to contribute to a usage- and construction-based approach to the complex sentence. Studying temporal adverbial clauses with *before*, *after*, *until* and *once* in spontaneous spoken English, it diverges from previous work [Diessel, Holger (2008). "The Iconicity of Sequence. A Multifactorial Analysis of Clause Order in Complex Sentences." *Cognitive Linguistics* 19.3, 465–490.] by focussing especially on the functions and usage characteristics of configurations that are highly marked, i.e. on complex sentences in which the respective adverbial clause precedes its matrix and expresses an event-sequence in a non-iconic ordering (*before, until*). The paper is inspired by two longstanding claims from functionalist syntax and discourse analysis, viz. that discourse should be the starting point for any study of syntax and that initial adverbial clauses present constructions in their own right. It reports the first results of a corpus study (based on the BNC files with spontaneous spoken language) which substantiate the latter claim and also discusses some of the wider implications of these results for construction-based models of the complex sentence.

Keywords: adverbial clause; cognitive construction grammar; complex sentence; meso-construction; spontaneous spoken language; usage-based model.

1 Introduction

Within the last 15 years, a lot of research in cognitive usage-based construction grammar has studied the syntax of the clause. With respect to the constructions constituting complex sentences, existing work has tackled a number of aspects of a vast and highly complex field, looking, for instance, at the cognitive and functional principles that govern the formal realisations and occurrence of

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complement, relative and adverbial clauses in both adult and child language (for surveys, cf., Diessel 2015; Hoffmann 2013).

This paper contributes to this line of research by presenting and evaluating selected results of a corpus study of the usage characteristics of selected temporal adverbial-clause constructions in spontaneous spoken English. It is inspired firstly by a time-honoured functional commitment to explain certain syntactic phenomena with reference to the surrounding discourse rather than as isolated clausal or sentential phenomena (e.g. McCarthy 1998, 70).[1] Here, the paper builds on well-known, long-standing insights into the discourse functions of adverbial clauses, especially the claim that initial adverbial clauses present constructions in their own right (e.g. Thompson 1985; Verstraete 2004). Secondly, the paper shares the usage-based tenet that all constructions should be characterised in terms of properties that are true to the linguistic "surface," arising from and reflecting the respective patterns of usage, rather than be treated as derived from other – supposedly more basic – constructions (e.g. Goldberg 2002; Gries and Stefanowitsch 2004; Bybee 2006, 2013; Diessel 2015).

At the same time, cognitive construction grammar also assumes a syntax-lexicon continuum, i.e. views the language system as a "constructicon," a structured network of symbolic units of different degrees of formal complexity and schematicity (e.g. Langacker 2000; Diessel 2015). Since the distinction between semantics and pragmatics is also viewed as a continuum, discourse-pragmatic properties of a construction are viewed as an integral part of its semantic pole. This view implies that language users perceive syntactic constructions as related, both syntagmatically and paradigmatically. While near-synonymous forms have been studied a great deal in various research traditions under the label of "alternation," the central tenet of "no synonymy" in cognitive construction grammar has inspired linguists to focus more on divergent surface properties than on issues of relatedness (cf. Cappelle 2006; Uhrig, *this volume*). With respect to hierarchical relatedness, the usage-based model does not only allow the (massively) redundant storage of constructions of varying degrees of abstraction – even in the absence of non-predictable properties, it also places special emphasis on mid-level generalisations. These are constructions that are partially lexically substantial and thus often referred to as "item-specific" or "meso"-constructions (e.g. Langacker 2000; Traugott 2008a,b; Diessel 2014). At the complexity level of the clause, for example, the valency constructions of verbs (Herbst 2010, 2014) are salient meso-constructions. Fully schematic ("macro–") constructions

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1 "… the traditional paradigms of choice of items in grammatical sets may be replaced by paradigms of actual choices in real discourses." (McCarthy 1998, 70)

of similar complexity are given by argument-structure constructions (Goldberg 1995, 2006).

The present paper argues that the syntax of adverbial clauses is most plausibly analysed in terms of meso-constructions, i.e. as syntactic constructions that retain a lexical anchor, viz. their respective subordinator, and that are also explicit about the position of the adverbial clause. It is suggested that, at this level of complexity, generalizations of this kind are most informative and effective, as they allow their semantic poles to be characterised in terms of both semantic and specific discourse-pragmatic properties.

Relying on the results of previous corpus-based work within a cognitive usage- and construction-based framework (esp. Diessel 2005, 2008), the present corpus study of (some of) the surface properties of temporal adverbial-clause constructions containing the paired subordinating conjunctions *before, after, once,* or *until* focusses on a subset of the constructions previously investigated. All of these can only denote events that either precede or follow the event expressed by their respective matrix. Note that only half of the complex sentences with adverbial clauses in final position are iconic in that the clausal order mirrors the order of the events depicted (ex 1, 2):

(1) a.   people are prepared to wait ten years *before* they get a job. (BNC-HYS)

    b.   they [projects] used to filter through the organization, *until* they landed on somebody's desk who was actually supposed to carry out the work. (BNC-H48)

(2) a.   but I, I er he he, he married quite quickly *after* he lost his other, his wife didn't he? (BNC-KBX)

    b.   the men that I worked beside were quite prepared to honour an agreement *once* it was established. (BNC-GYV)

While taking for granted the major findings of previous research, this paper goes beyond it in two respects: Firstly, it specifically focusses on the usage characteristics of temporal adverbial clauses that are most marked or dispreferred, not only because they precede their matrix, but also because they express event-sequences in a non-iconic way (ex 3.a, b). Secondly, it explicitly includes adverbial clauses with extended functions, such as interactive or metalinguistic functions, i.e. clauses in which the events expressed relate to linguistic and non-linguistic aspects of the social interaction making up the ongoing speech situation itself (ex 4.a, b).

(3) a.   *Before* you before you all vote, put your hands down a minute. (BNC JJE)

    b.   *Until* you've known loss you've never known what you really have got. (BNC G4G)

(4) a. All right. Well *before* we talk about those those general principles, I'd
like to get back to the Banbury school opt out decision. (BNC-KRK)
   b. *Until* the Conference Office say yea or nay, there's nothing I can do liter-
ally there. (BNC-FM2)

The usage-based perspective suggests that recurrent formal properties of expres-
sions that correlate coherently with a functional load will become a part of the
schematizations that speakers "distill" from their linguistic experience (e.g. Ellis
and Ferreira-Junior 2009, 194). It will be shown that complex sentences with
highly marked adverbial-clause configurations show usage characteristics that
are not only significantly different from those found in less marked configura-
tions, but also motivated by their specific discourse-organizing functional poten-
tial. It is assumed that this functionality figures prominently in the meanings of
the respective subordinate-clause constructions, so that clause configurations,
which are generally the most marked ones, are in fact *not* dispreferred in these
special functions but present the constructions of choice.

2 A Usage- and Construction-Based Approach to Adverbial-Clause Constructions

2.1 Adverbial-Clause Constructions

As suggested above, complex-sentence configurations with adverbial clauses are
best analysed as highly complex meso-constructions. Minimally, their formal
pole contains the temporal subordinator as the only lexically specific element
together with the particular clausal configuration resulting from positioning the
adverbial clause with respect to the matrix (cf. 5).[2]

(5) a. $[_{S\ matrix}\ [_{S\ adverbial\ clause}\ subordinator\ \_\_\_\_]\ \_\_\_\_]]$
   b. $[_{S\ matrix}\ \_\_\_\_\ [_{S\ adverbial\ clause}\ subordinator\ \_\_\_\_]]$

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2 For the sake of brevity, the sketch of the adverbial-clause constructions presented here
completely ignores that each actual linguistic expression ('construct') is the result of the fu-
sion of a number of abstract constructions. For instance, each of the finite clauses making
up the complex-sentence constructions studied here is constituted by further abstract con-
structions, such as the subject-predicate construction or the valency- and argument-structure
constructions determining the number of verbal complements in the clause (cf. e.g. Hoffmann
2013, 312–313).

Apart from the obvious fact that the two clauses code for two distinct proposi-
tions, previous studies have shown that the semantic pole of these constructions
must include a number of further aspects: The first of these is the semantic con-
tribution of the specific temporal subordinator used. In its most literal uses, the
subordinator defines the temporal sequence between the events coded by the
matrix and adverbial clause, respectively. Speakers can choose between different
adverbial-clause constructions with the four temporal subordinators listed above
so that the clausal order is either iconic or not, i.e. mirrors (ex 6) or contradicts (ex
7) the event sequence depicted:

(6) a. $[_{\text{S matrix}}\ [_{\text{S adverbial clause}}\ after\ \underline{\quad}]\ \underline{\quad}\ ]]$
     b. $[_{\text{S matrix}}\ \underline{\quad}\ [_{\text{S adverbial clause}}\ before\ \underline{\quad}]]$
     c. $[_{\text{S matrix}}\ [_{\text{S adverbial clause}}\ once\ \underline{\quad}]\ \underline{\quad}]]$
     d. $[_{\text{S matrix}}\ \underline{\quad}\ [_{\text{S adverbial clause}}\ until\ \underline{\quad}]]$
(7) a. $[_{\text{S matrix}}\ [_{\text{S adverbial clause}}\ before\ \underline{\quad}]\ \underline{\quad}]]$
     b. $[_{\text{S matrix}}\ \underline{\quad}\ [_{\text{S adverbial clause}}\ after\ \underline{\quad}]]$
     c. $[_{\text{S matrix}}\ [_{\text{S adverbial clause}}\ until\ \underline{\quad}]\ \underline{\quad}]]$
     d. $[_{\text{S matrix}}\ \underline{\quad}\ [_{\text{S adverbial clause}}\ once\ \underline{\quad}]]$

As is well-known, subordinators coding for simultaneity or contiguity in time
easily acquire interpretations in the domain of causality or conditionality,
thereby creating the polysemy patterns of subordinating conjunctions like *as,
while* or *since*. Diessel (2008) suggested that the telic conjunctions *once* and *until*
additionally impose a completive aspectual contour that may strongly motivate
a shift to conditional interpretations, especially in the case of initial (and thus
iconic) *once*-clauses. It is worth pondering the difference between construc-
tions with *before/after* and those with *once/until* in the light of Diessel's remark.
While the former only serve to order events in time, i.e. define sequences, the
semantics of constructions with the latter is much more complex because these
adverbial clauses define points in time rather than entire time spans: As can
be gleaned most easily from examples with iconic clause order (ex 8a.b), *once*-
clauses supply an event whose culmination point/resulting state coincides with
the beginning of the matrix event. *Until*-clauses, on the other hand, supply an
event whose culmination point coincides with the end of the matrix event. These
two constellations open entirely different pragmatic possibilities. While it is
obvious that (especially initial) *once*-clauses are readily understood as defining
an enabling condition (ex 8.a), the achievement of the resulting state expressed
by final *until*-clauses primarily defines a point in time at which the matrix event
ends (ex 1.b). What the usage situations are in which such a semantic constel-
lation can be most profitably exploited if the *until*-clause is in initial position, is
less straightforward (ex 8.b).

(8) a.   *once* you've paid your entrance fee everything's free (BNC-KBR)
    b.   *Until* that budget is actually er, settled, it's difficult to be definitive about the actual amount of money that's available (BNC-J3R)

Secondly, the semantic pole of the constructions at issue must include the fore-grounding/profiling incurred in coding one of the two events as the matrix (e.g. Langacker 2008, 1991, 436). Importantly, the profiled content of the matrix gains "interactive prominence," i.e. carries illocutionary force;[3] while the adverbial clause remains without an independent illocution and is "interactionally deacti-vated" (Verstraete 2004, 824, 839).[4]

Thirdly, if highly recurrent usage aspects of the clause configurations illus-trated in (6) and (7) become aspects of the schematizations that language users form, it is highly likely that language users form different adverbial-clause con-structions not only for each single subordinator but also for each of the position-ing options available. I thus assume (at least) eight different, but strongly related item-specific constructions for the adverbial clauses studied here.[5] This assump-tion is supported by Verstraete's (2004) claim that the values of two functional features of complex sentences with adverbial clauses vary, depending on the (meaning of the) subordinator and the position of the adverbial clause. Besides the aforementioned presence/absence of an independent illocution of the subor-dinate clause, this is also true for the relation of the adverbial clause to the scope of the illocutionary operators of the matrix.[6]

It goes without saying that the assumption of the meso-constructions listed in (6) and (7) does not exclude the existence of (i) further, even more specific constructions, or of (ii) further, more general constructions that abstract away

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3 Formally, this is reflected by the fact that matrix clauses allow all basic clause types, with non-declarative types encoding interaction/negotiation between the interlocutors: "they serve to affirm, call into question, deny, order, or request." (Verstraete 2004, 839).
4 This is formally mirrored by the fact that they disallow clause types other than the declarative, or rather: neutralize the distinction between clause types. In this, they contrast with other ad-verbial clauses, e.g. (final) adverbial clauses with *because* or *although*, which are not as strongly restricted (cf. Verstraete 2004, 824).
5 I put "at least," because the rare possibility of mid-position of adverbial clauses is presently ignored. For relevant corpus data, see Section 4.
6 The non-temporal uses of clauses with *when*, *while*, *as* and *since*, for instance, only occur in a "detached construal," i.e. out of the scope of the illocutionary operators of the matrix. Their temporal uses, however, behave like the clauses studied here in that they allow for both de-tached and "integrated" construals, especially in clause-final position. The difference is formally marked by intonation: integrated construals are signaled by the inclusion of the subordinate clause in the intonation unit of the matrix (cf. Verstraete 2004).

from the formal and functional variation created either by the choice of a sub-ordinator or positioning option. I will return to this issue and the likely status of the resulting more abstract constructions vis-à-vis the meso-constructions in the discussion section below.

2.2 Initial Adverbial Clauses

As indicated above, this paper draws on a broadly functionalist and dis-course-analytic tradition of research which has emphasised the tight con-nections between discourse and syntax (e.g. McCarthy 1998; Thompson 1985, 1987; Verstraete 2004). This tradition has firmly established the special discourse-organising function of initial adverbial clauses, i.e. their capacity to act as devices which frame, contextualize or put in perspective the event expressed by the matrix in line with broader discourse requirements. It has also contrasted this function with the more local and less conspicuous behav-iour of sentence-final clauses, which have been widely assumed to provide new circumstantial information directly related to the matrix event (cf. e.g. Diessel 2005, 2008; Ford 1993; Givon 1990; Lehmann 1988, Thompson 1987; Thompson and Longacre 1985). Directly related to the present concerns, these observations have motivated further claims about the special constructional status of initial adverbial clauses: "the problem, rather than being one of a single 'construction' potentially occupying two different positions, is actually much more appropriately viewed as one of two quite different constructions" (Thompson 1985, 55).

Verstraete (2004, 837–844, 846) further corroborated these claims about initial adverbial clauses as a "separate construction type" by observing that they never exhibit an independent illocutionary force (not even with those conjunc-tions that allow for all sentence types in final position) and are almost completely restricted to detached construals:[7]

> This implies that initial clauses inherently have the basic constructional prerequisites for discourse-organizing functions: they operate in the background of interaction, and they are free to take up wider links to the surrounding discourse context. (2004, 843)

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7 Integrated construals are not only extremely rare but also distributionally marked, i.e. restrict-ed to cases with declarative matrixes whose proposition is presupposed, i.e. strictly given by the preceding discourse context: *It is better for me to … carry everyone with me… Especially when I speak in public I must show that I love all my sheep*. (cf. Verstraete 2004, 834).

For illustration, consider example (9), which is adapted from Verstraete (2004, 833):

(9) a. Did these things occur while you were a senior official in the federal government? (integrated construal natural: 'What was the time [interrogative focus] when these things happened [presupposition]?')

b. While you were a senior official in the federal government, did these things occur? (detached construal obligatory: Did these things occur [interrogative focus] in the period specified by the while clause [frame]?)

Having established the constructional features ensuring (or, from a usage-based perspective: reflecting) that initial adverbial clauses generally serve to organise discourse, Verstraete (2004, 843–844) goes on to refine previous positions on the local functions of final adverbial clauses. He stresses that the fact that clauses with strictly local functions will occur in final position does not entail that *all* final clauses are restricted to local functions. Though final clauses with integrated construal can only function locally, clauses with detached construal, i.e. clauses outside the scope of the illocutionary operators of the matrix, can take up discourse-organising functions. They can, for instance, be used to re-frame the content of the matrix, in the manner of an afterthought. The point is that this is more unusual than either final clauses with a local function or initial clauses with a discourse-organising function.

More recently, corpus-linguistic work within the framework of usage-based construction grammar has provided a multifactorial analysis of the major factors (cognitive, semantic, discourse-pragmatic, processing) that motivate the choice of one positioning construction over another (Diessel 2008). Though acknowledging previous findings about the discourse functions of initial clauses, Diessel (2008, 459) is not interested in their special status or characteristics as such: "the orientation function of initial adverbial clauses does not explain why some kinds of adverbial clauses occur in initial position more readily than others." Nevertheless, it is obvious that a usage-based analysis of adverbial-clause constructions can only profit from viewing the functional/discourse-pragmatic insights previously discussed in the broader context of Diessel's corpus results. In other words, the special status of initial adverbial clauses should be considered in the context of all factors determining clause ordering. Apart from discourse-pragmatic functions (including information management), these factors are presented by processing constraints, esp. by the length of what Hawkins (1994) calls the "recognition domain," and by cognitive/semantic factors, especially the so-called *iconicity of sequence* (Diessel 2005; Haiman 1985; Haspelmath 2008).

Diessel's corpus study firstly confirmed that processing and discourse-pragmatic, especially information-management, factors frequently work in the same

direction. Not only does information packaging prefer heavy, new information towards the end, processing requirements also favour the sentence-final occurrence of adverbial clauses, as it creates short recognition domains. The overwhelming majority of temporal adverbial clauses in English thus actually follow their matrix with sentence-initial clauses being disfavoured in more than one respect. Secondly, his study also showed that, with respect to temporal clauses expressing event sequences, iconicity is a strong motivating factor that influences clause order and shows up most clearly in the case of initial adverbial clauses. These are less marked if an iconic clause ordering is achieved – and, consequently, dramatically more frequent than configurations with initial clauses where this is not achieved. In the constructions studied here, this is the case with sentence-initial adverbial clauses with *after* and *once*. Diessel (2008, 462, 472) also finds that this effect is stronger in clauses containing *once* and attributes this to conditional interpretations of telic *once* (see section 2.1). He notes that *after* clauses may receive causal interpretations and stresses that conditional but not causal or purpose adverbials are known to routinely serve as sentence-initial framing devices (*ibid.*, 460). Diessel's study does not explicitly deal with the constructional status of the positioning alternatives of adverbial clauses, nor does it explain why rare sequences that are dispreferred from the conceptual/semantic *and* the processing side (i.e. initial sentences with *before* and *until*) still occur with some regularity. He also decided to "exclude adverbial clauses that are related to the main clause at the speech-act level" (Diessel 2008, 456, ex 10), thus erasing precisely those uses that I hypothesize to be a major function of this type of construction.

(10) Um well *before* we get into the detailed discussion of all of this, have you got something else Mary?

2.3 Temporal Adverbial-Clause Constructions with *Before* and *Until*

In accordance with the above discussion of the framing function and constructional properties of initial adverbial clauses, it can be safely stated that initial *before*-clauses minimally contextualize the foregrounded matrix event by defining another event as a temporal point of reference relative to which – or, rather, prior to which – the matrix event is (non-iconically) placed ("detached construal," ex 11.a). However, I expect that initial *before* clauses are also – and perhaps even more typically – used in an interactive function, in which the non-iconic clause order can be profitably exploited for the purpose of organising ongoing social interaction and multi-party talk. This "extended" function naturally occurs

whenever a speaker uses the two clauses to refer to (and simultaneously bring about!) a sequence of two events about to occur in the immediate situational context, i.e. the speech situation involving the speaker and the addressee (ex 11.b). In these uses, the later event of the two (coded by the initial adverbial clause) is strongly expected/highly predictable in the context (or even announced in the preceding co-text), while the earlier event (coded by the matrix) is (literally!) in the foreground of the interaction. The speaker wants it to happen and judges it to be new/unexpected to the addressee(s). If the speaker's interactive attempts succeed, the event coded by the matrix is very likely the next thing that (some of) the interlocutors will do.

(11) a. *Before* you came home the white cat came back! (BNC-KD8)
b. *Before* you before you all vote, put your hands down a minute. (BNC-JJE)

Since either or both of the subevents expressed can also be communicative subevents of the ongoing speech situation itself, these constructional uses may take on a very special metalinguistic quality. They are "discourse-organizing" in a very particular way, viz. managing multi-party communicative interaction across turns (ex 12). This is most obviously the case with interrogative or imperative matrix clauses, which mark a non-assertive speech act syntactically, i.e. pose a question or a request which require an immediate response by the interlocutor (ex 12.c).

(12) a. All right. Well *before* we talk about those those general principles, I'd like to get back to the Banbury school opt out decision. (BNC-KRK)
b. *Before* we leave item one D, sir, there are two things that Hambledon would like to say. (BNC-HVJ)
c. *Before* we go onto that, erm how far do you think Jane Eyre supported this idea? (BNC-K60)

It follows from Verstraete's considerations about final adverbial clauses that discourse-organising uses, including interactive ones, are not in principle excluded from complex-sentence configurations with final adverbial clauses with *before*, but must be expected to be much less frequent (ex 13).

(13) a. Ann do you want a smoke *before* you go in? (BNC-KB8)
b. Are there any further matters arising *before* we pass onto the next item on the agenda? (BNC-D95)

I have stressed before that the semantics of constructions with telic *until* is entirely different in that *until*-clauses temporally frame the interactionally foregrounded matrix event by defining a point in time at which it ends. They do so by making use of the culmination point of a secondary event, which is given by the preceding co-/context: the matrix event continues as long as the

culmination point of the secondary event is not reached. That being the case, the extended discourse-organising or framing function(s) of the construction with initial *until*-clause must be expected to contrast sharply with that of initial *once*-clause: In the conditional interpretation, a *once*-clause simply spells out a situation that, if completed, enables the matrix event to begin (ex 8.a). An initial *until*-clause, in contrast, does not express this type of enablement, but rather describes a telic situation that effectively blocks any change of the matrix event as long as it is not completed. In a rather complicated manner, the construction with initial *until*-clause thus anticipates the resulting state of a secondary event before even expressing the matrix event itself (whose end it defines). It thus places special emphasis on the temporary (or provisional) character of the matrix event.

Though this can be used narratively in a relatively neutral way (ex 14.a, b), it turns out that speakers exploit this by using the construction to frame matrix situations that they evaluate negatively and thus do not wish to last. Frequently, these are situations in which something that is needed or desirable is impossible, unfeasible or difficult and thus cannot happen or be done (ex 14.c-e). In such cases, the adverbial clause spells out a situation that needs to be completed before the unpleasant matrix situation can end. Obviously, this gives rise to the conditional interpretation alluded to above, in which any change of the (unpleasant) matrix situation is blocked or at least very difficult as long as the event expressed by the *until*-clause is not completed:

(14) a.   *Until* he was seven his life at home though poverty stricken had not been too bad. (BNC-J9A)

    b.   … up *until* we sold Cox a week ago, the whole team was on the table for sale or to borrow, the complete team. (BNC-KS/)

    c.   No, *until* you said that, I still didn't, didn't trust them. (BNC-JJ8)

    d.   … *until* you can do something about this then you're not going to fight the crimes that occur (BNC-GY4).

    e.   *Until* that budget is actually er, settled, it's difficult to be definitive about the actual amount of money that's available (BNC-J3R)

Though semantically extremely complex, the construction with initial *until*-clauses makes for a highly useful framing device in expository/argumentative and perhaps even instructive types of discourse, because it allows to present an undesirable or problematic situation which is in the foreground of the communicative interaction, as temporary. At the same time, the framing provided by the *until*-clause can be (loosely) understood to point to a possible reason for the present situation (if not completed), or even to a potential solution (if completed).

Beyond that, these pragmatic possibilities may also support more directly interactive uses, though the time frames implied here may go beyond the immediate communicative situation (ex 4.b, here repeated as 15.a). Interlocutors who need to express that they are unable or unwilling to act in an expected or required way can use the framing provided by the adverbial clause as a kind of hedge in a potentially face-threatening social situation:

(15) a. *Until* the Conference Office say yea or nay, there's nothing I can do literally there. (BNC-FM2)

   b. … *until* I have been trained to do it perhaps P C should continue using his skills. (BNC-K6W)

In analogy to what was said above, examples functioning like these are assumed to be much rarer with the reverse, iconic clause ordering, as the final adverbial clause can most naturally be used to just specify a point in time at which the event expressed in the main clause ends (ex 1.b above).

3 Corpus Methods and Hypotheses

Taking major previous findings for granted, this paper intends to flesh out in more detail the claim that the properties of item-specific adverbial-clause constructions which specify the subordinating conjunction as well as the position of the adverbial clause reflect their functionality/use. The long-standing claim that initial adverbial clauses are constructions in their own right, whose functionality is located at the borderline between complex sentential syntax and discourse, is a corollary of this hypothesis. By fleshing out some of the properties of constructions with initial clauses and comparing them to constructions with final ones, I hope to provide usage data supporting the assumption of the afore-mentioned meso-constructions whereby it is expected firstly that these clause constructions behave like other syntactic constructions in that they may develop extended functions, i.e. become polysemous, whereby each single one may show a functional profile of its own. The profiles of initial adverbial clauses are expected to mirror the transition from sentential syntax to discourse much more strongly than those of final ones. Secondly, constructions with initial adverbial clauses should exhibit usage characteristics that are different from those of their sentence-final counterparts, whereby this tendency should be especially strong in the case of initial *before-* and *until-* clauses that show non-iconic clause orderings and are thus marked with respect to *all* of the major factors determining clause positioning. The corpus study will thus focus on these.

3.1 Corpus Data

In a first step I checked whether the general proportions for initial and final temporal adverbial clauses with *once, until, before* and *after* found in Diessel's (2008) relatively small data set of approximately 100 tokens per subordinator would be confirmed by a different and also much bigger sample of spontaneously spoken utterances. To this end, I created my data set by using a subset of the BNC II (world edition) consisting of 9.42 million words which I compiled from all BNC files containing spontaneously spoken language. I included in this subcorpus not only the so-called "spoken demographic" files, but also files providing spontaneous spoken language of more formal genres with different interaction patterns, such as classroom or courtroom interactions, science demonstrations, spontaneous commentary and business meetings.

From this BNC subcorpus, all instances of the four subordinators were retrieved. For each subordinator, the complete corpus output was then sampled by including only 1 true hit per corpus file in the data set, thus ensuring that each token actually came from a different speaker. In addition, and in order to include in the sample utterance tokens from any random part of conversational interactions (and not just from the beginnings), the choice of the single token per file followed the order created by the randomizer. During the coding procedure I counted as true hits examples with the respective adverbial clauses in initial, final and also middle position, but excluded from the data set all false hits, fragmented utterances that were unanalysable or without a matrix, adverbial clauses with ambiguous relations to preceding or subsequent clauses as well adverbial clauses that were part of special constructions, e.g. focus constructions. I did not follow Diessel (2008, 464), when retaining all uses with a pragmatic matrix.

In order to study the discourse functions and selected frequent aspects of the formal realisations of the constructions, especially of the non-iconic constructions with initial temporal clauses in actual use, and compare these to (some of) the other constructions in the data set, I created in a second step smaller subsets of identical size of the data obtained for the constructions with *before*, *once* and *after* by randomly selecting 70 true hits per construction from the data obtained for case study 1, following the randomizer employed in study 1. Due to data sparsity, I had to enlarge the original data set for the rare case of initial *until*-clauses. I therefore went through the corpus output a second time (again following the randomized order created for study 1) in order to identify further tokens with initial *until*-clauses. The inclusion of 21 additional tokens from all corpus files that had previously provided a token of a construction with a final *until*-clause only yielded a sample of 62 tokens. In order to increase the token number to 70, all seven second tokens and one third token of the remaining nine initial

until-clauses from the entire corpus output were included as well (the latter again chosen by the randomizer). All of these samples were then manually coded for discourse function as well as for all of the features listed below. This paper reports some of the results for the constructions with *before* and *until*.

3.2 Hypotheses

3.2.1 Case Study 1: Proportions of Constructions in the Data Set and Discourse Functions

I expected that the proportions of the eight constructions in my entire sample should roughly coincide with those reported in Diessel (2008), except for non-iconic clause constructions with initial adverbial clauses. Following my preliminary analysis of these, I assumed that the inclusion of adverbial clauses in all kinds of functions, including those with a "pragmatic matrix," should lead to significantly higher amounts of non-iconic initial adverbial clauses in my data set, esp. those with *before*. I expected initial *until*-clauses to be the rarest in my data set as well, due to their highly complex semantics and very special functional potential. In accordance with the previous literature and above discussion of the discourse functions of initial adverbial clauses, I expected initial *before*- and *until*-clauses to serve in interactive and other extended functions substantially more often than the respective final clauses.

3.2.2 Case Study 2: Selected Morpho-Syntactic Features of Adverbial Clauses with *until* and *before*

Under the usage-based assumptions that the linguistic features of syntactic constructions should mirror their specific functionality (and discourse origin) and in order to start fleshing out the general expectations given above in a construction-specific way, I derived a number of first hypotheses about how expressions licensed by the two constructions with non-iconic initial adverbial clauses (*before, until*) might differ morpho-syntactically from expressions instantiating the corresponding constructions with a final (and thus iconic) adverbial clause. The features checked are listed in (i) to (iii):

i. illocutionary markers of non-assertive speech-acts in the matrix: imperatives, hortative constructions, interrogatives as well as deontic modals;
ii. subject NP in both the subordinate clause and the matrix: reference to speaker and/or hearer;

iii. markers of strong negative-polarity in the matrix: negation of the verb or one of its arguments, negative adverbs like *never*, *hardly*, morphological derivations negating the meaning of the lexical verb or of a predicative complement.

Hypothesis (i) assumes that expressions with either of the two initial adverbial clauses would more frequently exhibit formal markers of a pragmatic matrix. Hypothesis (ii) states that, in addition, the subject NP of both the matrix clause and the subordinate clauses of expressions with an initial *before-clause* should refer more frequently to the speaker/hearer. Hypothesis (iii) expects the matrix of expressions with an initial *until*-clause to exhibit markers of strong negative polarity more frequently.

4 Results and Discussion

4.1 Case Study 1

The proportions of the various constructions with final and initial clauses in the data correspond rather closely to those reported in Diessel (2008), with diverging results being in the expected direction: In the two data sets, the proportions of constructions with *after-* and *once*-clauses, which create iconic clause orders in initial position are nearly identical (cf. Appendix, Table 1). Notable increases are only found with those clause constructions that create non-iconic clause orders in initial positions, i.e. with constructions containing initial *before*-clauses and, on a much smaller scale, also for the generally rarer initial *until*-clauses. A binary logistic regression analysis was employed in order to test whether the relative frequencies of initial vs. final clauses for each subordinator in my data set differed significantly from Diessel's results.[8] In confirmation of my hypothesis, the proportions between initial and final clauses in my data set differed significantly from Diessel's only for *before*-clauses (p=0.025*). The differences observed for the much rarer *until*-clauses, in contrast, were not significant. I will discuss below in how far this difference can be considered as related to the discourse functions of *before*-clauses.

Although clauses in mid-position are beyond the scope of this study, their occurrence in my data set should at least be reported. Confirming previous findings, Table 2 of the Appendix shows that this construction type is rare also in my data set – accounting for only 2.4% of all true hits (i.e. for 38 of 1,554 expressions).

A survey of the discourse functions of constructions with *before*-clauses in my data set is provided by Table 3 (see Appendix). In order to make sure that the observed tendencies were not due to the limited sample size, I also checked the results for the largest possible sample (of which the smaller one is a subset), using all tokens with initial clauses in the data (105) and the same amount of tokens with final clauses (following the randomizer as before). As this did indeed enlarge the observed effects, I will refer to the results for the larger sample in the discussion (for a visualisation, see Figure 1).

As one quick glance at the diagram reveals, a large majority of the constructions with final *before*-clauses (about 71%) occur in narrative and expository stretches of spoken discourse, while more than half of the constructions with initial *before*-clauses are used interactively or metalinguistically (together about 55% of all uses). As indicated above, I treat the latter category (about 29% of all tokens) as a special instance of the former, which is aimed at the organisation of the ongoing communicative interaction itself. It is thus no surprise that the anticipatory framing tool provided by the construction with initial *before*-clause is most relevant and frequent in more formal, semi-planned genres, such as meetings or lessons, where speaker roles/rights as well as topic sequences are to a large extent pre-determined.

Another peculiar type of uses occurs when speakers describe or explain generic event sequences that are not dependent on the immediate discourse situation or the speaker-hearer interaction (ex 16). These uses are of equal frequency in both constructions, making up nearly a fifth of the data. Though I have provisionally introduced a separate category labelled as "instructive," these uses are not always clearly distinguished from interactive ones, due to the occurrence of second-person pronouns with generic reference (ex 16.a). It is also possible to see
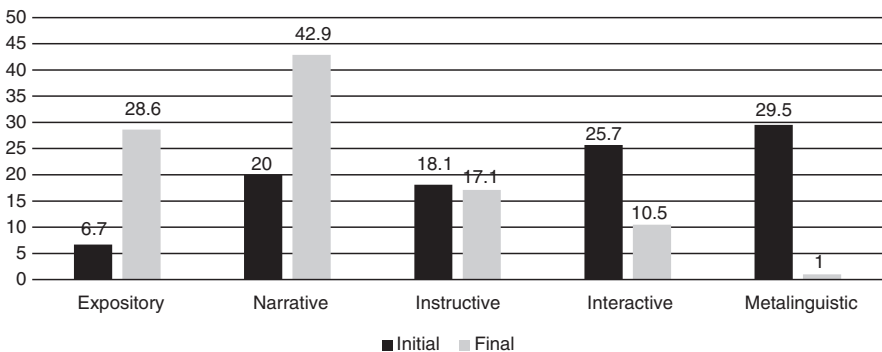

Figure 1: Percentages of discourse functions of constructions with *before*-clauses (sample size: 105).

them as just a special application of a standard framing function in non-narra-
tive/expository discourse (ex 16.b):

(16) a.   well, *before* you take off or turn left or turn right, or slow down or stop,
          use your mirrors, you should always look behind (BNC-KBM)

      b.   *Before* you can make changes to the system, you have to understand it,
          and that takes an awful long time. (BNC-HDX)

Considering that more than half of the initial clauses in my data are used interac-
tively (or even metalinguistically) and that these uses are dramatically less frequently
found with final clauses, it is probably safe to state that initial clauses offer func-
tional affordances which are particularly useful in more formal, semi-planned forms
of interaction. These seem to consist in the framing which points to a later event in
time that is not interactively foregrounded, i.e. not debatable. In terms of marked-
ness, these functional gains seem to counter-act iconicity effects at least to some
extent (iconic constructions with *after* are still relatively more frequent in my data).

       Note further that it is also in accordance with expectations that final clauses
in interactive/metalinguistic function, though dramatically less frequent than
initial ones (about 11% vs. 55%), do still occur with some regularity. What is most
remarkable, however, is that metalinguistic uses of final *before*-clauses are nearly
non-existent. The following example with a non-declarative matrix is the only
pertinent token in my corpus data:

(17) Are there any further matters arising *before* we pass onto the next item on the
       agenda? (BNC-D95)

The array of discourse functions for constructions with *until*-clauses does not
look too different from the previous survey, though the functional differences
between the constructions with initial and final clauses, respectively, seem less
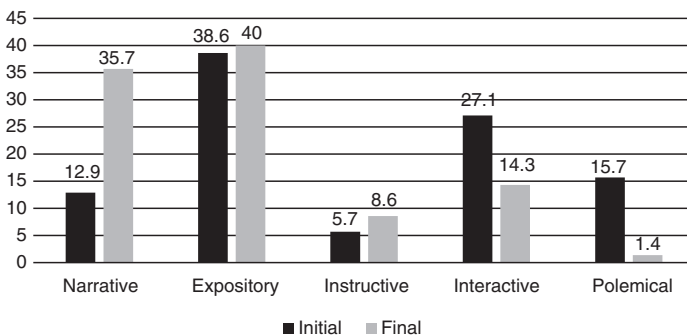pronounced (cf. Table 4 in the Appendix, see also Figure 2).

Figure 2: Percentages of discourse functions of constructions with *until*-clauses (sample size: 70).

Initial clauses are again special, in two respects: They occur in interactive uses nearly twice as frequently as final ones (27% vs. 14%) and they contrast with the latter also in that they are regularly employed as framing devices in particularly polemical passages of argumentative discourse (16% of all tokens). Constructions with final clauses, in contrast, are nearly three times more frequent in narrative uses than initial ones (36% vs. 13%).

To briefly comment on the interactive uses of constructions with initial *until*-clauses first: Exactly in the way sketched out in section 2.3 above, nearly all interactive uses express the speaker's inability or unwillingness to act as expected or most adequately (ex 18, see also 15 above). Within the temporal and situational frame created by the initial *until*-clause, the matrix event is in all cases negatively connoted and variously portrayed as (temporarily) impossible (11 of 19 tokens, ex 18.a), extremely difficult (3/19) or, in the weakest case, undesirable or provisional (5/19, ex. 18.b,c).

(18) a.   *Until* that happens I regret that I cannot support Chris's resolution. (BNC-JS8)

b.   … *until* I have been trained to do it perhaps P C should continue using his skills. (BNC-K6W)

c.   But we can *until* we get a house, we can we can live with you can't we? (BNC-KSS)

The more "polemical" uses of initial *until*-clauses in argumentative passages (ex 19.a) are not entirely distinct from interactive ones, and may even employ morpho-syntactic markers of non-assertive speech acts (ex 19.b). They could be seen as a special case of the interactive use, especially since they likewise (though with a different goal) exploit the fact that, before completed, the secondary event can be seen as blocking a change in the negatively evaluated situation expressed by the matrix. Final clauses, in contrast, are rarely used like this. (19.c) is the only token in my data which comes at least close:

(19) a.   … and *until* it is true [that there is no longer any poverty] neither they nor we have got any right to be content. (BNC-F87)

b.   … and *until* you come up with an alternative policy, don't you start knocking us for having a policy which we are prepared to debate. (BNC-JT8)

c.   …. a matter [steps to reduce the housing revenue account debt burden] which we will continue to bate, to debate *until* something is done about it. (BNC-JT8)

The major difference in the discourse potential of the two positioning constructions with *until* cannot be gleaned from the table, however, though it is reflected and magnified by the special interactive and polemical uses just discussed (which it certainly motivates). In fact, it can be found across all functions,

including the large remaining categories of *until*-clauses in narrative or non-narrative/expository stretches of spoken discourse. As indicated earlier (see section 2.3), this difference seems to arise from the tendency of constructions with initial *until*-clauses to strongly emphasize the temporary nature of the matrix event by binding its endpoint to the completion of a secondary event, which is formally anticipated. This encourages the use of the construction with situations that speakers wish to end, i.e. undesirable ones. It also supports the interpretation of the secondary event as a blocking condition, which is apparently understood as preventing any change for the better. With initial *until*-clauses, the matrix event is nearly always portrayed as impossible, unfeasible, difficult, or at least provisional, rather than more neutrally as just temporary. While this was to be expected for the interactive and polemical uses (2 of 30 tokens, about 7%), I was surprised to find the same trend in their expository, instructive and narrative uses (40 tokens overall). The only exceptions here were one neutral expository example (of 27 tokens) and 4 (of 9) tokens in narrative uses (together 12.5% of the tokens in these three categories). With constructions containing final *until*-clause, the situation is notably different in that the adverbial clause often express neutrally at which point in time (or under which condition) the matrix event ends. This does not only apply to a large portion (44%) of the 59 tokens classified as expository (ex 20.a), instructive (ex 20.b) or narrative (ex 1.b, here repeated as 20.c), but also to 7 of the 10 interactive expressions (ex 21.a, b below).

(20) a.   and they tend to cut things off the bottom to make it all fit *until* it feels about right. (BNC-KRP),

      b.   if they don't understand, leave it *until* they're a little bit older (BNC-JP4)

      c.   they used to filter through the organization, *until* they landed on somebody's desk who was actually supposed to carry out the work (BNC-H48)

In view of these considerations, it should be stressed that, despite the insights gained, the functional analysis is by far too coarse at this stage. For an illustration of what is still missing, consider the following further functional details of the interactive uses of the constructions with *before* and *until*. To start with the former, all tokens of the construction with initial *before*-clause in interactive function relate directly to the organisation of an aspect of the ongoing (speech) situation (hence called "metalinguistic"). In contrast, nearly half of the expressions with final *before*-clauses in interactive function (5 of 11 tokens) are used to organise social interactions within larger time spans.

     As for the latter, expressions with final *until*-clauses in interactive uses do mostly (7 of 10 tokens) just provide the locution of a (direct or indirect) directive speech-act (ex 21.a, b), with the *until*-clause functioning strictly locally in the way sketched out above. Only occasionally, it provides a condition blocking the

matrix event (ex 21.c). Constructions with initial clauses, in contrast, are predominantly employed (13 of 19 tokens) in order to frame the speaker's unwillingness or inability to act as required (ex. 21.d, see also 18 above).

(21) a. you can wait *until* you can see her going out with wait *until* the car's not there (BNC-KE3)

b. I want you to make your sound and will you keep on making that sound repeatedly *until* I clap like that and tell you to stop, okay, (BNC-KP2)

c. Well don't start until grandma comes. (BNC-KBW)

d. But until we do I can't see that we can pass something which refers to something we know nothing about. (BNC-JS7)

4.2 Case Study 2

The second case study tested whether the functional differences observed are reflected by the morpho-syntactic properties of the expressions with final and initial *before-* and *until*-clauses. In the cases of *before*-clauses, I will again report the results for the bigger sample (105 tokens).

Table 5 of the Appendix surveys the results on the illocutionary markers of the matrix clause in expressions with *before*-clauses. The results confirm that some markers of non-assertive illocutionary force, esp. deontic modals and non-declarative clause types are significantly more frequently found with expressions containing initial *before*-clauses (occurring in 60% of all tokens) than with final ones (occurring in about 31% of all tokens). Tables 6 and 7 of the Appendix report that both the matrix and the *before*-clause of expressions with initial *before*-clauses differ significantly from those with final ones in that they exhibit 1st- and 2nd-person subject-NPs more frequently and 3rd person subject-NPs less frequently, though this effect is much smaller for matrix clauses. References to the speaker or a group to which the speaker belongs are most typical of the subjects of initial *before*-clauses. That the difference is less pronounced in the case of references to the hearer might be partially an artefact of the analysis, as tokens with generic reference can often hardly be distinguished from tokens with hearer reference (especially in instructive uses) and thus were not excluded from the token count.

Tables 8 and 9 of the Appendix present the results on markers of illocutionary force and strong markers of negative polarity in the matrix clause of constructions with *until*-clause. As expected, constructions with an initial *until*-clause show strong negative polarity markers in their matrix clause significantly more frequently than expressions with final ones. They are also modalized more

frequently as predicted, though the differences here do not quite reach significance, probably due to the small sample size.

Elaborating on the considerations at the end of the previous section a bit more, the morpho-syntactic differences reported are again only very crude first assessments of the formal differences I wish to capture. Though they largely confirm expectations, the observed effects are rather small, as formal differences which are not analysed in close conjunction with major functional differences might be obscured by the features of irrelevant tokens to a considerable extent. In order to illustrate this point, I will take a closer look at the morpho-syntactic features of a functionally more coherent subset of the entire data, viz. just the 58 interactive/metalinguistic uses of the construction with initial *before*-clause. Here, the percentage of modal verbs and non-declarative clause types (as markers of non-assertive illocutionary force) is further increased to about 73%. The same goes for the person specifications of the subject NPs: In the entire sample of 105 expressions with initial *before*-clause, about 64% of all subject-NPs in matrix-clauses and 85% of all subject-NPs in subordinate clauses refer to the speaker or hearer – whereby 1st-person references are more frequent than 2nd-person-references in the *before*-clause than in the matrix (about 54% vs. 31%). In the subset with the 58 interactively used tokens, the portions of subject-NPs with 1st- and 2nd-person reference even go up to 75% in the matrix and 96% in the subordinate clause, respectively, whereby the tendency towards 1st-person reference of the subject-NP in the latter is also enlarged (about 76%). Due to data sparsity (12 tokens), I cannot tell whether the morpho-syntactic characteristics of the rare interactively used expressions with final clauses do actually resemble those with initial ones more than expressions with final clauses in other functions.

To close on a methodological note with a view to further research: the monofactorial analysis of the results for selected features will not suffice on principled grounds to create a fuller picture (cf. Gries 2014). Ongoing work is thus currently analysing a more comprehensive array of formal and functional features in the complete data set for all clause constructions with the subordinators *after*, *before*, *until* and *once* and further closely related constructions. It employs multi-factorial methods such as hierarchical configurational frequency analysis (HCFA) in order to see which formal and functional features tend to co-occur, both for each of the constructions separately and across constructions.[9]

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9 Apart from *when*, the most closely related temporal adverbial clauses are those with *as soon as* and *as long as*. While *once* and *as soon as* seem roughly synonymous, the meaning of a positive clause with *until* approximates that of a corresponding negated one with *as long as*: *We will continue until this is achieved/as long as this is not achieved.*

5 Concluding Considerations

In accordance with much previous work (esp. Verstraete 2004; Diessel 2008), I have emphasized how strongly the specific discourse-organizing uses of constructions with temporal adverbial clauses depend on the semantics of each subordinator as well as the position of the adverbial clause and have assumed that both play a role in many of the multiple schematizations that users may "distill" from discourse. From the perspective of descriptive adequacy in construction-based approaches to the complex sentence, it could also be stated that syntactic constructions need to be explicit about both of these aspects, if they want to capture semantic and salient regular discourse-pragmatic aspects alike.

Despite their obvious limitations, the corpus results gained so far suggest that the most salient "extended" discourse functions of constructions with initial adverbial clauses are likely to form a vital part of their respective semantic poles, because they show these functions to be strongly or even nearly exclusively associated with particular subordinators and particular clause positions only. Minimally, this is true of the interactive functions of constructions with initial *before*- or *until*-clause, of which the "metalinguistic" or "polemical" uses are the most conspicuous instances. As other uses of these clause constructions are also possible and even frequent, issues of constructional polysemy are raised.[10] In other words, the assumption of constructional polysemy will be most relevant to constructions with initial *before*- and *until*-clauses that are most highly marked with respect to all factors determining clausal order, hence also least frequent in general. I have discussed in which way especially these highly marked configurations yield specific affordances that speakers can pragmatically exploit, especially in more formal, semi-planned forms of interaction.

In view of the usage-based assumption that the functionally coherent formal similarities of expressions that language users experience frequently will be retained in their generalizations about these expressions, the question arises how faithful or close to actual usage constructions can be or need to remain in order to still be useful and efficient (in terms of the ratio between cognitive cost invested and communicative effect achieved). In general, this issue relates to the obvious facts that schematicity is a matter of degree and that (bottom-up) schematization processes will not fail to capture the formal and functional similarities of smaller subsets of highly similar tokens. For instance, speakers may form idiom-like generalizations from repeatedly encountering expressions with (nearly) the same

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10 For the time being the issue of whether the different *uses* of a meso-construction might actually be seen as constructions in their own right has been blended out completely (but cf. the frame-semantic approach to lexical polysemy, Fillmore and Baker 2010).

initial *before*-clause (22.a) or matrix (22.b), both of which are found in my data several times. According to my data, schematizations over experienced tokens of (22.b) would retain that these are only used in the interactive function that I call "metalinguistic," that their matrix is always reduced to an indefinite NP containing mostly *word* or a closely related communication noun and that the *before*-clause always expresses a proposition which relates to an imminent action of (one of) the interlocutors which is relevant to the organisation of the ongoing speech event.

(22) a.   [$_S$ [$_S$ Before you (/we) know it] ____]

     b.   [$_{S\ matrix:\ elliptic}$ [$_S$ Before ____] [$_{NP}$ a word (/comment, remark) on ____]]

But even less local schematizations might still reflect strong usage tendencies, especially if they generalize across instances that are discourse-pragmatically very similar. If not conclusively demonstrated, this is at least suggested by the strong formal similarities between the tokens of initial *before*-clauses in interactive function in my data. The schematization over interactive uses of the meso-construction with initial *before*-clause could thus also retain information about frequent functionally relevant morpho-syntactic properties (ex 23). I suggest that this type of usage information is highly valuable to language users in that a full-blown communicative competence or proficiency in more formal types of spoken interaction requires this type of knowledge.

(23) a.   [$_{S\ matrix:\ nondeclarative/modalized}$ [$_S$ *Before* [$_{NP\ Subj:\ 1st\ person}$] ____]]

One might finally (and half playfully) ask whether language users (or systems) need schematizations that abstract away from all of the formal variety associated with the various positioning options for a given adverbial clause – and hence also from the specific functional characteristics associated with each of these options. The answer is yes, because these yield the meaning and form of the respective subordinator as a function word. Instead of as an isolated item, the subordinator should be regarded as the only substantial part of a "constructeme" (Cappelle 2006) that is both highly schematic and of considerable complexity. Its form-side only determines the potential positioning options for the adverbial clause vis-à-vis the matrix; its meaning includes only those functional aspects that do not depend on a particular position of the adverbial clause. Apart from strictly semantic aspects, these would also include the foregrounding effect involved in coding one of the two events expressed as the matrix clause. From this perspective, meso-constructions containing the same subordinator appear as related to each other in being the discourse-functionally loaded "allostructions" of a discourse-neutral constructeme that defines the semantics of this subordinator.

Appendix

Table 1: Proportions of initial and final adverbial clauses.

	Initial pos.	Rel. freq	Final pos.	Rel freq	Total
After					
Diessel	27	0.278	70	0.722	97
Hampe	82	0.291	200	0.709	282
Before					
Diessel	6	**0.069**	81	**0.931**	87
Hampe	105	**0.198**	425	**0.802**	530
Once					
Diessel	77	0.786	21	0.214	98
Hampe	236	0.761	74	0.239	310
Until					
Diessel	5	0.051	94	0.949	99
Hampe	41	0.106	346	0.897	387

Binary logistic regression (R-squared=0.362, C=0.799, model significance: LR=559.24, df=7, p<0.001): significant differences only in the relative frequencies of initial vs. final *before*-clauses (p=0.0248*).

Table 2: Total number of true hits, including clauses in mid position.

	After	*Before*	*Once*	*Until*
Initial and final positions	291	530	310	387
Mid position	15 (5.05%)	13 (2.39%)	7 (2.2%)	3 (0.8%)
Total	303	543	317	391

Table 3: Discourse functions of constructions with *before*-clauses.

	Sample size: 70				Sample size: 105			
	Initial	Rel freq	Final	Rel freq	Initial	Rel freq	Final	Rel freq
Expository	5	0.071	18	0.257	7	0.067	30	0.286
Narrative	16	0.229	28	0.400	21	0.200	45	0.429
Instructive	15	0.214	15	0.214	19	0.181	18	0.171
Interactive	15	0.214	8	0.114	27	0.257	11	0.105
Metalinguistic	19	0.271	1	0.014	31	0.295	1	0.010
Total	70	1.000	70	1.000	105	1.000	105	1.000

Sample size 70: Chi-squared: 28.951, df=4, p=7.999e-06***, Cramer's V=0.45474. Sample size 105: Chi-squared: 57.913, df=4, p=7.957e-12***, Cramer's V=0.52515.

Table 4: Discourse functions of constructions with *until*-clauses.

	Initial	Rel freq	Final	Rel freq
Narrative	9	0.129	25	0.357
Expository	27	0.386	28	0.400
Instructive	4	0.057	6	0.086
Interactive	19	0.271	10	0.143
Polemical	11	0.157	1	0.014
Total	70	1.000	70	1.000

Chi-squared: 19.074, df=4, p=0.00076***, Cramer's V=0.36911.

Table 5: Markers of illocutionary force in constructions with *before*-clause.

Matrix feature		Initial		Final
Future	6	5.71%	4	3.81%
Modalized	46	43.81%	25	23.81%
Non-declarative	17	16.19%	8	7.62%
Sample size	105		105	

Chi-squared: 19.697, df=3, p=0.0002***, Cramer's V=0.30626.

Table 6: Person specification of subject NP in constructions with *before*-clause.

Matrix feature		*Construction with initial adv clause*		*Construction with final adv clause*
1st prs	33	31.43%	29	27.62%
2nd prs	34	32.38%	20	19.05%
3rd prs	38	36.19%	56	53.33%
Total	105		105	

Chi-squared: 7.3345, df=2, p=0.02555*, Cramer's V=0.18689.

Table 7: Person specification of subject NP in constructions with *before*-clause.

Feature of subord. clause		*Construction with initial adv clause*		*Construction with final adv clause*
1st prs.	57	54.29%	34	32.38%
2nd prs.	32	30.48%	27	25.71%
3rd prs.	16	15.24%	44	41.90%
Total	105		105	

Chi-squared: 19.3036, df=2, p=6.431–05***, Cramer's V=0.30319.

Table 8: Markers of illocutionary force clause of constructions with *until*-clauses.

Matrix feature		Initial		Final
modalized (incl. future)	33	47.14%	20	28.57%
Non-declarative	4	5.71%	8	11.43%
Sample size	70		70	

Chi-squared: 3.3399, df=1, p=0.0676, n.s., Cramer's V=0.22668.

Table 9: Polarity in constructions with *until*-clause.

Matrix feature		Initial		Final
Strong neg. polarity	49	70.00%	28	40.00%
Others	21	30.00%	42	60.00%
Total	70	100.00%	70	100.00%

Chi-squared: 12.7273, df=1, p=0.0004***, Cramer's V=0.30151.

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