A constructional approach to Spanish consecutive discourse markers. Experimental and corpus evidence

88

Carlos Cuello Ramón

A constructional approach to Spanish consecutive
discourse markers

EUS EDITORIAL
UNIVERSIDAD DE SEVILLA

CeaapQ
Calidad en Edición Académica

Academic Publishing Quality

COLECCIONES

Avalado por
ANECA   FECYT

Promovida por
une

Colección Lingüística

Carlos Cuello Ramón

A constructional approach to Spanish consecutive discourse markers
Experimental and corpus evidence

Index

Acknowledgments

In this book I intend to develop an explanation about how the context of certain linguistic units can shape their evolution. I also argue for the role of certain constructions as guides that magnetically attract these forms and determine their future settings. It would be unfair, therefore, not to give also account of how these dynamics can explain the process of creation and writing of this book, influenced and enabled by a large number of people whom I would like to thank for their help and support.

I really owe this book to Dr. Maria Estellés, who has helped grow the bulk of the theory contained in it: her cleverness and methodological rigor have been a fundamental inspiration for these ideas; her willingness, encouragement and leadership skills, a catalyst for carrying them out.

Development of these ideas is also the result of Dr. Óscar Loureda's work, under whose direction I saw the paths to obtain tangible results and designed the experimental approach. Likewise, Dr. Pedro Gras provided me with important theoretical perspectives and helped me ground the ideas with methodological pragmatism and accuracy.

The DPKog research group gave continuous intellectual and human support for the huge work that the experimental study entailed and constituted the best environment for my personal and academic development. Without them, no page of this book would have been written, so I would like to express to them my sincere admiration and gratefulness.

I also want to thank Dr. Vahram Atayan for his constructive and thought-provoking comments during the PhD defense and the anonymous reviewers for their incisive suggestions on a previous version of this book.

Besides the academic environment, friends and family played a great role in keeping the calm and well-being needed for the project to flourish. LPDC was present in every waking hour and really supported me all this time. I also found peaceful moments in conversations with my brother, whose calm and wisdom I truly appreciate.

I am deeply grateful to my parents, the supporting constructions in my life, for guiding me and helping me find my own way freely. Finally, I want to dedicate this book to Elena: for waiting, listening to me and opening my mind, and for making everything easier during this long time span.

List of abbreviations

AOI	Area of Interest
Cxn	Construction
CORPES XXI	Corpus del Español del Siglo XXI
CREA	Corpus de Referencia del Español Actual
DM	Discourse marker
DPDE	Diccionario de Partículas Discursivas del Español
DS1	Discourse Segment 1
DS2	Discourse Segment 2
FRT	First Reading Time
GE	Grammaticalization as expansion
GR	Grammaticalization as reduction
NGLE	Nueva Gramática de la Lengua Española
PP	Prepositional Phrase
RRT	Re-Reading Time
Top.	Topicalized
TRT	Total reading Time

Introduction

This work tries to shed more light on the relationship between the developmental paths of discourse markers (henceforth DMs)[1] and the varying properties they show synchronically, given the *impasse* at which frameworks and methods have left the question. We will show that some original structures resulting in DMs are, in functional terms, closer to their outcomes than previously thought. By drawing on a new and robust way of inspecting procedural meaning, we will suggest that the core meaning is indeed invariable in different stages of the evolution. Such a form-function mismatch calls for a new framework that overcomes the traditional views on the evolution of discourse markers and its associated problems. In this book it is held that construction grammar and diachronic construction grammar help gain insight on this issue.

Many of the difficulties found so far have come from a closer examination of the Grammaticalization Theory, as we sum up in the following lines. Although this framework and its applications have undergone a huge development in the last decades, a wide range of theoretical and methodological problems have also arisen throughout this spread and remain without clear and unanimous response. For the sake of briefness, I would like to outline here the ones I consider more relevant to the field and to some extent more related to my overall goals and particular object of study.

In the highest level of scientific enquiries, some authors have even cast some doubts about the very existence of grammaticalization. Joseph's article «Is there such a thing as grammaticalization?» constitutes a great exemplar (and summary) of the most skeptical view,[2] by highlighting the lack of agreement in the definition of the ontological essence of grammaticalization:

> there is disagreement on the nature of this phenomenon. Especially important here is the ambivalence evident in the literature as to whether grammaticalization is a single

---

1. It is used here as a hyperonym covering all the terms proposed in the literature so far: pragmatic markers, discourse markers, connectives, discursive operator, discourse particles and so on.
2. The most critical view is mainly found in Newmeyer (2001).

process or instead is several processes or instead is a result of other developments, and as to what its relationship is to other mechanisms of language change. In particular, the same authors sometimes refer to grammaticalization as a process and sometimes as several processes, but also as something that results from other mechanisms. (Joseph 2001: 164)

This discussion has mainly to do with the motivations and mechanisms of change involved in grammaticalization, their specificity compared to other kind of linguistic changes and the extent to which they can be holistically regarded as a response to an identifiable force that triggers them, i.e., grammaticalization itself (Fischer 2011). It seems, however, that this issue can be partially addressed by the question of whether there is any identifiable cognitive reflection of grammaticalization taking place, which is one of our main research questions.

Far from this epistemological debate, and even among those authors that with no doubt recognize the self-status of grammaticalization, we can find another important problem in the theory regarding the extension to which it can be applied; in other words, which phenomena of language change fall into the category of grammaticalization. In this sense, historical processes involving the rise of DMs have become an unavoidable challenge for the Grammaticalization Theory, inasmuch as they contradict some of the earliest assumptions of such framework. As the central topic of the book, we shall briefly develop the two most prominent issues underlying this controversy.

First of all, there is a longstanding discussion on what is grammar, which are its boundaries or (in a simple and empirical point of view) what qualifies an expression to be considered as grammatical (rather than lexical). Now, from the point of view of traditional grammar, it is assumed that DMs do not belong to grammar, as they do not constitute a (traditional) grammatical class. On the other hand, Lehmann's parameters (Lehmann 2002 [1982]) have been widely accepted as a tool to determine the degree of «grammaticity» in synchrony, and the direction of the changes that take place in grammaticalization processes, which are characterized as unidirectional in the theory. Taking this perspective into account, the problem lies on the fact that the evolution undergone by DMs does not meet the directions posited (loss of morphosyntactic autonomy and structural scope), unlike the standard or classical cases.

Hence, the emergence of DMs has been seen by many scholars as something different and even contrary to grammaticalization, something that does not lead to grammar, but to the discourse or pragmatic pole (Ocampo 2006). It is also thought of as denying the unidirectionality attested in grammaticalization. It seems, however, that this debate concerns the grammatical properties of DMs, the conception of grammar and, only indirectly, the nature of grammaticalization. Furthermore,

these problems seem to lose consistency when applying new approaches to grammar as those presented by construction grammar, as will be shown below, since they do not assume the sentence as the maximal level of analysis and include pragmatic and discursive aspects as part of the coded (thus grammatical) meaning of constructions.

The other issue worth mentioning is intrinsically concerned with grammaticalization as a process. Here, the question is whether the process of formation of DMs behaves in the same way as the one undergone by other «traditional» grammatical categories, regardless of the final, resulting category. Traugott (1995a) tried to set up the basis for a unitary consideration of grammaticalization, as the processes and mechanisms of change (subjectification, reanalysis, decategorialization, etc.) seem to be the same. Nevertheless, case studies undertaken have given rise to problems that call for further insights and methods. This has been revealed in the literature as a two-faced problem, depending on the author who deals with it: a methodological limitation to show the complete path followed by DMs, on the one hand, and a theoretical questioning of the real evolution of structures into DMs, on the other.

Regarding the first dimension, some authors point out the methodological difficulties that historical research on DMs faces, which are tightly tied to the available methods. For instance, tracing back the rise and development of a DM requires large historical corpora which are not always at our disposal. In addition, the characteristics of these corpora are often incompatible with the research needs: the inexistence of purely oral testimonies,[3] the lack or scarceness of colloquial samples, the low reliability offered by punctuation as a clue for the syntactic features and, above all, the fact that the analysts have to draw on their own introspection as present-day speakers to interpret structures belonging to another diachronic layer of a language. For those researchers, fuzziness and inconsistencies at drawing the presupposed stages of evolution of some DMs are due to these endogen limitations of historical research with corpora (e.g., Pons Rodríguez 2010).

As to the second point, in what can be considered a current debate, the real evolutionary path followed by DMs has been put into question in theoretical terms. The fact that corpora studies do not reflect Traugott's (1995a) cline (intrapropositional adverb > sentence adverb > discourse marker) suggests the idea of a different process of formation, rather than a bias (Fischer 2007, 2011; Heine 2013), so this would be a question that deserves further empirical support (beyond traditional corpus linguistics studies) to be accepted (or rejected).

Much of the abovementioned *problématique* can be seen in a set of Spanish causal-consecutive DM or DM-alike constructions: *por tanto*, *por eso*, *por ello* and

---

3. For an empirical treatment of the lack of reliability offered by indirect sources of colloquial registers, see Enghels and Azofra (2018).

por esto. Then, this sub-set of DMs formed by the preposition *por* 'for' and a neuter phoric pronoun (*tanto* 'so much', *eso* 'that', *esto* 'this', *ello* 'it') represents such difficulties and becomes a suitable object of study.

First, some authors have emphasized methodological hurdles related to the semantic nature of the deictic elements that these constructions contain:

> Caso ilustrativo es el de los marcadores discursivos que incluyen demostrativos o elementos específicamente capacitados para trabajar fóricamente; formas como «por esto» o «por ende» pasan de ser solo intraoracionales a funcionar también, simultáneamente, de manera, supraoracional; pero, ¿cómo discernir los papeles durante el proceso intermedio? Son la posición y, en menor medida, la invalidación para funcionar saturando un argumento de la principal los únicos índices, pero no dejan de ser pistas escurridizas. (Pons Rodríguez 2010: 549)

The most relevant problem here is the fact that such forms are enabled to yield connective meanings by their very compositional meanings, so intermediate stages (if they ever existed) are indistinguishable. In technical terms, there is almost no potential context incompatible with the source meaning, as their original deictic meaning and neuter gender allows them to retrieve any abstract situation or proposition previously described. Thus, such methodological tool is not valid for this case.

As a result, no critical test can be applied to know whether an intermediate stage remains opaque because of methodological barriers or it does not actually take place in such an evolution. Moreover, it should be noted that most of these deictic-based markers are found from early documentations of Spanish in an advanced stage of the evolution (at least from a semantic point of view), following the path proposed for DM, since they seem to display connective properties, based on syntactic position, which is one of the few objective, but still slippery (Cano 2003; Pons Rodríguez 2010: 549), criteria[4] on which the analysis can be drawn. The question, thus, should be expanded as to whether there is any development in the use of these forms as connective devices.

In this particular set of DMs, many researchers have addressed the question synchronically by drawing on formal differences. Here, the point is that in Present-Day Spanish *por tanto* meets most formal properties of DM, while *por ello*, *por eso* and *por esto* do not. Such difference has been recognized by different authors as the one opposing connectives or DMs to lexical connective cues (Recio *et al.* 2018), lexical cue phrases (Pander Maat and Sanders 2001; Sanders 2005), lexical signaling devices (Sanders and Noordman 2000), secondary connectives (Rysová

---

4. See Bolly *et al.* (2017) for the weight of the parameter of position in predicting DM status.

and Rysová 2015, 2018; Danlos *et al*. 2018), intra-clausal prepositional phrases (Degand 2000), lexical connectives (Cuenca 2017). Studying our paradigm of markers from a historical point of view, Narbona (1978: 331) specifically opposes grammatical device available for the anaphoric reproduction to illative-consecutive phrases.

The problem of arguing in this vein is that DM is a category recognized by its prominent functional properties, those guiding the inferences in the communication, in which constructions with different structural properties converge. That is to say, it has been emphasized that DM is a functional category with members organized along a prototypical-peripheral continuum depending on how many formal/structural properties they meet (Pons Bordería 1998a, 2006). Disagreement present in the literature with regard to the acceptance of *por ello*, *por eso* and *por esto* as DMs represents the particular preferences of authors at drawing only on functional or also on formal properties for delimiting the category.

Formal evidence mentioned by the authors that highlight such differences can be grouped under three general properties of DMs: formal fixation or invariability (1), extrapropositional scope (2) and lack of syntactic integration (3):

(1) A. Por todo ello / eso / esto / *tanto, dimitió.
    Por todo ello / eso / esto / *tanto, *he resigned.*[5]
    Lit.: *For all it / that / this / so much, he resigned.*
    'For all these reasons, he resigned.'
B. Por ello / eso / esto / *tanto mismo, dimitió.
    Por ello / eso / esto / tanto mismo, *he resigned.*
    Lit.: *For ello / that / this / *so much itself, he resigned*
    'For this very reason, he resigned'

(2) A. Precisamente por ello / eso / esto *tanto dimitió.
    Precisely por ello / eso / esto / tanto, he resigned
    Lit.: *Precisely for it / that / this / *so much, he resigned*
    'This is precisely why he resigned'
B. Solo por ello / eso / esto / * tanto dimitió.
    Only por ello / eso / esto / tanto, *he resigned*
    Lit.: *Only for it / that / this / *so much, he resigned*
    'Only for this reason he resigned'

(3) A. Es por ello / eso / esto / *tanto por lo que dimitió.
    It is por ello / eso / esto / tanto *that he resigned*

---

5. In the translation of the Spanish examples that we will provide, the forms *por ello*, *por eso*, *por esto* and *por tanto* will be kept in Spanish, as we try to show that they might have undergone changes that affect their syntactic, morphological and semantic properties and translating them into English equivalencies does not fit our purposes.

Lit.: *It is for it / that / this / so much that he resigned*
This is why he resigned

B. No por ello / por eso / por esto / *por tanto dimitió.
Not por ello / por eso / por esto / por tanto, *he resigned*.
Lit.: *Not for it / that / this / so much he resigned*
Not for that reason he resigned.

There are different problems associated with this way of proceeding. As a consequence of relying on indirect proofs, which are based on introspective judgments, the differences are treated as dichotomic: such sentences are possible or not (for a critique of discrete grammaticality judgments, see Ford and Bresnan 2010). However, pervasive evidence on the nature of language change points to gradualness, which results in synchronic gradience –e.g., prototypical or peripheral members of categories, fuzziness at the boundaries of categories, radial categories, family resemblance– (Hopper 1987; Heine 1992; Rosenbach 2010). The approaches based on introspective judgments are, therefore, oversimplistic in that they overshadow the gradual nature of ongoing changes. In this sense, it would be more interesting to know not only if such constructions are possible, but how often they occur, since changes in frequency are informative of ongoing language change (however, see Mair 2004). As stated by Hoffmann (2005: 36-37) for an analysis of English complex prepositions, «a quantitative data analysis can offer many important additional insights; far more than can be gained through the evaluation of purely constructed data».

Likewise, some of the enabling constructions and syntactic behavior exemplified in (1) to (3) seem to depend upon the concrete usage-pattern we are using for making the judgment. For example, while the capacity to be focused in cleft or pseudo-cleft sentences is arguably possible in (3), it is not so clear in (4), which is an actual utterance extracted from a corpus:

(4) A. Pero la defensa de Salamanca [de mantener en la ciudad el Archivo de la Guerra Civil] no se basa sólo en razones históricas: se basa en sentimientos en agravio y de expolio a una ciudad, y de favoritismo a otra comunidad autónoma. Estamos, por tanto, ante una situación muy delicada, de las que afectan a la cohesión nacional. Permítaseme, *por ello*, expresar mi perplejidad por la desastrosa gestión gubernamental de este asunto.
But the defense of Salamanca [to keep the Civil War Archive in the city] is not only based on historical reasons: it is based on feelings of grievance and plundering of a city, and of favoritism to another autonomous community. We are, therefore, facing a very delicate situation, the kind that affects national cohesion. Let me, por ello, *express my perplexity at the disastrous governmental management of this matter.*
(*La voz de Galicia,* 29/12/2004, CREA)

B. (…)?Es *por ello* por lo que permítaseme expresar mi perplejidad por la de-
sastrosa gestión gubernamental de este asunto.
?It is por ello *that let me express my perplexity at the disastrous governmental
management of this matter.*

In the example below, *por ello* does not bind two discourse segments in a
cause-consequence relation, but takes the previous discourse segment as a prem-
ise that enables and justifies the «saying» of the segment following the marker. Such
cases are known as «causales de la enunciación» in the Spanish tradition (speech-
act relations, see §3.1.2) and do not belong to the propositional content, which is
the reason why a focalization over *por ello* is not possible, since only propositional
content can fall under the scope of focalization, negation and interrogation.

As far as these uses are not supposed to be originally enabled in these con-
structions, such examples raise the question of whether such forms have devel-
oped new meanings while the construction they come from is still available –a
phenomenon referred to as *layering* (Hopper 1991) in the literature– and we are
not able to set apart the two constructions. In other words, it might be the case
that both intrasentential prepositional phrase and extrapropositional DM coexist
in present-day language without prominent surface differences in the form.

Moreover, it is not clear the extent to which the impossibility of *por tanto* in
such constructions is the result of a historical development, since it seems that
some of these possibilities are constrained by the very meaning of *tanto*. As a way
of illustration let us point out that some of the constructions that are found at any
time with *por ello*, *por eso*, *por esto* do not even take place in *por tanto* at the time
it was supposed to be non-fully grammaticalized (e.g. *por todo tanto, *por tanto
mismo, *solo por tanto; however, it is documented *no por tanto*).

Hence, all these factors converge, as stated previously, in the need of a re-
newal in the approaches to the study of the development of DMs. From a theoret-
ical point of view, many advances have been reached within the new frameworks
of diachronic construction grammar and constructionalization, built up by several
authors (Noël 2007; Bybee 2010; Gisborne 2011; Gisborne and Patten 2011; Hilpert
2013) and shaped by Traugott and Trousdale (2013). It has the advantages of blur-
ring the limits between lexicon and grammar, and widening the concept of gram-
mar so it can encompass pragmatic functions (pragmatic meaning and constraints
are coded in constructions), avoiding the above-mentioned problems with direc-
tionality. It also allows to account for changes taking place only at one level, either
semantic or formal (morphosyntactic), which could explain some anomalies found
in the studies, used as arguments against the notion of grammaticalization (Joseph
2001, 2011). Usage-based approaches also allow to shed more light on the status of
the different forms, which is not always addressable by introspective judgements

at first sight, but has to do many times with frequencies, which reveal the degree of entrenchment of a form in a specific function.

At a methodological level, the seek for methods and approaches that overcome the problems involved in the tracing with written corpora has begun recently and constitutes one of the most promising areas of future investigation.

This book can be completely framed within this direction of research. By taking into account new insights and frameworks and undertaking some new empirical methods, it tries to shed some light on the following main question:

— Is there any cognitive reflection of the development of DMs?

There are already some approaches that have raised a similar question. For example, Fischer (2011) asks how grammaticalization manifests itself in terms of synchronic processing. More specifically, Degand (2000: 692), addressing structures very similar to the ones studied here, pose a question in the following terms:

> In this context it is interesting to raise the issue of the cognitive status of prepositional phrases compared to the inter-clausal discourse markers such as connectives. Do prepositional phrases play an equally important role in text processing or does their intra-clausal status imply that they are less important in terms of processing?

Recently, Recio *et al*. (2018) have undertaken an eye-tracking study to examine the processing strategies triggered by *por tanto*, *por ello* and *por eso*. The results allow to attribute a connective pattern to all of them but some special characteristics to *por tanto* related to its higher degree of grammaticalization. There are also some differences between *por ello* and *por eso* that the authors treat as reflecting the morphosyntactic particular properties of *ello* and *eso*. However, from our point of view, it is worth asking whether the approach can only reflect grammaticalized vs. non-grammaticalized connective devices or also degrees of grammaticalization across these markers. In order to answer such question, we have carried out an eye-tracking experiment with *por tanto*, *por eso*, *por ello* and *por esto* that tries to shed light on the issue by drawing on two assumptions:

— At the methodological level, a paradigmatic design where all the DMs are read by all the participants is required, since only this way direct comparisons between all the markers can reliably be made.

— At the theoretical level, it should be questioned if grammaticalization alone can account for the results obtained in the experiment or rather the description of the nature of these markers would benefit from the contributions of usage-based construction grammar and constructionalization. The former is a branch of construction grammar that exploits the idea that grammar is built on the generalization of speakers over usage-events (§2.1.1).

Since in construction grammar the basic unit of grammar is the construction –a form-meaning paring of varying complexity and schematicity–, language use impacts on the mental representation of constructions and the relations between them, which are often referred to as constructional networks (§2.3). Constructionalization framework (§2.2) can be regarded as a diachronic consequence of this insight and focuses on how extant constructions change and new constructions come into being in language use.

Our working hypothesis in this sense is that connective token uses of all these forms model their constructional status and the relations between them, so they are to be studied as constructions with certain specifications provided by their use. The hypothesis comes partly from the attestation that *por eso*, *por tanto* and *por esto* are documented in initial position fulfilling connective functions in earlier periods of Spanish, while, at that time, *por ello* was not traced with this function (Eberenz 2000; Herrero Ruiz de Loizaga 2003a; c.f. Garrido Sepúlveda 2017) or showed a lower percentage of initial position than it did in final position. In Present-Day Spanish, *por tanto* seems to have undergone some movements toward DM construction and *por ello* has been leveled to *por eso* and *por esto* in its connective function. It follows that, although the structure of all of them is prone to fulfill connective function, there are historical changes in the entrenchment of each form to this function, which can result in the linkage to the DM construction by formal or functional resemblances or the definitive constructionalization.

Accordingly, we have also carried out a corpus study in order to find eventual formal and functional differences in usage across our markers. The main aim is to draw the constructional status of each marker and the way they relate in a constructional network with regard to the categories of DM and intrapropositional adverb. A final task is to check whether such picture can be put in relation with the results obtained in the eye-tracking study.

In dealing with the main question, we try to offer answers to the following particular research questions that are also relevant issues for the fields that study the emergence and development of DMs (grammaticalization, constructionalization, etc.):

— Can all these markers be regarded as a paradigm or group from a functional point of view?
— Are the differences between them reflected in processing patterns?
— Can their similarities and differences (both in usage and in processing) be modeled in a constructional network?

Along the pages of this book we will contextualize all these questions. The first two chapters are devoted to the state of the art and the frameworks that can be

helpful to address the development of these markers with the methods proposed: in the first one we present the way DMs have been seen from a diachronic point of view and the problems this view involves; chapter 2 will address the new framework of constructionalization by firstly focusing on the most important tenets of construction grammar and the most suitable streams to deal with our object of study, namely, usage-based construction grammar, Radical Construction Grammar and their diachronic consequence, Diachronic Construction Grammar.

After presenting all the theoretical issues related to the diachronic dimension of DMs, in chapter 3 we introduce the set of markers that constitute our object of study, by addressing the domain of causality and the different resources to relate discourse segments causally. We will describe morphosyntactic and semantic properties of *por tanto*, *por eso*, *por ello* and *por esto* from a synchronic point of view. Brief notes on the diachrony of these markers will also be provided.

Chapter 4 involves the whole eye-tracking experiment. A brief state of the art of individual and comparative eye-tracking studies with DMs opens the chapter. After this contextualization, the methodology of the study will be explained: it will be focused on independent variables and conditions, study design, materials, participants and statistical treatment. Then, the results will be presented by, first, analyzing the commonalities displayed by their patterns in terms of principles of DMs processing and, secondly, signaling some differences between them.

The goal of chapter 5 is to obtain a picture of the constructional status of the DMs by means of a corpus study aimed at describing their usage properties. In this chapter we describe the selected corpus and the parameters that describe their position with regard to the categories at issue. Afterwards, we present and discuss the results.

Chapter 6 is devoted to the discussion of correlations between the results of the eye-tracking and the corpus study. The book closes with the extracted conclusions, those obtained through the studies and those involving relevant future research.

Any theory of grammaticalization that does not presuppose a notion of grammar is a stronger theory in that it will also be able to handle the problem of how grammar arose in the first place. (Himmelmann 1992)

Chapter 1

How to become a discourse marker?
The problem of describing
the development of discourse markers

One legitimate –and allegedly important– question that researchers pose when analyzing DMs is which framework is more suitable to deal with the development of coded discursive meaning. The issue has been extensively developed in accounting for the rise and evolution of DMs (Erman and Kotsinas 1993; Traugott 1995a; Brinton 1996, 2008, 2017; Aijmer 1997; Wischer 2000; Traugott and Dasher 2002; Günthner and Mutz 2004; Company 2004a; Diewald 2011a, 2011b; Heine 2013, 2018; Degand and Evers-Vermeul 2015): should we draw on a grammaticalization framework or should we design an alternative framework that better fits the specificities of such category?

The question emerges when we consider a set of functionally-similar DMs, such as the one conforming the Spanish *por tanto* lit. 'for so much', *por ello* lit. 'for it', *por eso* lit. 'for that' and *por esto* 'for this'. They are linguistic forms specialized in linking or binding two discourse segments in a wide cause-consequence relation, as in the following example:

> (5) Los problemas de la columna vertebral comienzan, en la mayoría de los casos, por la adopción continuada desde la infancia de posturas inadecuadas, tanto durante el descanso como en el trabajo.
> *Por ello*, se hace preciso incluir en nuestras programaciones ciertos contenidos que permitan a los alumnos de E.S.O y Bachillerato tener los suficientes recursos que les capaciten para prevenir e incluso subsanar tales dolencias.
> *Spinal problems begin, in most cases, by the continued adoption since childhood of inadequate postures, both during rest and at work.*
> Por ello*, it is necessary to include in our programs certain contents that allow students of E.S.O. and Bachillerato to have sufficient resources to enable them to prevent and even cure such ailments.*

(*Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte*, nº1, 11/2000, CREA)

Most of them (see §3.3.1) are attested in connective uses from early documentations of Spanish, with only *por tanto* having changed in its formal properties (§3.3.2). It is, therefore, worth studying the scope of such changes and the extent to which they end up bringing these markers into different categories or what relation they hold in a speaker's grammar. It is also important to explore whether grammaticalization properly accounts for the setting of these units or, on the contrary, it overshadows their functioning as DMs. If grammaticalization implies a gradual acquisition of grammatical meaning and form (cf. Heine *et al*. 1991: 65-69; Lichtenberck 1991; Heine 1992; Bybee *et al*. 1994: 24; Lehmann 2015 [1982]: 13; Hopper and Traugott 2003 [1993]: 232; Traugott and Brinton 2005: 26-27; Traugott and Trousdale 2010), how do we deal with connective functions that do not show a clear previous development? Therefore, it is necessary to explore the relation between DMs and Grammaticalization Theory.

The increasing popularization of DMs as worthy objects of study in linguistics coincided with the remarkable spread of the Grammaticalization Theory. Efforts to analyze DMs from an integral insight (diachronic perspective included) concurred with the expectations of Grammaticalization Theory to find out if the development of such new discovered (functional) class could be explained by the theoretical tools and assumptions of the theory. Therefore, the theoretical gaps of both fields acted as magnets attracting endeavors and spawned prodigious research.

In a preempirical stage, grammaticalization was accepted as the process through which the rise and development of DMs could be described, but such statements were not supported by empirical diachronic studies. In fact, this led to a circular argument, where DMs are considered products of grammaticalization and the proof to know whether they have undergone grammaticalization or not is that they are DMs.

But despite the momentum gained by the theory, the accommodation of DMs into the theory of grammaticalization gave rise to many problems. Some of them were inherited from the same hurdles that were found when attempting to fit DMs into classical grammatical theories: namely, the non-ascription of DMs to any grammatical or syntactic class, given their heterogeneous origins, and their extrasentential scope. Other problems were the result of divergences found in the process of formation of DMs compared to those undergone by other classical grammatical words. All in all, both arguments appear intertwined (and are inextricable) in the most quoted proposal of directional processes in grammaticalization, i.e., Lehmann's (2015 [1982]), since his parameters are intended to determine both the

degree of grammaticalization (from a diachronic perspective) and the grammaticality[6] (from a synchronic perspective).

Several authors have identified such problems as the main questions to answer in order to characterize the historical process giving rise to DMs. Thus, Himmelmann (2004) calls the first issue *the box metaphor* (in which category or box –lexical or grammatical– the resulting units should be inserted) and the second one, *the process metaphor* (which kind of processes characterizes the evolution of the units), while Diewald (2011a) splits her survey on the questions of the target and the process. Similarly, Degand and Evers-Vermeul (2015) reduce the problem to two specific research questions:

— Are DMs grammatical expressions?
— Are the processes of linguistic change involved the same as those of grammaticalization?

Regarding the solutions to these questions, Traugott (2010a) and Traugott and Trousdale (2013) have categorized grammaticalization into two views, each leading to a different result: grammaticalization as reduction and grammaticalization as expansion.[7] The former insight focuses on the loss of autonomy and increasing dependency of the grammaticalizing forms. The latter is much more concerned with the acquisition by a certain form or pattern of a meaning arising out of a restricted context and how such meaning expands over contexts and syntactic classes; put differently, it concentrates on increasing productivity and schematicity of the grammaticalizing structure. While grammaticalization as expansion can afford to deal with the criticisms posed in a traditional view (for instance, scope exapansion; see §1.2), a new question that exceeds the most representative proposal within this model (i.e., Traugott's 1995a) has arisen: the real evolutive path of DMs is called into question, as far as a greater role of synchronic factors and instantaneous mechanisms of change is suggested (Fischer 2007, 2011; Kaltenböck *et al.* 2011; Heine 2013, 2018; Heine *et al.* 2013).

As a result, different labels have been proposed to describe the change undergone by lexical items or constructions that evolve into DMs. In what follows we will first briefly outline the problems related to the accommodation of DMs in the realm of grammar (§1.1). We will then elaborate on the difficulties that addressing

---

6. *Grammaticality* is a polysemic term in the field of linguistics. It is often used in the generative tradition as the well-formedness of a sequence according to the internal grammar of speakers. Following Lehmann (2002 [1982]: 8), however, it is used here to mean the degree to which a word is to be considered grammatical (function word, procedural unit) rather than lexical (content word, conceptual word).

7. For a critique of such division, see Heine (2018).

the «process question» involves (§1.2). Finally, we will examine a new proposal of evolution for DMs (§1.3).

1.1. Discourse markers inside or outside the grammar

Grammatical status is at the basis of most conceptions of grammaticalization so it becomes necessary to draw a definition of «grammatical» to decide whether or not we are faced with examples of a process of grammaticalization.[8] But consensus on this matter is far from being reached amongst scholars; rather, this issue remains disputed and differently approached (Harder and Boye 2011; Diewald 2010, 2011a; Boye and Harder 2012). Moreover, the adjective *grammatical* encloses a polysemy that is not always made explicit and whose meanings are even considered related and inextricable (Himmelmann 1992; Harder and Boye 2011).[9] In the first sense, *grammatical* opposes to *pragmatic*; in the second, the opposition stands between grammatical and lexical classes of words or grammar and lexicon. DMs seem to challenge both oppositions, and the fact that both *lexicalization* and *pragmaticalization* have been considered alternative labels to grammaticalization in the development of DMs is a clear proof thereof.

In traditional accounts of language, DMs have been excluded from the grammar on the basis of two facts. First of all, they cannot be regarded as a grammatical/syntactic category of any type, since they show heterogeneous origins and different formal properties (Hansen 1998: 36; Martín Zorraquino 1998; Pons Bordería 1998a; Portolés 1998; Fraser 1999: 944). Secondly, given that the maximal level of grammatical analysis is the sentence and the connection they yield overcomes such level, they are considered extra-grammatical.

---

8. Note that this is only the consequence of applying a transparent use of the term *grammaticalization* to be bound to a specific notion of grammar, but this is in fact not necessary. In this sense, Himmelmann (1992: 1) mentions different possibilities:

a)   Both areas are only loosely related, i.e., grammaticalization is essentially a kind of historical morphology while grammar is concerned with the synchronic functioning of the language system.

b)   Both areas are related in that grammaticalization theory (GT) presupposes some concept of grammar. In order to investigate grammaticalizational phenomena we have to know what grammar is.

c)   Both areas are related, but their interrelation is reversed. GT itself may be conceived as a theory of grammar (or, somewhat less ambitiously, as contributing substantially to a theory of grammar)

9. For example, Boye and Harder (2009: 10) state that «[o]ften, however, the notion of linguistic category seems to be bound up with grammatical status, i.e., the property of being part of the grammar rather than the lexicon: linguistic categories are equated with grammatical categories»

As a consequence of the lack of a clear structural criterion to define them, many authors have classified them as a functional category: «it is fairly clear that the category of DMs cannot be described in morpho-syntactic terms, but is rather of a functional-pragmatic nature» (Hansen 1998: 236).

However, their functions fall out of the domain of traditional grammar and require the incorporation of new descriptive tools: argumentative orientation, focus, mitigation, intensification, turn management and so on, all of them non-truth conditional. Since non-truth conditional meaning is traditionally assessed as pragmatic or within the study of pragmatics, these units are also outside grammar in that they contribute to pragmatics and not to semantics.

It follows for some authors that, since these units contribute to the discursive level and pragmatics, they cannot be formed by a process that inserts units into the grammar box (following the metaphor of Himmelmann), assuming a narrow conception of grammar that only includes morphology, syntax and semantics. However, there is no reason to assume such a notion of grammar, since it is based on the biases of the traditional understanding, as pointed out by Diewald (2011a: 455):

> This short survey of different suggestions on how to classify the diachronic development of discourse functions points to the fact that pragmatic meaning is generally not regarded to be part of grammar. The frontier line in this debate seems to run between 'true' grammatical function and 'merely' pragmatic function. It nicely illustrates the tendency of linguistics in general, and grammaticalization studies in particular, to regard the traditional set of familiar grammatical categories as the semantic functional benchmark for judging grammatical categories on semantic functional terms.

This is one of the bases of the proliferation of alternative accounts for the process of formation of DMs, among which *pragmaticalization* has been the most successful and widely discussed one.[10] In its first formulation, Erman and Kotsinas (1993) already set the basis for the wide meaning of this kind of change, which across different studies has come to mean «formation of DMs». This is an undisputable issue, since such a definition does not question what the specificities of this formation are, but rather what the target of the process is.

---

10. However, other labels are worthy to be included. The most encompassing one, degrammaticalization (Heine 2003; Norde 2009) include all the processes that seem to contravene the directionality of grammaticalization and has been applied to the evolution of DMs by Company (2004a). Lexicalization is also seen as a process undergone by the structures that become DMs, although it does not preclude the working of a grammaticalization process together (Wischer 2000). The label used in Ocampo (2006) to refer to the process of formation of DMs is *discursivization*.

For example, the most critical feature of pragmaticalization, according to Aijmer (1997) is the non-obligatoriness of the outcome, which is, in fact, a paradigmatic property of DMs. This problem is addressed by Diewald (2010: 25-27, 2011b) and Diewald and Smirnova (2010), who have proposed the notion of communicative obligatoriness to account for the grammaticality of non-traditional categories such as modal particles or DMs. The other authors that use the term pragmaticalization take into account only the target of the process: that is to say, the status of DMs.

Yet, the very existence of the term *pragmaticalization* for the development of DMs does not entail its independence as a linguistic change, but, rather that, the status of this kind of change with regard to grammaticalization varies according to the position of the researchers. Heine (2013) identifies three basic positions with regard to the development of DMs: pragmaticalization as a different process from grammaticalization (Erman and Kotsinas 1993; Aijmer 1997) pragmaticalization as a subprocess of grammaticalization or as a non-typical process of grammaticalization (Wischer 2000; Company 2004a; Günthner and Mutz 2004; cf. Barth and Couper-Kuhlen 2002) and pragmaticalization being the same as grammaticalization –i.e., pragmaticalization does not exist– (Traugott 1995a; Traugott and Dasher 2002; Brinton and Traugott 2005; Diewald 2011a, 2011b).

The first position lies on the narrow notion of grammar we have mentioned before. The assumptions made within this conception can even induce to misleading conceptions of the directionality in grammaticalization, if we do not clarify the notions. For example, some authors (like Ocampo 2006) have suggested that the creation of DMs implies movement towards the discursive pole and, therefore, that such evolution seems to move up the cline, according to Givon's famous cline (discourse > syntax > morphology > morphophonology > zero). It is important to note that *discourse level* here opposes to grammar in a narrow and specific sense. The concept of grammar sketched in this view is constrained to the sentence level, and those units overcoming such level belong to the «discourse level». However, since the endeavor of text linguistics to systematize all the units fulfilling a textual function, a proper grammar of text has been designed (Halliday and Hasan 1976; Van Dijk 1977; Casado 1997 [1993]). Therefore, even within structural positions, grammar, taken as the structured system of signs that contract relations between them, is accepted to act in this textual/discursive dimension.

There is another wider sense of the *discourse level* that seems to be the proper one for understanding the aforementioned cline, which is that of language use, the one that corresponds to the *parole* (Saussure 1987 [1916]) or *performance*. Here the point is that changes take place in language use and what begins as a meaning arisen in the context of the utterance can become part of the conventional structuration of a language. This is the very sense in which the directionality of

grammaticalization cannot be denied: grammaticalization understood as the conventionalization of conversational implicatures (Traugott 1988; Hopper and Traugott 2003 [1993]; Traugott and Dasher 2002) is the mechanism underlying the formation of DMs and other categories.

This important distinction is clarified in Loureda (2013) by drawing on the three dimensions of language described by Coseriu (1985) and elaborating on the levels within it: language is universal (as a cognitive activity common to human beings), but takes place always in historically structured systems of signs (traditional dimension), which are used individually in particular occasions with particular purposes (individual dimension). Moreover, within the traditional structuration of speech, three levels should be recognized: the level of words (morphology), the level of sentence (syntax) and the level of text. Therefore, following Loureda (2013: §1) two notions of *text* (or discourse) must be distinguished:

> el texto como nivel autónomo de lo lingüístico (texto-unidad) y el texto como nivel de estructuración idiomática superior a la oración, a la cláusula, al sintagma, a la palabra y a los elementos mínimos portadores de significado (texto-nivel).

According to this view, grammaticalization always implies the passing of a unit from the traditional or historical level to the particular dimension (text-unit) and the return to the traditional level as a new unit. The idiosyncrasy of emergence of DMs would be that it is inserted in the text level of the traditional dimension. The process is sketched in figure 1, taken from Loureda (2013) for the Spanish DM *por lo visto* ('seemingly').
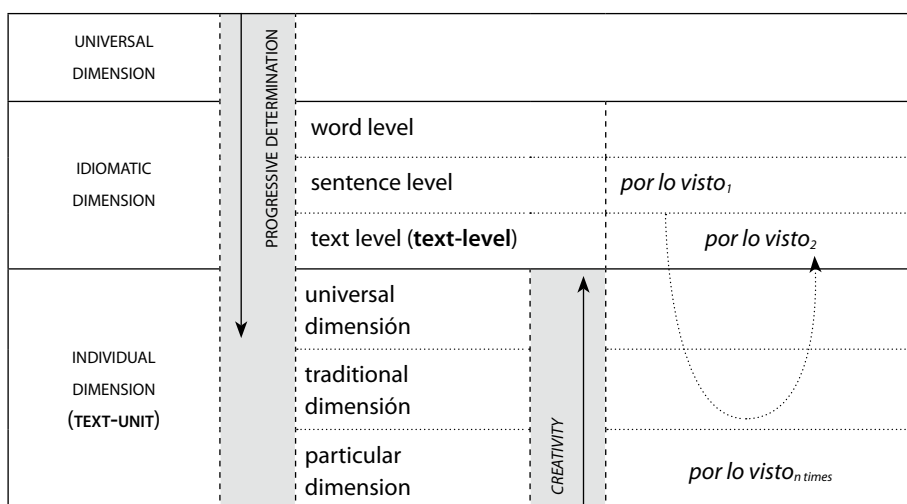

Figure 1. Scheme of the development of *por lo visto* as a DM (Loureda 2013)

This view shows a theoretical widening of the notion of grammar and helps to understand the formation of DMs as grammaticalization, as long as the insertion within the whole idiomatic/traditional dimension is recognized. The proposal can be subsumed within the second position on the formation of DMs, since it explicitly signals and separates the level where DMs work (textual); it is in fact coincident with the characterization made by Company (2004a) of grammaticalization of DMs that implies «ascenso en el nivel de lengua», as opposed to the more classical one that leads to «descenso en el nivel de lengua».

Note that the theoretical perspective of Loureda (2013) highlights the role of the individual use of language at the genesis of the change. This is in fact a cornerstone of the Grammaticalization Theory, which has come to adopt a very prominent functional approach where the use of language becomes essential in the study of language change: «change does not originate within language (grammars do not change by themselves), but in language use, i.e., in factors external to language structure» (Traugott and Dasher 2002: 35-36).

The focus of the functional orientation has been fundamentally put on the role of context as the locus of change (see §2.2.1.1). In this sense, pragmaticalization seems to be misleading as well, since the formation of DMs also shows that what at some point is context-dependent becomes the inherent meaning of the form. However, few attempts have been made to solve the problem of the definition of grammaticality and degree of grammaticalization in a pure and systematic functional fashion. One of them is Boye and Harder's (2012), who, in an important shift from structural to functional arguments, try to define grammaticalization and grammatical status by exclusively drawing on functional grounds.

According to this perspective, in every utterance there are units that fulfill different discursive roles, in terms of the discursive saliency they show: units that constitute the essential part of the message are said to display a primary discursive status; those parts of the utterance that cannot be considered the focus of the message show an ancillary discursive secondary status (Harder and Boye 2011; Boye and Harder 2012). Grammatical status is defined as the secondary discursive status fulfilled by the items or constructions in the actual utterance. It is worth noting that here grammaticality of a sign is a relative and communicative notion which depends always on the item or construction that has the primary status in the actual utterance. DMs are, in this sense, equated to other grammatical categories in that they are secondary with regard to other units that play a primary communicative role.

In this view, grammaticalization takes place when a unit that can be used with a secondary status in a certain context acquires the default ability to function as secondary in every utterance, i.e., when it is coded as discursively secondary. This gives rise to a complete functional definition of grammaticalization:

«Grammaticalization is the diachronic change which gives rise to linguistic expressions which are coded as discursively secondary» (Harder and Boye 2011: 63).

Thus, this is a wider definition of grammatical nature (and, subsequently grammaticalization) that includes DMs and does not entail differences between core grammar and peripheral categories. However, it remains to be clarified how exactly a secondary status is assessed beyond the intuitive criterion provided above: that is to say, how can this lack of discursive prominence that comes from their not being the main point of the message be operationalized? For this purpose, some tests such as «focalizability» or «addressability» are proposed (Boye and Harder 2012: 14). As we will see, some of these tests would justify the separation of *por tanto*, as a grammatical form, from *por eso*, *por ello* and *por esto*. The former fails to admit modification by a focus particle (such as *solo* 'only', 'just') and rejects being highlighted in cleft or pseudo-cleft questions or even being addressed and recovered as the main question of a message (by referring to it with a WH-question).

The problems with such an empirical validation of the grammatical or lexical status of a form are even recognized by Boye and Harder (2012: 18): «There is an extra dimension of the problem of identification, which would be present no matter what criterion was involved: identification depends on the individuation of conventionalized expressions». This leads to the simplification of the gradience present in all categories: we may be excluding some usages of the expression by constructing *ad hoc* introspective judgements of the form and therefore invisibilizing steps in a continuum. It does not help either to the diachronic clarification of the historical point at which a specific form has to be regarded as grammatical rather than lexical (Harder and Boye 2011: 18).

On the other hand, as we will see (§4.1), the definition provided does not have a straightforward connection with the cognitive nature of the meaning of DMs, since a wide range of online processing experiments on DMs attests their special status within the sentence (see Loureda and Pons Rodríguez 2015, for an initial analysis): DMs become the guide and the axis of the utterance processing. Then, if the functional claims of Boye and Harder (2011) are accepted and their secondary status includes DMs, an evident paradox arises: what is functionally (or communicatively) not prominent is cognitively salient. A bridging solution to this apparent clash will be provided by drawing on the framework of Thetical Grammar (§1.3; §2.3).

In any case, the definition of grammatical status posed by these authors constitutes an important widening of the concept of grammar that avoids differentiation of DMs from other grammatical categories. It avoids prejudices associated with structural criteria for defining what is grammatical or the biases in a narrow definition of the proper meaning of grammatical expressions. The approach elaborates on functional definitions, such as the one by Hopper and Traugott (2003 [1993]), that have previously gotten away from structural positions where grammatical

categories show a sorted scale (Kuryłowicz 1965; Lehmann 2002 [1982]). Such definitions consider grammaticalization as the acquisition of a grammatical function by a lexical item or a new grammatical function by an already grammatical item (compare it with «from a grammatical to a more grammatical» in Kuryłowicz [1965]).

Yet, there are other definitions of grammatical meaning that are also aimed at overcoming such difficulties and help to include DMs within the grammar of languages. For example, Diewald (2011a, 2011b) tries to unify the meaning of grammatical expressions by reducing it to their deictic component. Following Bühler and Jackobson, Diewald identifies relational indexical meaning as one of the main and distinctive features of grammatical categories:

> A grammatical sign modifies another (lexical) sign by relating it to some other element, i.e., to some reference point lying outside both of them. That is, a grammatical sign establishes a link between the linguistic element it modifies and some other entity. (Diewald 2011a: 459)

By taking on this assumption, Diewald argues for the inclusion of pragmatics within the nucleus of grammar, since deixis implies the connection of a linguistic segment to the communicative situation by means of a coded unit. The argument allows her to blur the line between pragmatics and grammar in terms of meaning: if grammar is pragmatic in nature, categories such as DMs or modal particles cannot be set off from grammar. They are deictic, as far as they link the segment hosting them to a previous discourse string of different length or to the discursive context by drawing a relation based on the speaker subjective stance. To illustrate the kind of relational meaning that DMs yield, it is useful to see the example provided by Diewald (2011b: 370) with regard to the conjunction *but*:

> A paraphrase of this type of realization of the relational structure is: 'Go back to the (derived) origo, which is a proposition (proposition1); from there interpret proposition 2 as being in a particular semantic relation to proposition 1 (according to the semantic features of the conjunction)'.

This could be applied to describe the deictic meaning of *por tanto* as follows: go to the derived origo, which is a proposition or set of propositions, i.e., a discourse segment; from there interpret proposition 2, i.e., the second discourse segment, as being causally and inferentially related to proposition 1, in such a way that the second discourse segment is to be read as the inferred consequence of the first one.

The deictic nature of DMs has been previously drawn by some authors in a more general way (Portolés 2000), but note that such a general characterization makes a distinction between our markers impossible, since they all are deictic by nature.

This way of seeing DMs as essentially not distinct from traditional grammatical pieces is framed in a broad conception of grammar where pragmatic meaning is not considered alien to grammar: a strong argument in this sense is made through the statement that very traditional categories such as tense and aspect very often carry pragmatic meaning (Traugott 1995a: 5) or the fact that the meaning relevant to the category of voice is non-truth conditional. Such a view is strongly argued by Traugott in her seminal article, which gives a theoretical background for the grammaticalization-as-expansion view:

> The view of grammar adopted here is that it structures cognitive and communicative aspects of language. It encompasses not only phonology, morphosyntax and semantics but also inferences that arise out of linguistic form, in other words, linguistic pragmatics such as topicalization, deixis. (Traugott 1995a: 5)

This view has more recently drawn on a distinction of kinds of meanings coming from the pragmatic framework of Relevance Theory. Relevance-Theory's claim (Blakemore 1987, 2002) that not all linguistic units contribute to the utterance interpretation in the same way has provoked a great impact in linguistics. It has opened the way to a semantic distinction of linguistic forms that has even spread beyond the boundaries of the pragmatic framework and been widely accepted as a reassessment of the traditional distinction between lexical or content words and grammatical or function words.

Languages work with –or display– two different kinds of meaning: conceptual meaning, the one prototypically conveyed by lexical units, as contributing to conceptual representations, and procedural meaning, the one prototypically conveyed by grammatical items, as guiding and instructing how to work with these representations. DMs display this latter kind of meaning, since they constrain the inferences that the speakers have to make in the conversation.

This distinction has been extracted from the theory to explain the phenomenon of grammaticalization as the change whereby units with conceptual meaning acquire procedural meaning (Leonetti and Escandell 2004). However, a clash between the postulates of Grammaticalization Theory and Relevance Theory has been noticed in that, according to the classical claims of the latter, words can only contain either conceptual or procedural meaning, while, following the assumptions of the former, words gradually acquire such procedural meaning, which would necessarily render units with both conceptual and procedural meaning in a synchronic state.

Some modulations within Relevance Theory have been proposed to accept that words often carry a conceptual and a procedural component (Nicolle 1998; Saussure 2011; Wilson 2011, 2016: 13-15) and their presence is a matter of degree.

The progressive foregrounding of such procedural meaning is also an object of controversy (Clark 2016: 141), since the theory is designed against the pragmatic notion of general conversational implicature (Grice 1975 [1968]; Horn 1984; Levinson 2000) that underlies the descriptions of the change in grammaticalization for many authors (Diewald 2002; Heine 2002; Traugott and Dasher 2002).

If conceptual and procedural meaning are always somehow present in the words, a description such as the one by Boye and Harder where all the units can be used as communicatively secondary pieces seems to be not so far. From this point of view, the change can consist of a reanalysis through the foregrounding of the procedural function in a communicative strategy, as held by Waltereit (2006). Moreover, it paves the way to consider procedural meaning as a meaning attached to some functions, in such a way that all units can display it when used in such function (see thetical grammar in §1.3).

As a corollary, we have seen that the formation of DMs is seen as grammaticalization or not depending on the conception of grammar taken by the authors. Traditional accounts inherit an *a priori* exclusivist view on the set of units that works within grammar that, however, does not appear to be justified from structural or semantic criteria of grammaticality. There are many theoretical insights that overcome such a view, from the identification of the textual domain as a level coded in languages to the drawing of a functional consideration of grammatical meaning. In addition, the definition of the meaning conveyed by grammatical units has been reassessed in a way that includes DMs without displacing them as peripheral categories. Indexicality and procedural meaning give account of the kind of meaning common to all the instructional units of a language.

1.2. Processes involved in the development of discourse markers

In the previous section, we have seen that some problems in accepting the category of DMs come from its heterogeneous origins, as put forward by many authors (Hansen 1998; Portolés 1998; Fraser 1999, to name a few). However, such a critique lacks power when we consider sentences as the following:

(6) Las luces están apagadas. *Por tanto*, están durmiendo.
   The lights are off. Por tanto, *they are sleeping.*

(7) Las luces están apagadas. *Por lo visto*, tienen muchos problemas para pagar la factura.
   The lights are off. Por lo visto, *they are having a lot of trouble paying the bill.*

(8) *Visto que* las luces están siempre apagadas, deben de tener muchos problemas económicos
Visto que *the lights are always off, they must have a lot of financial problems.*

In sentence (6), *por tanto* is a DM that fulfills an argumentative connective function, namely: presenting «están durmiendo» as a reasoned conclusion and «las luces están apagadas» as the premise from which it is derived. This means that it is a two-place element (Fraser 1999), since it affects or has scope over two discourse segments. Syntactically it is originally a prepositional phrase consisting of the preposition *por* and a quantitative neuter pronoun as the head, from which the deictic nature comes. The same original syntactic structure can be found in *por lo visto* 'seemingly' in the sentence (7), with the preposition *por* and a participle substantivized by a neuter article. However, although it occupies the same position in the utterance, it does not fulfill a connective function but, rather, it only affects the upcoming discourse segment by presenting «tienen muchos problemas para pagar la factura» as a «fact known from an indirect source, so the speaker is not responsible for or attenuate what is said» (Ruiz Gurillo 2009, our translation).[11] The evidential feature, in this case, comes from the lexical meaning of the verb *ver 'to see'*, which is often a prominent source of knowledge speakers rely on. Yet, such lexical origin in the same morphological category (past participle) is used in sentence (8) as a conjunctive phrase (*visto que*) introducing the logical cause or the premise of the conclusion that follows. That is to say, it participates in the same argumentative relation as the one presented in sentence (6), but in this case it introduces the premise and not the conclusion.

This intricate set of form and meaning original similarities and final divergences leads us to argue that the relation between the source meaning and the resulting functions of DMs is mediated by complex semantic and formal processes of change where multiple factors are involved in such a way that the connection becomes explainable but not fully predictable.[12] This is a strong argument

---

11. It might be argued that, in this context, a connective meaning arises as well, since *por lo visto* introduces a conclusion that can be derived from what has been seen. However, in this analysis we should also study what exactly the conventional (core) meaning conveyed by *por lo visto* is: that is to say, to what degree this sense comes from the conventional meaning of the marker or arises as a conversational implicature based on the particular context. In this sense, from examples like (3') below it can be concluded that at least some of the connective features are cancellable with *por lo visto*:

(7') a. Las luces están apagadas. Por lo visto, tienen problemas económicos, aunque no sé si será por eso.
b. Las luces están apagadas. *Por tanto, tienen problemas económicos, aunque no sé si será por eso

12. For more distant relations between the source structure and the outcome in DMs, see Estellés (2009a; 2009b) on *por cierto*. A radical perspective on factors intervening and conditioning the

to see DMs as a class, independent of their formal origins, since, as pointed out by Briz (2011a: 85), many of them are grammatically something they were not before. Therefore, that former different structural constructions undergo a process of change providing them new form and meaning is an undeniable reality for most of DMs, and what becomes necessary is to clarify the kind of process involved and the similarity to other kinds of language change. Another problem, which will be dealt with in §1.3, is to examine the nature of the processes and what is the specific weight of synchronic and diachronic processes in the division of labor. This problem also particularly affects some of our markers.

This consideration of diachrony as an explanatory base for synchronic structures and meanings has been strengthened by Grammaticalization Theory as to making it the most powerful theoretical claim, so it reveals itself as an *a priori* relevant theory for the observed case. In fact, grammaticalization can be seen from a diachronic (changes occurring across time) and synchronic point of view (how categories are organized along the continuum lexical-grammatical (Lehmann 1985), which grammatical categories are covered by means of a coded expression in a language (Hopper and Traugott 2003 [1993], etc.). In both dimensions, the definition of the concept varies greatly, ranging from specific clines where multiple properties have to be met (Lehmann 2015 [1982]), to the widest conception where grammaticalization equals creation of grammar (Hopper 1987; Croft 2006: 366), as we will see.

Especially in the view of Lehmann (2015 [1982]), the synchronic and diachronic points of view appear intertwined by means of his parameters (see table 1). The parameters reinforce the definition of Meillet (1982 [1912]) and Kuryłowicz (1965) of grammaticalization as loss of autonomy: «consequently, if we want to measure the degree to which a sign is grammaticalized, we will determine its degree of autonomy» (Lehmann 1985: 3). The system conceived by Lehmann is a more sophisticated and linked way of sorting some properties prototypically attributed to

---

development of grammatical markers can be seen in De Smet and Fischer (2017), where «supporting constructions» are held responsible or catalyst for a change to take place. While it mainly applies to the fact that a potential change must be enabled by existing constructions, the role of such constructions can be suspected to condition the direction of the changes:

> From this it follows that the course of change is highly contingent. Because every (potential) new expression has a unique set of supporting constructions, as determined by its specific form, syntax and function, the chances for an item to extend its range of use vary from item to item, and from grammatical context to grammatical context. Indeed, where the grammaticalization literature has initially revealed recurrent pathways of change (e.g., Heine & Kuteva 2002), more recently attention has moved to the ways in which each specific grammaticalization is also uniquely conditioned by the form and function of the source item and by similarity relations to other constructions (e.g., Fischer 2007; Breban 2010; Ghesquière 2014). De Smet and Fischer (2017: 243)

grammatical or lexical words, such as open or close inventories, meaningfulness (full or empty words), syntactic ranges (Jespersen 1975), major or minor categories (Lyons 1968) and so on. The advantage of the model is that it lays out the relevant features along a continuum, which symbolizes the way (from lexical to grammatical) a functional domain is fulfilled in a stage of language (synchronically) and the direction the items go through when affected by grammaticalization (diachronically). It, therefore, highlights the processual and gradual nature of grammaticalization, which is one of its most quoted features, giving place to many argued semantic and morphosyntactic clines.

The process is therefore characterized as a reduction process where loss of morphosyntactic freedom goes hand in hand with what has been called *semantic bleaching*, *weakening*, *reduction*, *loss of semantic features* or *desemantization*. It is the paradigm of what Traugott has more recently called *grammaticalization-as-reduction* view. The relevant changes in this model of grammaticalization are the following:

— At the syntagmatic axis: scope decrease, loss of syntactic mobility and bondedness;
— At the paradigmatic axis: semantic and phonological attrition, integration into a paradigm and obligatorification.

Table 1. Lehmann's (1985: 5) parameters and processes of grammaticalization

Parameter	Weak grammaticalization	–process →	Strong grammaticalization
Integrity	Bundle of semantic features; possibly polysyllabic	*–attrition →*	Few semantic features: oligo- or monosegmental
Paradigmaticity	Item participates loosely in semantic field	*–paradigmaticization →*	Small, tightly integrated paradigm
Paradigmatic variability	Free choice of items according to communicative intentions	*–obligatorification →*	Choice systematically constrained, use largely obligatory
Scope	Item relates to constituent of arbitrary complexity	*–condensation →*	Item modifies word or stem
Bondedness	Item is independently juxtaposed	*–coalescence →*	Item is affix or even phonological feature of carrier
Syntagmatic variability	Item can be shifted around freely	*–fixation →*	Item occupies fixed slot

Lehmann's parameters are very useful –and probably thought of– to deal with widely known examples of grammaticalization, let us say, the classical ones.[13] Yet, other kind of recursive linguistic changes do not readily fit into this schema,[14] so Lehmann's notion of grammaticalization becomes a narrower one.

DMs pose important problems to the model since they do not undergo loss of morphosyntactic autonomy, but, contrarily, show lack of syntactic integration (which is reflected in syntagmatic mobility) and scope increase. The positions with regard to this fact are the same as those mentioned in §1.1. For those authors who accept that directionality in grammaticalization constitutes a robust principle for the theory and involves all the parameters of Lehmann, the development of DMs is seen as something different to grammaticalization; others admit that development of DMs belongs to a subtype of grammaticalization or a non-prototypical case (since it does not meet all the parameters). However, there is another position that tries to reconcile the development of DMs with the process of grammaticalization, by reassessing the framework.

The main grounds for this view are all the approaches to grammaticalization that focus on semantic change (and not in formal evolution) and in one way or another have overcome the traditional way of looking at the semantic side in grammaticalization as a loss process. Concepts such as *metaphorical mapping* (Sweetser 1988) or *pragmatic strengthening* (Traugott 1988, 1989; Traugott and König 1991) give account of such trends that imply a semantic evolution of the type «loss-gain» and assume a pragmatic enrichment in the earlier stages of grammaticalization (primary grammaticalization). Moreover, pragmatic strengthening is many times guided by a clear tendency, which has been considered typical in the evolution of DMs: subjectification and intersubjectification (Traugott 1989, 1995b, 2010b), understood as the «mechanism whereby meanings are recruited by speakers to code attitudes and beliefs (subjectification) and once subjectified may be recruited to encode meanings centered on the addressee (intersubjectification)» (Traugott 2010b: 35).

---

13. Among them, for example, the following clines:
   a) Relational noun > Secondary adposition > Primary adposition > Affix > Case inflexive (Lehmann 1985; Heine *et al*. 1991, etc.).
   b) Main verb > auxiliary verb > clitic > affix (Lehmann 1985; Heine *et al*. 1991; Hopper and Traugott 2003 [1993], etc.).

14. We could discuss about particular properties in cases of development of grammatical material. For instance, some authors cast doubts about the decrease of scope (and reduction of phonological substance) in the path from demonstrative to conjunction (Eng. That > that, Germ. Das > dass). The same goes for the change from a demonstrative to an article (Eng. That > the; Lat. Ille, illa > Sp. el, la.). It also raises the question whether we could treat the famous Jespersen's cycle, where a lexical word becomes a negative marker, as a case of grammaticalization, since the negation particle widen its scope to reach the modality of the whole sentence.

Therefore, the approaches to grammaticalization that concentrate on the *semantization of pragmatics* (Traugott 2012) are very familiar with the expansion undergone during the process. Some of them have claimed that scope decrease and loss of positional freedom are not critical criteria for grammaticalization and, subsequently, formation of DMs is truly consistent with grammaticalization, since it clearly shows decategorialization, generalization of meaning, pragmatic strengthening and subjectification as processes of change, and reanalysis and analogy, as relevant mechanisms.

Under these considerations, a cline for the development of DMs has been proposed beside other well-attested morphosyntactic changes as a proper case of grammaticalization (Traugott 1995a). The cline is particularly based in the scope increase as one of the natural characteristics:

Intrapropositional adverbial > sentence adverbial > discourse marker

The formation of DMs, therefore, fits into a view of grammaticalization as expansion. The most systematic (and general) proposal on this insight is made by Himmelmann (2004), who identifies grammaticalization with three types of context expansion. This insight elaborates on what has traditionally been called generalization of meaning and correlates with the theory of kinds of context in grammaticalization (Heine 2002; Diewald 2002), and especially with the release from the enabling context posed in the stage of semantization in Diewald (2002) (which is different from the isolating context recognized by both authors[15]):

— Host-class expansion: the item undergoing grammaticalization can appear together with a class of element it could not before.
— Syntagmatic expansion: the item or construction can appear in syntactic context where it was impossible before.
— Semantic-pragmatic expansion: the grammaticalized construction can appear for fulfilling functions that were not available for the source category.

While this picture describes the kind of changes that would enable scope expansion to be included in cases of grammaticalization, an open question is how this class of context expansion applies to the development of DMs. Himmelmann even raises the same question with regard to conjunctions:

---

15. The difference lies on the fact that for Heine the finding of an isolating context (that is to say, a context that is not compatible with the original meaning of the form) suffices to argue that a new semantic meaning has been coded. For Diewald, it is necessary an expansion of the type described by Himmelmann. The difference could be due to the fact that Heine focuses more on typical processes, as the reanalysis of the concrete item, while Diewald is drawing somehow a more constructional perspective.

And while in some standard instances of grammaticization the identification of the relevant construction is relatively straightforward (for articles is the noun phrase, for auxiliaries it is the verbal complex), in other instances it is much less so. […] And the proper analysis of the grammaticization of conjunction probably would have to take into account the two clauses linked by the conjunction, and hence issues of sentence and/or paragraph structure. The fact that hardly any proposals are available dealing with these fairly standard grammaticization phenomena is their proper syntactic context shows that despite the fact that ocasionally lip-service is paid to the assertion that grammaticization pertains to constructions and not to individual elements, most work in grammaticization has not yet begun to take the implications of this view seriously. (Himmelmann 2004: 32)

In any case, this view of grammaticalization as context expansion preludes a constructional approach to linguistic change that will be the topic of the chapter 2. There, the notions of productivity, schematicity and compositionality would be brought into play for describing the language change we are dealing with.

1.3. Some in-depth exploration of the process question. A new framework to deal with the rise of discourse markers: cooptation

The proposal of Traugott has been very useful to introduce the evolution of DMs as a grammaticalization process of their own right and the cline has helped to describe several trajectories of DMs crosslinguistically[16] (Brinton 1996; Traugott and Dasher 2002; Company 2004a; cf. Onodera 2004; Estellés 2009a, 2009b; Fanego 2010; Azofra 2012, to name a few). However, not all the authors agree that this is the actual path all the DMs go along, but some emphasis has recently been put on historical processes giving rise to DMs that do not completely fit within such an evolution, since they do not show a gradual development through the cline (Fischer 2007; Kaltenböck *et al.* 2011; Heine 2013; Heine *et al.* 2013; Kleinknecht 2013; Cuello 2014).

The issue can be framed, in my opinion, as an overarching underlying question, which remains open: how long does it take for a grammaticalization process to occur? The question has been formulated several times (Narrog and Heine 2011: 8), but no approach has, to my knowledge, gotten close to convincingly answer it. Despite the theoretical and methodological problems that make impossible an absolute answer to this question, what would be interesting is to compare the lapse of

---

16. A summary of literature on the development of English DMs that confirm the path posited by Traugott can be found in Brinton (2008: 31-35). Pons Rodríguez (2010) undertakes a comprehensive survey on the diachronic studies of Spanish DMs. Pons Bordería (2018) carries out a metanalysis of the evolution of different types of Spanish DMs, reinterpreting the path from the point of view of the Val.Es.Co conversation units' system; in this approach the so-called *leftward movements* include the scope increase from internal adverb to DM described by Traugott (1995a).

time needed in different well-attested clines. For example, does the cline of Trau-gott take the same time as the most classical clines to be accomplished? An anal-ysis of this kind would provide important claims to the question of the nature of grammaticalization that get further (and disregard) the problem of the target of the process. Although no exploration has been carried out, one could guess that differences can be found, based on the fact that changes that affect the paradigm of the so-called traditional grammatical classes (prepositions, conjunctions, inflec-tives) occur less often than the rise of DMs, which seem to be open-ended.

Thus, it is unclear that all the changes along the cline described by Traugott take place in the continuous gradualness and slowness attributed to grammatical-ization, as noted by Pons Rodríguez (2010: 553):

> la gradualidad del cambio que experimentan los marcadores discursivos que pasan por procesos de gramaticalización no siempre implica lentitud, ya que no es raro (como ocurre en *por lo visto*) que de los ciclos medios del cambio no quede constancia documental. Ello puede producirse porque el cambio se precipita de forma *catastrófica* en unas pocas décadas hacia sentidos propios de un marcador del discurso; por una cuestión puramente técnica: muchos de esos cambios se fraguan en la conversación.

Such difficulties can be extended to the initial stages of the change, since, in some markers, especially those that come out of an already extrapropositional cat-egory, intrapropositional initial stages are impossible to find. A case in point is the development of the Spanish *hombre* out of a vocative. Cuello (2014) disregarded a typical process of grammaticalization for the development of the Spanish DM *hombre*, after analyzing over 500 examples from the 18th and 19th centuries. The re-sults point to the preeminence of synchronic factors over historical evolution in its functioning as a DM. All the pragmatic functions (mitigation, intensification and expressivity) that *hombre* fulfills nowadays were already present in the 18th cen-tury together with the purely appellative function, since they are actually proper or common pragmatic functions of the category (Real Academia Española 1973; Haverkate 1978, 1979; Fraser 1990, 1999; Bañón 1993; Shiina 2007). Moreover, most distinctive syntactic properties of DMs, such as extrapropositional scope, paren-theticality, syntactic mobility and positioning at the left and right peripheries, are shared by vocatives. In a nutshell, there is no historical process in the development of functions, neither in scope increase nor in loss of syntactic integration.

Then, what is left as a historical change? *Hombre* has lost its appellative feature through a process of foregrounding and subsequently specialization of pragmatic functions. Consequently, *hombre* is no longer used in Present-Day Spanish as an at-tention-call device to address a stranger (where other vocatives such as *señor* 'sir' or *caballero* 'gentleman' are still used). Such loss is morphologically reflected in the

lack of inflection (*hombre* is used when holding a conversation with a woman or a plural addressee, even in some monologal contexts) and syntactically in a specific discursive constrain: *hombre* cannot occupy the absolute initial position described by Estellés and Pons Bordería (2014) or even the beginning of an initiative intervention[17] (Cuello, Estellés and Gras, in preparation).

The loss of inflection capacities is the feature that most of times is quoted as the major sign to give account of the grammaticalization undergone by *hombre*, since it is an evidence of semantic bleaching (loss of semantic referential meaning) and decategorialization (loss of morphological properties of the category of noun). This is probably why *hombre* is considered one of the most conspicuous DMs in Peninsular Spanish, mainly in the category of alterity focalizers (Portolés 1998; Martín Zorraquino y Portolés 1999) or metadiscursive control markers (Briz 2001). However, does this mean that other vocatives that are not so formally-fixed as *hombre* or still retain some of the appellatives feature (or its use) are not to be considered DMs? Besides *hombre*, a wide range of vocatives specialized in some DM function amounts in Present-day Spanish,[18] which leaves open the question about where the boundaries are supposed to be: is formal fixation the critical criterion? How do we account for formal fixation? Is it absolute or a matter of degree?

The difficulties are not only associated to this special source for DMs. In order to shed light on the generality of the problem, let us show some parallels with our object of study, which departs from the category posed by Traugott (1995a). *Por tanto* belongs historically to a set of prepositional phrases that, because of the causal and anaphoric meaning of their component parts, are found as cause-consequence connective devices roughly from the first documentations of Spanish (§3.3.1). In this use, a wider scope than at least intrapropositional adverb seems to be at work, thus, in the first centuries (Medieval Spanish), there are examples that

---

17. Some frequent and well-known expressive uses of *hombre* do appear in initiative interventions. However, from our point of view, they can be set apart categorically from the other discourse marking uses on the basis of their functional and structural properties. In these cases, according to its interjective expressive nature, *hombre* can stand alone in an intervention, since it bears its own illocutionary force. It follows from this that an analysis in terms of Val.Es.Co conversation units's system (Grupo Val.Es.Co. 2014) allows distinguishing two different kinds of units: *hombre* as an adjacent modal subact, modifying the illocutionary force of the upcoming discourse segment, where it can only be placed in a reactive intervention (unlike the vocative construction it comes out of), and *hombre* constituting an act, with pragmatic and communicative independence.

18. *Mujer* is treated as a different marker by Briz (2013). *Tío/tía* is one of the most studied vocatives with DM functions for Peninsular Spanish (Jörgensen 2008; Fuentes Rodríguez 2009); chico/a is included as a discourse particle in Fuentes Rodríguez (2009) and Santos Ríos (2003). The use of *huevón* as a DM in Chile is analyzed by Rojas (2012) and described in the DPDE (Briz *et al*. 2008). The different values of Mexican *güey* has deserved a diachronic explanation (Kleinknecht 2013) in order to find out which functions were inherited from the vocative use and which ones are the result of a process of change.

are hard or impossible to set apart from the sentential adverbial stage. At some point in the course of time *por tanto* has become formally fixed, while the other markers are supposed to retain some degree of compositionality. This is analyzed as a decrease in compositionality, which is bounded to the loss of the anaphorical feature in *por tanto*. Then, *por tanto* is no longer available in some uses where the anaphoric nature is highlighted.[19] Thus, like in the case of vocatives, the connective function was presumably available for such markers and *por tanto* has undergone changes leading to formal fixation and loss of an original semantic feature. In other words, some stages in the cline are lost in all the markers and the difference between *por tanto* and the others remains subtler than predicted by the theory of grammaticalization. The parallelism is depicted in figure 2. In a theoretical sense, one could suggest that vocative is as central a category for the procedural meaning of metadiscursive control as are deictic terms preceded by preposition to connective meaning. An elaboration of these relations will be provided in §2.3.

SYNCHRONIC PROCESS		DIACHRONIC PROCESS
Vocatives		*Hombre*
	Natural polysemy of vocatives	
Appelative feature	————————	Loss of appelative feature (and uses)
Pragmatic functions	————————	Specialization of pragmatic functions (profile shift)
		↓
		Formal fixation: *hombre* used speaking with a woman or group of people
Causal prepositional phrases	————————	*Por tanto*
Anaphorical feature		Loss of anaphorical feature (and stress on the cause)
Connective feature	————————	Spectialization of consecutive connection (profile shift)

Figure 2. Synchronic and diachronic processes in *por tanto* and *hombre*

---

19. While this is true for the use as a connective, let us note that recently it has been an increase of the intrapropositional uses of *por tanto* in very specific constructions such as *gracias por tanto*. This is not striking according to a theory where linguistic context is taken into account in the grammaticalization process, which is best shown by construction grammar and constructionalization. Moreover, it gives account of the property known as *divergence* (Hopper 1991) and the renewal cycle typical of linguistic change (Hansen 2018).

In the quotation of Pons Rodríguez (2010: 553) above, a doubt about what underlies such observed *catastrophic* changes is raised: is it opacity in the corpus or real abrupt evolution? In what follows, we will introduce some arguments for a non-gradual account of the development of DMs, with a special emphasis on discourse grammar (as the framework) and cooptation (as the kind of synchronic change enabling DM functions). These approaches follow a what-you-see-is-what-you-get explanation of the findings of historical corpus studies.

A group of authors (Kaltenböck *et al*. 2011; Heine 2013; Heine *et al*. 2015) has reassessed the processes leading to the rise and evolution of DMs by drawing on a new view on language that recognizes two basic domains in its structure, interacting in what is called *discourse grammar*. The first, sentence grammar, includes all the mechanisms, syntactic categories and relations described by what has been repeatedly referred to here as traditional grammar. The second, thetical grammar, includes many linguistic structures, external to the syntax of the sentence and serving metacommunicative needs of various types: text organization, source of evidence, speaker attitude, speaker-hearer interaction and world knowledge.

The thetical domain is composed by different kinds of units (called theticals) that are external to the sentence syntax in that they show the following properties:

a.   They are syntactically independent from their environment.
b.   They tend to be set off prosodically from the rest of the utterance.
c.   Their meaning is non-restrictive.
d.   They tend to be prosodically mobile.
e.   Their internal structure is built on principles of SG [Sentence Grammar] but can be elliptic.
(Heine *et al*. 2013: 159)

The advantage of setting this domain is that it encompasses many different categories that have been addressed separately and –although many times led to some comparison– whose relationship has not entirely been drawn out. From the shared features sketched above, we can conclude that their syntactic and semantic similarities lead them to a common function: their externality to the syntax and their non-restrictive meaning make them prone to yield not propositional meaning but discourse-related meaning. This includes what is known as comment clauses, parenthetical clauses, tag questions, apposition markers, discourse and pragmatic markers, vocatives, interjections, non-restrictive appositive modifiers and so on. In a reconfiguration of these structures within the theory, the following theticals have been recognized: conceptual theticals, formulae of social exchange, vocatives and interjections. The list is not complete but other phenomena should be analyzed in light of the theory.

Discourse Grammar

Sentence Grammar (SG)   Thetical Grammar (TG)   …

Conceptual   Formulae of social   Vocatives   Imperatives   Interjections   …
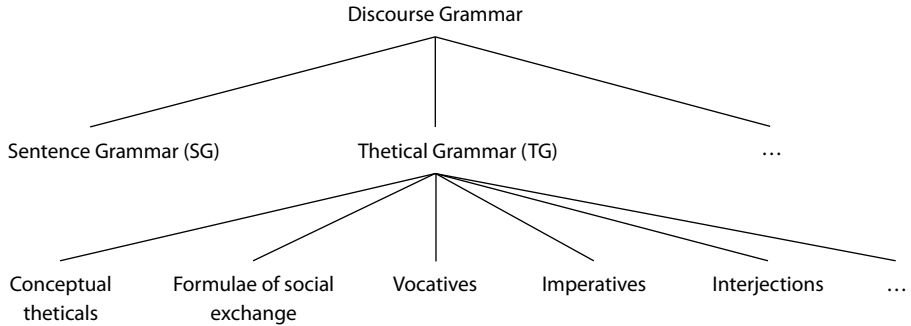theticals   exchange

Figure 3. Architecture of Discourse Grammar according to Heine (2013: 1217)

DMs are considered *conceptual theticals*, more specifically, a subtype of these, because they are «largely or entirely formulaic». The explicitation of this sub-type has to do with the distinctions that, according to Heine *et al*. (2015), can be made between all the theticals in terms of degree of fixation. Under this parameter, three kinds of theticals can be found:

— *instantaneous theticals*, that are completely compositional;
— *constructional theticals*, or «recurrent patterns or constructions of theticals, be-ing compositional but having some schematic structure and function» (Heine *et al*. 2015);
— and *formulaic theticals*, which are non-compositional invariable chunks with a great mobility.

The emergence of theticals takes place by an operation called *cooptation*, which consists of the instantaneous recruitment of any structure from sentence grammar to work within discourse grammar: «(c)ooptation is a ubiquitous oper-ation whereby a chunk of SG, such as a clause, a phrase, a word, or any other unit is deployed for use as a thetical» (Heine 2013: 1221). It follows that this operation is instantaneous and individual, which makes a difference with most of descriptions of grammaticalization.

According to such a view, it could be said that the formation of DMs takes place via cooptation and not grammaticalization, but it would be more precise to argue for a division of labor: while the emergence or the first scope expansion and the pragmatic related meaning is covered by cooptation, subsequent formal fixation or semantic change is explained through mechanisms consistent with grammati-calization, as recognized by Heine (2013: 1223). Therefore, in the terms presented before, instantaneous conceptual theticals are coopted from sentence grammar sporadically and may subsequently undergo formal fixation to become a formulaic thetical; there is an intermediate stage with some structural variation provided by a schema with open slots but a relatively stable meaning.

In sum, cooptation explains abrupt acquisition of an extrapropositional scope and pragmatic meaning, which is exactly what Fischer (2007) claims and what is found in *hombre* and *por ello*, *por eso*, *por esto* and *por tanto*. However, the question remains whether or not this latter group of markers clearly fit into the schema of theticals and cooptation or not. One possibility emerges from the explanation of Fischer that takes originally prepositional phrases as *in fact* for her demonstration of abrupt scope increase. Another theoretical position that enables such explanation could be the one by Garachana about some DMs as proconcessive:

> Ahora bien, en los ejemplos propuestos en Cuenca (1991) no cabe hablar de conectores adversativos, o adversativo-concesivos, sino más bien de partículas proconcesivas. Es decir, estos conectores y sus equivalentes castellanos –*no obstante, con todo, a pesar de todo, aun así, así y todo* y, en muchos de sus empleos, *sin embargo*–, son proformas que aparecen en lugar de una prótasis concesiva ecoica. Esto significa que tales conectores tienen valor discursivo, pues la información expuesta en el enunciado o en los enunciados anteriores es recuperada por el valor fórico de la partícula. (Garachana 1997: 252)

This quotation opens up the possibility to equate such DMs (original prepositional phrases) to reduced conceptual theticals in origin (cooptation would have to do with subjectification and syntactic deprival), in such a way that they recover a full string of previous discourse. However, it seems that they cover a slightly different phenomena and their relationship with the category of thetical should be clarified in §2.3.

All in all, thetical grammar and cooptation are very useful for explaining different discursive structures that are placed at the edge or periphery of the category of DMs and are difficult to account for within a standard grammaticalization theory. For example, Domínguez García (2019; 2020) focuses on *¿me entiendes lo que te quiero decir?* ('do you understand what I mean') as a metadiscursive resource for managing the interaction in different ways. She asks whether such a structure can be categorized as a DM, since, on the one hand, it is used with a clear procedural meaning of managing the interaction (turn-giving, turn retaining), but, on the other, it shows great formal variability and can still be used with its clear conceptual meaning (that is to say, seeking an answer about the understanding of the speech act). She goes on to suggest that such long tag question could be the elaboration on an already grammaticalized DM *¿me entiendes?* lit. *do you understand me?* 'you know?'.

Thetical grammar provides a wider view on these phenomena and, in this case, a simpler explanation (according to the Occam's razor) to the presented data. *¿Me entiendes lo que te quiero decir?* is a conceptual thetical, coopted directly from

sentence grammar and not through a process of grammaticalization. The fact that it is felt by Spanish speakers as an expression overused by some people, as signaled by Domínguez García (2020), points to the possible ongoing formal fixation. However, since the same speakers report different variants of the expression when talking about it, it is reasonable to place it within the category of constructional conceptual theticals, a compositional pattern with some open slots that fulfills a specific function.

In this sense, thetical grammar can benefit from the notions and assumptions of construction grammar and constructionalization in order to fine-tune the analysis of the development of different theticals.

For example, Heine (2013) points out that some semantic and formal changes can occur before and after cooptation has taken place. While a view that treats formal and semantic change as a parallel evolution has been privileged from a grammaticalization point of view, constructionalization allows for the existence of constructional changes in the formal or semantic pole before and after constructionalization. Moreover, when arguing for a change where a schematic pattern with a fixed meaning arises, Kaltenböck *et al*. (2011) are describing the nature of constructions as meaningful units –and therefore signs– with a different degree of schematicty or phonological specification.

In the next chapter, we explore the nature of construction grammar and constructionalization for a better understanding of the development of DMs and their setting in a constructional network.

References

Aijmer, Karin (1997): «I think – an English modal particle», in T. Swan and O.J. Westvik, *Modality in Germanic Languages*. Berlin/Boston: De Gruyter Mouton, 1-48.

Anscombre, Jean-Claude and Oswald Ducrot (1994 [1983]): *La argumentación en la lengua*. Madrid: Gredos.

Ariel, Mira (1988): «Referring and accessibility», *Journal of Linguistics*, 24, (1), 65-87.

Ariel, Mira (2001): «Accessibility Theory: an overview», in T. Sanders, J. Schilperoord and W. Spooren (eds.), *Human Cognitive Processing, Vol. 8. Text representation: Linguistic and psycholinguistic aspects*. Amsterdam: John Benjamins Publishing Company, 29-87.

Arppe, Ante, Gaëtanelle Gilquin, Dylan Glinn, Martin Hilpert and Arne Zeschel (2010): «Cognitive Corpus Linguistics: five points of debate on current theory and methodology», *Corpora*, *5*(1), 1-27.

Asr, Fatemeh Torabi and Vera Demberg (2020): «Interpretation of discourse connectives is probabilistic: evidence from the study of *but* and *although*», *Discourse Processes*, *57*(4), 376-399.

Azofra, Elena (2012): «Procesos de formación de conectores aditivos en español medieval», *RILCE*, 28, 351-384.

Balota, David A., Michael J. Cortese, Susan D. Sergent-Marshall, Daniel H. Spieler and Melvin J. Yap (2003): «Visual Word Recognition of Single-Syllable Words», *Journal of Experimental Psychology*, 133 (2), 283-316.

Bañón, Antonio Miguel (1993): *El vocativo en español. Propuestas para su análisis lingüístico*, Barcelona: Octaedro.

Barðdal, Jóhanna (2008): *Productivity: evidence from case and argument structure in Icelandic*, Amsterdam: John Benjamins.

Barðdal, Jóhanna, Elena Smirnova, Lotte Sommerer and Spike Gildea (2015): *Diachronic construction grammar*, Amsterdam/Philadelphia: John Benjamins.

Barðdal, Jóhanna and Spike Gildea (2015): «Diachronic Construction Grammar: epistemological context, basic assumptions and historical Implications», in J. Bardal, S. Gildea, L. Sommerer and E. Smirnova (eds.), *Diachronic construction grammar*, Amsterdam/ Philadelphia: John Benjamins, 1-49.

Bardzokas, Valandis (2013): «The semantics and pragmatics of causal connectives: Conceptual and procedural aspects of Modern Greek *jati* and *epeiδi*», in I. Kecskes and J. Romero-Trillo (eds.), *Research trends in Intercultural pragmatics*. Berlin: Mouton de Gruyter, 29-54.

Bardzokas, Valandis (2014): «Linguistic constraints on causal content: the case of Modern Greek markers», *Journal of Pragmatics*, 60, 160-174.

Bardzokas, Valandis (2017): «Conceptual and Procedural Aspects of Causal Meaning: Corpus-Analytic Evidence from Modern Greek», *Corpus Pragmatics*, *1*, 257-279.

Barth, Dagmar and Elizabeth Couper-Kuhlen (2002): «On the development of final *though*», in I. Wischer and G. Diewald (eds.), *New reflections on grammaticalization*. Amsterdam: John Benjamins, 345-361.

Baron-Cohen, Simon (1995): *Mindblindness. An essay on autism and Theory of Mind*. Cambridge, MA: The MIT Press.

Bello, Andrés (2002 [1842]): *Gramática de la lengua castellana destinada al uso de los americanos.* Alicante: Biblioteca Virtual Miguel de Cervantes.

Bergs, Alexander and Gabriele Diewald (2008): *Constructions and language change.* Berlin/New York: Mouton de Gruyter.

Berkenfield, Catie (2001): «The role of frequency in the realization of English *that*», *Typological Studies in Language*, 45, 281-308.

Bermúdez, Fernando (2003): «LLegando a la conclusión: la escena del camino en los conectores consecutivos», *Revue Romane*, 38 (2), 239-271.

Bisang, Walter (2004): «Grammaticalization without co-evolution of form and meaning: the case of tense-aspect in East and mainland Southeast Asia», in W. Bisang, N. Himmelmann and B. Wiemer (eds.), *What makes grammaticalization? A look from its fringes and its components.* Berlin/Boston: Mouton de Gruyter, 109-139.

Blakemore, Diane (1987): *Semantic Constraints on Relevance*. Oxford: Blackwell.

Blakemore, Diane (1996): «Are apposition markers discourse markers?», *Journal of Linguistics, 32*(2), 325-437.

Blakemore, Diane (2002): *Relevance and linguistic meaning: the semantics and pragmatics of discourse markers*. Cambridge: Cambridge University Press.

Blakemore, Diane (2007): «Or'-parentheticals, 'that is' parentheticals and the pragmatics of reformulation», *Journal of Linguistics*, *43*(2), 325-347.

Blumenthal-Dramé, Alice (2010): *Entrenchment in usage-based theories. What corpus data do and do not reveal about the mind*. Berlin: Mouton de Gruyter.

Bolly, Catherine and Liesbeth Degand (2013): «Have you seen what I mean? From verbal construction to discourse markers», *Journal of Historical Pragmatics*, *14*(2), 210-235.

Bolly, Catherine, Ludivine Crible, Liesbeth Degand and Deniz Uygur-Distexhe (2017): «Towards a model for discourse marker annotation: from potential to feature-based discourse markers», in C. Fedriani and A. Sanso, *Discourse Markers, pragmatic markers and modal particles: new perspectives*. Amsterdam: John Benjamins, 71-98.

Boye, Kasper and Peter Harder (2009): «Evidentiality: Linguistic categories and grammaticalization», *Functions of Language*, *16*(1), 9-43.

Boye, Kasper and Peter Harder (2012): «A usage-based theory of grammatical status and grammaticalization», *Language, 88*(1), 1-44.

Bresnan, Joan (2007): «Is syntactic knowledge probabilistic? Experiments with the English dative alternation», in S. Featherston and W. Sternefeld (eds.), *Roots: linguistics in search of its evidential base*. Berlin: Mouton de Gruyter, 77-96.

Brinton, Laurel J. (1996): *Pragmatic markers in English: Grammaticalization and discourse functions* (vol. 19). Berlin: Walter de Gruyter.

Brinton, Laurel J. (2008): *The comment clause in English. Syntactic origins and pragmatic development*. Cambridge: Cambridge University Press.

Brinton, Laurel J. (2017): *The evolution of pragmatic markers in English: pathways of change*. Cambridge: Cambridge University Press.

Brinton, Laurel J. and Traugott, Elizabeth C. (2005): *Lexicalization and language change*. Cambridge: Cambridge University Press.

Briz, Antonio (2001): *El español coloquial en la conversación. Esbozo de pragmagramática*. Barcelona: Ariel.

Briz, Antonio (2010): «Lo coloquial y lo formal: el eje de la variación lingüística», in R. M. Castañer Martín and V. Lagüéns Gracia (coords.), *De moneda nunca usada: estudios dedicados a José Mª Enguita Utrilla*. Zaragoza: Instituto Fernando el Católico, CSIC, 125-133.

Briz, Antonio (2011a): «Lo discursivo de las partículas discursivas en el *Diccionario de Partículas Discursivas del Español*. La atenuación como significado fundamental o uso contextual», in H. Aschenberg and Ó. Loureda (eds.), *Marcadores del discurso: de la descripción a la definición*, Madrid/Frankfurt: Iberoamericana, Vervuert.

Briz, Antonio (2011b): «La subordinación sintáctica desde una teoría de unidades del discurso. El caso de las llamadas causales de la enunciación», in J. J. de Bustos Tovar, R. C. Aguilar, E. Méndez and A. López (coords.), *Sintaxis y análisis del discurso hablado en español. Homenaje a Antonio Narbona*. Sevilla, Universidad de Sevilla, 138-154.

Briz, Antonio (2013): «La definición de las partículas discursivas *hombre* y *mujer*», *Anuario de Lingüística Hispánica*, 28, 27-55.

Briz, Antonio and Maria Estellés (2010): «On the relationship between Attenuation, Discourse Particles and Position», in G. Kaltenböck, W. Mihatsch and S. Schneider (eds.), *New approaches to hedging*. Reino Unido: Emerald, 289-304.

Briz, Antonio and Salvador Pons Bordería (2010): «Unidades, marcadores discursivos y posición», in Ó. Loureda and E. Acín Villa (coords.), *Los estudios sobre marcadores del discurso en español, hoy*. Madrid, Arco Libros, 327-358.

Briz, Antonio, Salvador Pons Bordería and José Portolés (coords.) (2008): *Diccionario de partículas discursivas del español* [online]: <http://www.dpde.es/>.

Broccias, Cristiano (2012): «The syntax-lexicon continuum», in T. Nevalainen and E. C. Traugott (eds.), *The Oxford Handbook of the History of English*. New York: Oxford University Press, 735-748.

Budst, Sara and Peter Petré (2020): «Putting connections centre stage in diachronic construction grammar», in E. Smirnova and L. Sommerer (eds.), *Nodes and networks in diachronic construction grammar*. Amsterdam/Philadelphia: John Benjamins, 317-351.

Bühler, Karl (2011 [1934]). *Theory of Language: the representational function of language*. Amsterdam: John Benjamins.

Bybee, Joan (2003): «Mechanisms of change in grammaticization: the role of frequency», in Brian D. Joseph and Richard D. Janda (eds.), *The Handbook of Historical Linguistics*. Malden, MA: Blackwell Publishing, 602-623.

Bybee, Joan (2006): «From usage to grammar: the mind's response to repetition», *Language*, 711-733.

Bybee, Joan (2010): *Language, usage and cognition*. Cambridge: Cambridge University Press.

Bybee, Joan (2011): «Usage-based theory and grammaticalization», in H. Narrog and B. Heine (eds.), *The Oxford Handbook of Grammaticalization*. New York: Oxford University Press.

Bybee, Joan (2013): «Usage-based theory and exemplar representation», in T. Hoffmann and G. Trousdale, *The Oxford Handbook of Construction Grammar*. Oxford: Oxford University Press, 49-69.

Bybee, Joan and Paul Hopper (eds.) (2001): *Frequency and the emergence of linguistic structure*. Amsterdam: John Benjamins.

Bybee, Joan and Joanne Scheibman (1999): «The effect of usage on degrees of constituency: the reduction of *don't* in English», *Linguistics*, *37*(4), 576-596.

Bybee, Joan, Revere Perkins and William Pagliuca (1994): *The evolution of grammar. Tense, aspect and modality in the languages of the world*. Chicago and London: The University of Chicago Press.

Cabedo, Adrián (2013): «Sobre prosodia, marcadores del discurso y unidades del discurso en español: evidencias de un corpus oral espontáneo», *Onomázein*, *28*, 201-213.

Canestrelli, Anneloes (2013): *Small words, big effects: objective versus subjective causal connectives in discourse processing*. Utrecht University. Utrecht: LOT Publications.

Canestrelli, Anneloes, Pim Mak and Ted Sanders (2016): «The influence of genre on the processing of objective and subjective causal relations: Evidence from eye-tracking», in N. Stukker, W. Spooren and G. Steen (eds.), *Genre in Language, Discourse and Cognition*. Boston: De Gruyter Mouton, 61-74.

Cano, Rafael (2003): «Función sintáctica, significación gramatical y valor léxico en la conexión supraoracional», in J. L. Girón *et al.* (coords.), *Estudios ofrecidos al profesor José Jesús de Bustos Tovar*. Madrid: Servicio de Publicaciones de la Universidad Complutense de Madrid, 297-313.

Capelle, Bert (2006): «Particle placement and the case for 'allostructions'», in D. Schönefeld (ed.), *Constructions Special Volume 1 – Constructions all over: Case studies and theoretical implications.*

Caron, Jean, Hans C. Micko and Manfred Thüring (1988): «Conjunctions and the recall of composite sentences», *Journal of Memory and Language*, *27*(3), 309-323.

Casado, Manuel (1997 [1993]): *Introducción a la gramática del texto en español*. Madrid: Arco Libros.

Clark, Billy (2016): «Relevance Theory and language change», *Lingua*, 139-156.

Clifton, Charles and Adrian Staub (2011): «Syntactic influences on eye movements in reading», in S. P. Liversedge, I. D. Gilchrist and S. Everling (eds.), *The Oxford handbook of eye movements*. Oxford: Oxford University Press, 895-909.

Clifton, Charles, Adrian Staub and Keith Rayner (2007): «Eye movements in reading words and sentences», in R. P. G. Van Gompel, M. H. Fischer, W. S. Murray and R. L. Hill (eds.), *Eye movements: A window on mind and brain*. Oxford: Elsevier, 341-372.

Company, Concepción (2002): «Grammaticalization and category weakness», in I. Wischer and G. Diewald (eds.), *New reflections on grammaticalization*. Amsterdam/Philadelphia: John Benjamins, 201-217.

Company, Concepción (2004a): «¿Gramaticalización o desgramaticalización? Reanálisis y subjetivización de verbos como marcadores discursivos en la historia del español», *Revista de Filología Española*, *84*(1), 29-66.

Company, Concepción (2004b): «Gramaticalización por subjetivización como prescindibilidad de la sintaxis», *Nueva Revista de Filología Hispánica*, *52*(1), 1-27.

Coseriu, Eugenio (1967): «Sistema, norma y habla», in Eugenio Coseriu, *Teoría del lenguaje y lingüística general. Cinco Estudios*. Madrid: Gredos, 11-113.

Coseriu, Eugenio (1973): *Diacronía, sincronía e historia*. Madrid: Gredos.

Coseriu, Eugenio (1985): «Linguistic competence: what is it really?», *The Modern Language Review*, *80*(4), 25-35.

Cozijin, Reinier, Leo Noordman and Wietske Vonk (2011): «Propositional integration and world knowledge inference: processes in understanding *because*-sentences», *Discourse Processes*, 48, 475-500.

Coussé, Evie, Peter Andersson and Joel Olofsson (2018): *Grammaticalization meets Construction Grammar*. Amsterdam/Philadelphia: John Benjamins.

Croft, William (2000): *Explaining language change: an evolutionary approach*. Pearson Education.

Croft, William (2001): *Radical Construction Grammar: syntactic theory in typological perspective*. Oxford: Oxford University Press.

Croft, William (2003): «Lexical rules vs. constructions: a false dichotomy», in H. Cuyckens, T. Berg, R. Dirven and K.-U. Panther (eds.), *Motivation in Language: studies in honor of Günter Radden*. Amsterdam: John Benjamins, 49-68.

Croft, William (2005): «Logical and typological arguments for Radical Construction Grammar», in J.-A. Östman and M. Fried, *Constructions Grammars: cognitive grounding and theoretical extensions*. Amsterdam, John Benjamins, 273-314.

Croft, William (2006): «Typology», in M. Aronoff and J. Rees-Miller (eds.), *The Handbook of Linguistics*. Oxford: Blackwell, 337-368.

Cruz, Adriana (2020): *Processing Patterns of Focusing: An Experimental Study on Pragmatic Scales Triggered by the Spanish Focus Operator* incluso. Heidelberg: Universität Heidelberg.

Cruz, Adriana and Óscar Loureda (2019): «Processing patterns of focusing in Spanish», in Ó. Loureda, I. Recio, L. Nadal and A. Cruz (eds.), *Empirical Studies of the Construction of Discourse*. Amsterdam: John Benjamins.

Cuello, Carlos (2014): *Historia de la partícula discursive* hombre*: condicionamientos sincrónicos y evolución diacrónica.* Valencia: Universitat de València.

Cuenca, Maria Josep (2017): «Connectors gramaticals i connectors lèxics en la construcció discursiva del debat parlamentari», *Zeitschrift für Katalanistik*, *30*, 99-123.

Cuenca, Maria Josep and Maria Estellés (2020): «Certezas evidentes: el caso de *visto que*, *está visto* y *visto lo visto*», in R. Maldonado and J. de la Mora (eds.), *Evidencialidad. Determinaciones léxicas y construccionales*. Ciudad de México: Universidad Nacional Autónoma de México, 61-97.

Cuenca, Maria Josep and Marta Torres Vilatarsana (2008): «Usos de *hombre-home* y *mujer-dona* como marcadores del discurso en la conversación coloquial», *Verba*, 235-256.

Cuenca, Maria Josep and Jacqueline Visconti (2017): «De la procedencia temporal al contraste: el marcador del discurso *ans* en catalán y *anzi* en italiano», *Pragmalingüística*, *1*, 89-197.

Dąbrowska, Ewa (2015): «Individual differences in grammatical knowledge», in E. Dąbrowska and D. Divjak, *The Handbook of Cognitive Linguistics*. Berlin: De Gruyter Mouton, 650-667.

Dahan, Delphine, James S. Magnuson and Michael K. Tanenhaus (2001): «Time Course of Frequency Effects in Spoken-Word Recognition: Evidence from Eye Movements», *Cognitive Psychology*, *42*, 317-367.

Danlos, Laurence, Kateřina Rysová, Magdaléna Rysová and Manfred Stede (2018): «Primary and secondary discourse connectives: definitions and lexicons», *Dialogue & Discourse*, *9*(1), 50-78.

De Cock, Barbara (2013): «Entre distancia, discurso e intersubjetividad: Los demostrativos neutros en español», *Anuario de letras. Lingüística y Filología*, *1*(2), 5-36.

Degand, Liesbeth (2000): «Causal connectives or causal prepositions? Discursive constraints», *Journal of Pragmatics*, *32*, 687-707.

Degand, Liesbeth and Jacqueline Evers-Vermeul (2015): «Grammaticalization or pragmaticalization of discourse markers?: More than a terminological issue», *Journal of Historical Pragmatics*, *16*(1), 59-85.

Degand, Liesbeth and Benjamin Fagard (2012): «Competing connectives in the causal domain: French *car* and *parce que*», *Journal of Pragmatics*, *44*(2), 154-168.

Degand, Liesbeth and Henk Pander Maat (2003): «A contrastive study of Dutch and French causal connectives on the Speaker Involvement Scale», *LOT Occasional Series, 1*, 175-199.

De la Fuente García, Mario, Manuel Iglesias Bango and Marina Maqueira (2019): «*Por tanto* in reduced contexts (I): análisis cuantitativo y formal», *ELUA*, 173-200.

De Saussure, Ferdinand (1987): *Curso de lingüística general*. Madrid: Alianza Editorial.

De Saussure, Louis (2011): «On some methodological issues in the conceptual/procedural distinction», in V. Escandell, M. Leonetti and A. Ahern (eds.), *Procedural meaning: problems and perspectives*. Leiden: Brill, 55-79.

De Smet, Hendrik and Olga Fischer (2017): «The role of analogy in language change: supporting constructions», in M. Hundt, S. Mollin and S. E. Pfenninger (eds.), *The changing English language: psycholinguistic perspectives*. Cambridge: Cambridge University Press, 240-268.

Diessel, Holger (1999): *Demonstratives: form, function and grammaticalization*. Amsterdam: John Benjamins.

Diessel, Holger (2015): «Usage-based construction grammar», in E. Dąbrowska and D. Divjak, *Handbook of cognitive linguistics*, vol. 39. Berlin/Boston: De Gruyter Mouton, 296-322.

Diessel, Holger (2017): «Usage-based linguistics», in M. Aronoff (ed.), *Oxford Research Encyclopedia of Linguistics*. New York: Oxford University Press.

Diewald, Gabriele (2002): «A model for relevant types of contexts in grammaticalization», in I. Wischer and G. Diewald, *New reflections on grammaticalization*. Amsterdam/Philadelphia: John Benjamins, 102-120.

Diewald, Gabriele (2006): «Context types in grammaticalization as constructions», *Constructions*, *1*(9), 1-29.

Diewald, Gabriele (2009): «Konstruktionen und Paradigmen», *ZGL*, *37*, 445-468.

Diewald, Gabriele (2010): «On some problem areas in grammaticalization studies», in K. Stathi, E. Gehweiler and E. König (eds.), *Grammaticalization: current views and issues*. Amsterdam/Philadelphia: John Benjamins, 17-50.

Diewald, Gabriele (2011a): «Grammaticalization and pragmaticalization», in H. Narrog and B. Heine (eds.), *The Oxford Handbook of Grammaticalization*. New York: Oxford University Press, 450-462.

Diewald, Gabriele (2011b): «Pragmaticalization (defined) as grammaticalization of discourse functions», *Linguistics*, *49*(2), 365-390.

Diewald, Gabriele (2015): «Modal particles in different communicative types», *Constructions and Frames*, *7*(2), 218-257.

Diewald, Gabriele (2020): «Paradigms lost – paradigms regained. Paradigms as hyperconstructions», in L. Sommerer and E. Smirnova (eds.), *Nodes and networks in Diachronic Construction Grammar*, Amsterdam/Philadelphia: John Benjamins, 277-315.

Diewald, Gabriele and Elena Smirnova (2010): *Evidentiality in German: linguistic realization and regularities in grammaticalization*. Berlin/New York: Walter de Gruyter.

Diewald, Gabriele and Elena Smirnova (2012): «Paradigmatic integration», in B. Cornillie and H. Cuyckens (eds.), *Grammaticalization and language change: new reflections*. Amsterdam/Philadelphia: John Benjamins, 111-133.

Divjak, Dagmar (2019): *Frequency in language: memory, attention and learning*. Cambridge: Cambridge University Press.

Divjak, Dagmar and Catherine Caldwell-Harris (2015): «Frequency and Entrenchment», in E. Dąbrowska and D. Divjak (eds.), *Handbook of Cognitive Linguistics*. Berlin: De Gruyter, 53-74.

Divjak, Dagmar and Stepha Gries (eds.) (2012): *Frequency effects in language representation*. Berlin/Boston: De Gruyter Mouton.

Divjak, Dagmar, Ewa Dąbrowska and Antti Arppe (2016): «Machine Meets Man: evaluating the psychological reality of corpus-based probabilistic models», *Cognitive Linguistics*, *27*(1), 1-33.

Domínguez García, Noemí (2019): «Una ¿nueva? Estrategia para alargar la intervención en la conversación coloquial», in A. Cabedo and A. Hidalgo (eds.), *Pragmática del español hablado. Hacia nuevos horizontes*. Valencia: Servicio de Publicaciones de la Universidad de Valencia, 291-302.

Domínguez García, Noemí (2020): «¿Es un marcador del discurso *me entiendes lo que te quiero decir?,* in A. M. Nogueira, C. Fuentes and M. Martí Sánchez (eds.), *Aportaciones desde el español y el portugués a los marcadores discursivos: treinta años después de Martín Zorraquino y Portolés*. Universidad de Sevilla, 189-208.

Eberenz, Rolf (2000): *El español en el otoño de la Edad Media. Sobre el artículo y los pronombres*. Madrid: Gredos.

Egorova, Natalia, Yuri Shtyrov and Friedemann Pulvermüller (2013): «Early and parallel processing of pragmatic and semantic information in speech acts: neurophysiological evidence», *Frontiers in Human Neuroscience*, 7, 1-13.

Ellis, Nick (2002): «Frequency effects in language processing: a review with implications for theories of implicit and explicit language learning», *Studies in Second Language Acquisition*, *2*, 143-188.

Enghels, Renata (2018): «Towards a constructional approach to discourse-level phenomena: The case of the Spanish interpersonal epistemic stance construction», *Folia Linguistica*, *52*(1), 107-138.

Enghels, Renata and Elena Azofra (2018): «Sobre la naturaleza de los corpus y la comparabilidad de resultados en lingüística histórica. Estudio de caso del marcador pragmático *sabes*», *Spanish in Context*, *15*(3), 465-489.

Erman, Britt and Ulla Britt Kotsinas (1993): «Pragmaticalization: The case of *ba* and *you know*», *Studier i modem spr&vetenskap*, 76-93. New series 10, Acta Universitatis Stockholmiensis. Stockholm: Almqvist & Wiksell.

Espinosa, Rosa M. (2010): *Procesos de formación y cambio en las llamadas palabras gramaticales*. San Millán de la Cogolla: Cilengua.

Estellés, Maria (2009): *Gramaticalización y gramaticalizaciones: el caso de los marcadores del discurso de digresión en español*. Valencia: Servei de Publicacions de la Universitat de València.

Estellés, Maria (2009b): «Un caso atípico de gramaticalización: el valor epistémico del marcador *por cierto*», *RILCE 25*(2), 319-339.

Estellés, Maria and Maria Josep Cuenca (2017): «*Ans* y *antes*: de la anterioridad a la refutación en catalán y español», *Zeitschrift für Katalanistik*, *30*, 165-184.

Estellés, Maria and Salvador Pons Bordería (2014): «Absolute initial position», in S. Pons (ed.), *Discourse segmentation in Romance languages*. Amsterdam: John Benjamins Publishing Company, 121-155.

Evers-Vermeul, Jacqueline (2005): *The development of Dutch connectives: change and acquisition as windows on form-function relations*. Utrecht: Utrecht University.

Evers-Vermeul, Jacqueline and Ted Sanders (2011): «Discovering domains –on the acquisition of causal connectives», *Journal of Pragmatics*, *43*(6), 1645-1662.

Fanego, Teresa (2010): «Paths of grammaticalization of elaborative discourse markers: evidence from Spanish», in K. Davidse, L. Vandelanotte and H. Cuyckens (eds.), *Subjectification, Intersubjectification and Grammaticalization*. New York: Gruyter de Mouton, 197-240.

Figueras, Carolina (2002): «La jerarquía de accesibilidad de las expresiones referenciales en español», *Revista Española de Lingüística*, *32*(1), 53-96.

Finkbeiner, Rita (2019): «Reflections on the role of pragmatics in Construction Grammar», *Constructions and Frames*, *11*(2), 171-192.

Fillmore, Charles, Paul Kay and Mary Catherine O'Connor (1988): «Regularity and idiomaticity in grammatical constructions: the case of *let alone*», *Language*, *64*(3), 501-538.

Fischer, Kerstin and Maria Alm (2013): «A radical construction grammar perspective on the modal particle-discourse particle distinction«, in L. Degand, B. Cornillie and P. Pietrandrea (eds.), *Discourse markers and modal particles: categorization and description*. Amsterdam/Philadelphia: John Benjamins, 47-87.

Fischer, Olga (2007): *Morphosyntactic change: functional and formal perspectives*. Oxford: Oxford University Press.

Fischer, Olga (2011): «Grammaticalization as an analogically-driven change?», in H. Narrog and B. Heine (eds.), *The Oxford Handbook of Grammaticalization*. New York: Oxford University Press, 31-43.

Fischer, Olga (2020): «What role do iconicity and analogy play in grammaticalization?», in R. Janda, B. D. Joseph and B. S. Vance (eds.), *The Handbook of Historical Linguistics 2*. John Wiley & Sons, 314-342.

Ford, Marilyn and Joan Bresnan (2010): «Studying syntactic variation using convergent evidence from psycholinguistics and usage», in M. Krug and J. Schlüter (eds.), *Research Methods in Language Variation and Change*. Cambridge: Cambridge University Press, 295-312.

Fraser, Bruce (1990): «An approach to discourse markers», *Journal of Pragmatics*, *14*(3), 383-398.

Fraser, Bruce (1999): «What are discourse markers?», *Journal of Pragmatics*, *31*(7), 931-952.

Fried, Mirjam (2009): «Construction grammar as a tool for diachronic analysis», *Constructions and Frames*, *1*(2), 261-290.

Fried, Mijam and Jan-Ola Östman (2005): «Construction Grammar and spoken language: The case of pragmatic particles», *Journal of Pragmatics*, 37, 1752-1778.

Fuentes Rodríguez, Catalina (2009): *Diccionario de conectores y operadores del español*. Madrid: Arco/Libros.

Fuentes Rodríguez, Catalina (2019): «Fijación de construcciones con valor argumentativo: *aunque sea*», *ELUA*, Anexo VI, 9-31.

Garachana, Mar (1997): *Los procesos de gramaticalización: una aplicación a los conectores contraargumentativos*. Barcelona: Universitat de Barcelona [online]: <http://hdl.handle. net/2445/35033>.

García Izquierdo, Isabel (1998): *Mecanismos de cohesión textual: los conectores ilativos*. Universitat Castellón: Publicacions de la Universitat Jaume I.

García-Miguel, José María (2005): «Aproximación empírica a la interacción de verbos y esquemas construccionales, ejemplificada con los verbos de percepción», *Estudios de Lingüística de la Universidad de Alicante*, 19, 169-191.

Garrido Sepúlveda, Claudio (2017): «Consideraciones histórico-discursivas sobre algunos conectores consecutivos en las biblias romanceadas del siglo XIII al XVI», *Onomazein*, 36, 25-60.

Gildea, Spike and Jóhanna Barðal (2023): «From grammaticalization to Diachronic Construction Grammar: a natural evolution of the paradigm», *Studies in Language, 47*(4), 743-788.

Gilquin, Gaëtanelle (2008): «What you think ain't what you get: highly polysemous verbs in mind and language», in J.-R. Lapaire, G. Desaguher and J.-B. Guignard (eds.), *Du fait grammatical au fait cogmtif. From Gram to Mind: Grammar as Cognition (volume 2)*. Pessac: Presses Umversitaires de Bordeaux, 235-255.

Gilquin, Gaëtanelle and Stephan Gries (2009): «Corpora and experimental methods: a state-of-the-art review», *Corpus Linguistics and Linguistic Theory*, *5*(1), 1-26.

Gisborne, Nikolas (2011): «Constructions, Word Grammar and grammaticalization», *Cognitive Linguistics*, *22*(1), 155-182.

Gisborne, Nikolas and Amanda Patten (2011): «Grammaticalization and Construction Grammar», in Narrog Heiko and Bernd Heine (eds.), *The Oxford Handbook of Grammaticalization*. New York: Oxford University Press, 92-104.

Godfroid, Aline (2020): *Eye-tracking in second language acquisition and bilingualism: a research synthesis and methodological guide*. New York: Routledge.

Godfroid, Aline, Jieun Ahn, Ina Choi, Laura Ballard, Yaqiong Cui, Suzanne Johnston, Shinhye Lee, Abdhi Sarkar and Hyung Jo Yoon (2018): «Incidental vocabulary learning in a natural reading context: an eye-tracking study», *Bilingualism, language and cognition*, *21*(3), 563-584.

Goldberg, Adele (1995): *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press.

Goldberg, Adele (2003): «Constructions: a new theoretical approach to language», *Trends in Cognitive Science*, *7*(5), 219-224.

Goldberg, Adele (2006): *Constructions at work: the nature of generalization in language*. Oxford: Oxford University Press.

Gras, Pedro (2011): *Gramática de Construcciones en interacción. Propuesta de un modelo y aplicadión al análisis de estructuras independientes con marcas de subordinación*. Barcelona: Universitat de Barcelona.

Grice, H. Paul (1975): «Logic and Conversation», in P. Cole and J. Morgan (eds.), *Syntax and Semantics*. New York: Academic Press, 41-58.

Gries, Stephan (1999): «Particle movement: A cognitive and functional approach», *Cognitive Linguistics*, *10*(2), 105-145.

Gries, Stephan (2013): *Statistics for Linguistics with R*. Berlin: Walter de Gruyter.

Gries, Stephan and Dagmar Divjak (eds.) (2012): *Frequency Effects in Language Learning and Processing*. Boston: De Gruyter Mouton.

Gries, Stephan, Beate Hampe and Doris Schönefeld (2005): «Converging evidence: Bringing together experimental and corpus data on the association of verbs and constructions», *Cognitive Linguistics*, *16*(4), 635-676.

Grupo Val.Es.Co. (2014): «Las unidades del discurso oral. La propuesta Val.Es.Co. de segmentación de la conversación coloquial», *Estudios de lingüística del español*, 35, 13-73.

Guillén, Diego (2021): *Experimental Analysis of the Processing Schemas of Counter-Argumentation and Anaphoric Substitution Signaled by the Spanish Connective* a pesar de ello. Heidelberg: Heidelberg University.

Günthner, Susanne and Katrin Mutz (2004): «Grammaticalization vs. pragmaticalization? The development of pragmatic markers in German and Italian», in W. Bisang, N. P. Himmelmann and B. Wiemer (eds.), *What makes Grammaticalization? A look from its fringes and its components*. Berlin/New York: Mouton de Gruyter, 77-107.

Gutiérrez Ordóñez, Salvador (2012): «Interrogativas retóricas en subordinadas causales», in T. Jiménez Juliá, B. López Meirama, V. Vázquez Rozas y A. Veiga (eds.), *Cum corde et in nova grammatica. Estudios ofrecidos a Guillermo Rojo*. Santiago de Compostela: Universidad de Santiago de Compostela, 419-428.

Haberlandt, Karl (1982): «Reader expectations in text comprehension», in J.-F. Le Ny and W. Kintsch (eds.), *Language and comprehension*. Amsterdam: North-Holland, 239-249.

Halliday, Michael A.K. (1970): «Functional Diversity in Language as Seen from a Consideration of Modality and Mood in English», *Foundations of Language*, *6*(3), 322-361.

Halliday, Michael A.K. and Ruqaiya Hasan (1976): *Cohesion in English*. London: Longman Group.

Hansen, Maj Britt Mosegaard (1998): «The semantic status of discourse markers», *Lingua*, 104, 235-260.

Hansen, Maj Britt Mosegaard (2018): «Cyclic phenomena in the evolution of pragmatic markers. Examples from Romance», in Ó. Loureda and S. Pons (eds.), *Beyond Grammaticalization and Discourse Markers*. Leiden: Brill, 51-77.

Harder, Peter and Kasper Boye (2011): «Grammaticalization and functional linguistics», in H. Narrog and B. Heine (eds.), *The Oxford Handbook of Grammaticalization*. New York, Oxford University Press, 56-68.

Haspelmath, Martin (2004): «On directionality in language change with particular reference to grammaticalization», *Typological Studies in Language*, *59*, 17-44.

Haverkate, Hendrik (1978): «The vocative phrase in modern Spanish. A contribution to the study of illocutionary functions», in W. Wonder (ed.), *Linguistics in the Netherlands. 1974-1976*. Lisse: The Peter Rider Press.

Haverkate, Hendrik (1979): *Impositive sentences in Spanish: theory and description in linguistic pragmatics*. Amsterdam: North-Holland Publishing Company.

He, Qingshun (2014): «A study of the subjectification of the Chinese word *suoyi*», *Open Journal of Modern Linguistics*, *4*, 399-406.

Heine, Bernd (1992): «Grammaticalization chains», *Studies in Language*, *16*(2), 335-368.

Heine, Bernd (2002): «On the role of context in grammaticalization», in I. Wischer and G. Diewald, *New reflections on grammaticalization*. Amsterdam/Philadelphia: John Benjamins, 83-102.

Heine, Bernd (2003): «On degrammaticalization», in B. J. Blake and K. Burridge, *Historical Linguistics. Selected papers from the 15th International Conference On Historical Linguistics*. Amsterdam: John Benjamins, 163-179.

Heine, Bernd (2013): «On discourse markers: Grammaticalization, pragmaticalization, or something else?», *Linguistics*, *51*(6), 1205-1247.

Heine, Bernd (2018): «Are there two different ways of approaching grammaticalization», in H. Slvie, T. Brevan and J. V. Lozano, *New Trends in Grammaticalization and Language Change*. Amsterdam: John Benjamins, 23-54.

Heine, Bernd, Ulrike Claudi and Friederike Hünnemeyer (1991): *Grammaticalization: a conceptual framework*. Chicago: University of Chicago Press.

Heine, Bernd, Gunther Kaltenböck, Tania Kuteva and Haiping Long (2013): «An outline of thethical grammar«, in S. Bischoff and C. Jany (eds.), *Functional approaches to language*. Berlin: De Gruyter Mouton, 155-206.

Heine, Bernd, Tania Kuteva, Gunther Kaltenböck and Haiping Long (2015): «On some correlations between grammar and brain lateralization», *Oxford Handbooks Online in Linguistics*. New York: Oxford University Press.

Herrero Ingelmo, José Luis (2012): *Los conectores en la historia del español: la formación del paradigma consecutivo*. Madrid: Arco Libros.

Herrero Ruiz de Loizaga, Francisco Javier (2003a): «Los conectores consecutivos *por eso y por tanto* en textos dialogados (1448-1528)», in J. L. Girón Alconchel *et al*. (eds.), *Estudios ofrecidos al profesor José Jesús de Bustos Tovar*. Madrid: Universidad Complutense de Madrid, 361-374.

Herrero Ruiz de Loizaga, Francisco Javier (2003b): «Conectores consecutivos en el diálogo de los siglos XV y XVI», *Dicenda: Estudios de lengua y literatura españolas*, 21, 59-102.

Hilpert, Martin (2013): *Constructional change in English. Developments in allomorphy, word formation, and syntax*. Cambridge: Cambridge University Press.

Hilpert, Martin (2018): «Three open questions in Diachronic Construction Grammar», in E. Coussé, P. Andersson and J. Oloffson (eds.), *Grammaticalization meets Construction Grammar*. Amsterdam/Philadelphia: John Benjamins, 21-39.

Hilpert, Martin and David Correia Saavedra (2018): «The unidirectionality of linguistic changes in grammaticalization: an experimental approach to the assymetric priming hypothesis», *English Language & Linguistics*, *22*(3), 357-380.

Himmelmann, Nikolaus (1992): *Grammaticalization and grammar. Arbeitspapier nr. 16*, Institut für Sprachwissenschaft.

Himmelmann, Nikolaus (1996): «A taxonomy of universal uses», *Studies in anaphora*, *33*, 205-254.

Himmelmann, Nikolaus (2004): «Grammaticalization and lexicalization: opposite or orthogonal?», in W. Bisang *et al*. (eds.), *What makes grammaticalization? A look from its fringes and components*. Berlin: Mouton de Gruyter, 21-42.

Hoek, Jet, Sandrine Zufferey and Ted Sanders (2017): «Cognitive complexity and the linguistic marking of coherence relations: a parallel corpus study», *Journal of Pragmatics, 121*, 113-131.

Hoffmann, Sebastian (2005): *Grammaticalization and English Complex Prepositions*. New York: Routledge.

Hoffmann, Thomas and Graeme Trousdale (eds.) (2013): *The Oxford Handbook of Construction Grammar*. New York: Oxford University Press.

Holmqvist, Keneth, Marcus Nyström, Richard Andersson, Richard Dewhurst, Halszka Jarodzka and Joost van de Weijer (2011): *Eye Tracking: A Comprehensive Guide to Methods and Measures*. Oxford: Oxford University Press.

Hopper, Paul (1987): «Emergent grammar», *Annual meeting of the Berkeley Linguistics Society*, *13*, 139-157.

Hopper, Paul (1991): «On some principles of grammaticization», in E. C. Traugott and B. Heine (eds.), *Approaches to grammaticalization*. Amsterdam/Philadelphia: John Benjamins Publishing, 17-35.

Hopper, Paul and Elizabeth Closs Traugott (2003 [1993]): *Grammaticalization*. Cambridge: Cambridge University Press.

Horn, Laurence (1984): «Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature», in D. Schiffrin (ed.), *Meaning, Form, and Use in Context: Linguistic Applications*. *Georgetown University Round Table '84*. Washington DC: Georgetown University Press, 11-42.

Hyönä, Jukka, Robert F. Lorch and Mike Rinck (2003): «Eye Movement Measures to Study Global Text Processing», in J. Hyönä, R. Radach, & H. Deubel (eds.), *The Mind's Eye: Cognitive and Applied Aspects of Eye Movement Research*. Amsterdam/Boston: North-Holland Publishing Company, 313-334.

Imo, Wolfgang (2005): «A Construction Grammar approach to the phrase *I mean* in spoken English», *Interaction and Linguistic Structures*, *42*.

Israel, Michael (1996): «The way constructions grow», in A. Goldberg (ed.), *Conceptual Structure, Discourse and Language*. Stanford: CSLI Publ, 217-230.

Jespersen, Otto (1975): *La filosofía de la gramática* [translation by Carlos Manzano]. Barcelona: Anagrama.

Jörgensen, Annette (2008): «*Tío* y *tía* como marcadores en el lenguaje juvenil de Madrid», *Acta del XXXVII Simposio Internacional de la Sociedad Española de Lingüística*, 387-396.

Joseph, Brian D. (2001): «Is there such a thing as 'grammaticalization'», *Language Sciences*, *23*, 163-186.

Joseph, Brian D. (2011): «Grammaticalization: a general critique», in H. Narrog and B. Heine (eds.), *The Oxford Handbook of Grammaticalization*. New York: Oxford University Press.

Just, Marcel and Patricia Carpenter (1980): «A Theory of Reading: From Eye Fixations to Comprehension», *Psychological Review, 87*(4), 329-354.

Kabatek, Johannes (2005): «Tradiciones discursivas y cambio lingüístico», *Lexis*, *2*, 155-177.

Kalokerinos, Alexis (2004): «The justifying connection, mostly in Greek», *Journal of Greeek Linguistics*, *5*(1), 27-80.

Kaltenböck, Gunther and Bernd Heine (2014): «Sentence grammar vs. thetical grammar: two competing domains», in B. McWhinney, A. Malchukov and E. Moracvsik (eds.), *Competing motivations in language and usage*. Oxford: Oxford University Press, 348-363.

Kaltenböck, Gunther, Bernd Heine and Tania Kuteva (2011): «On Thethical Grammar», *Studies in Language*, *35*(4), 852-897.

Kamalski, Judith, Leo Lentz, Ted Sanders and Rolf A. Zwaan (2008): «The forewarning effect of coherence markers in persuasive discourse: Evidence From Persuasion and Processing», *Discourse Processes, 45*(6), 545-579.

Kanetani, Masaru (2005): «Relations among Constructions with *Because*: With Special Reference to Metalinguistic Uses of Because», *Tsukuba English Studies*, *24*(3), 1-50.

Kanetani, Masaru (2006): «Constructions of Causation and Reasoning», *Tsukuba English Studies*, *25*(1), 9-40.

Kanetani, Masaru (2009): «Metalinguistic reason constructions revisited», *Tsukuba English Studies*, *27*, 27-44.

Kanetani, Masaru (2019): «*Causation and reasoning constructions*, Amsterdam/Philadelphia: John Bejamins.

Kay, Paul and Charles J. Fillmore (1999): «Grammatical constructions and linguistic generalizations: *What's the X doing in Y? construction*», *Language*, *75*(1), 1-33.

Kintsch, Walter (1988): «The role of knowledge in discourse comprehension: A constructive-integration model», *Psychological Review*, *95*, 163-182.

Kintsch, Walter and Teun A. Van Dijk (1978): «Toward a model of text comprehension and production», *Psychological Review*, *85*(5), 363-394.

Kitis, Eliza (2006): «Causality and subjectivity: The causal connectives of Modern Greek», in H. Pishwa (ed.), *Language and memory: Aspects of knowledge representation*. Berlin: Mouton de Gruyter, 223-267.

Klavan, Jane (2017): «Pitting corpus-based classification models against each other: a case study for predicting constructional choice in written Estonian», *Corpus Linguistics and Linguistic Theory*, *16*(2), 363-391.

Klavan, Jane and Ann Veismann (2017): «Are corpus-based predictions mirrored in the preferential choices and ratings of native speakers? Predicting the alternation between the estonian adessive case and the adposition peal 'on'», *Journal of Estonian and Finno Ugric Linguistics*, *8*(2), 59-91.

Kleijn, Suzanne (2012): *On-line processing of subjective and objective causal connectives*, Utrecht: Utrecht University.

Kleinknecht, Friederike (2013): «Mexican güey –from vocative to discourse marker: a case of grammaticalization?», in B. Sonnenhauser and P. N. Aziz Hanna (eds.), *Vocative! Addressing between System and Performance*. Berlin/Boston: De Gruyter Mouton, 141-174.

Köhne, Judith and Vera Demberg (2013): «The time course of processing discourse connectives», *Proceedings of the Annual Meeting of the Cognitive Science Society*, 35, 2760-2765.

Kuryłowicz, Jerzy (1965): «The evolution of grammatical categories», *Diogenes 13*(51), 55-71.

Kyratzis, Amy, Jiansheng Guo and Susan Ervin-Tripp (1990): «Pragmatic conventions influencing the use of causal constructions in natural discourse», *Annual Meeting of the Berkeley Linguistics Society*, 205-214.

Lakoff, George (1987): *Women, fire and dangerous things: what categories reveal about the mind*. Chicago: Chicago University Press.

Langacker, Ronald (1987): *Foundations of cognitive grammar: theoretical prerequisites (vol. 1)*. Stanford (CA): Standford University Press.

Lapesa, Rafael (1978): «Sobre dos tipos de subordinación causal», in *Estudios ofrecidos a Emilio Alarcos Llorach*, vol. 3. Oviedo: Universidad de Oviedo, 173-205.

Leclerq, Benoit (2019): «Coercion: a case of saturation», *Constructions and Frames*, *11*(2), 270-289.

Lee, David (2001): «Genres, registers, text types, domains, and styles: clarifying the concepts and navigating a path through the BNC jungle», *Language, learning and technology, 5*(3), 37-72.

Lehmann, Christian (1985): «Grammaticalization: Synchronic variation and diachronic change», *Lingua e Stile*, *20*, 303-318.

Lehmann, Christian (2015 [1982]): *Thoughts on grammaticalization*. Berlin: Language Science Press. https://langsci-press.org/catalog/book/88

Leonetti, Manuel and Victoria Escandell (2004): «Semántica conceptual/semántica procedimental», in M. Villayandre Llamazares (ed.), *Actas del V Congreso de Lingüística General*. Madrid: Arco Libros, 1727-1738.

Levinson, Stephen (2000): *Presumptive meanings: the theory of generalized conversational implicatures*. Cambridge, MA: MIT Press.

Levshina, Natalia and Liesbeth Degand (2017): «*Just because*: in search of objective criteria of subjectivity expressed by causal connectives», *Dialogue & Discourse*, *8*(1), 132-150.

Lewis, Diana M. (2006): «Discourse markers in English: a discourse-pragmatic view», in K. Fischer, *Approaches to discourse particles*. Amsterdam: Brill, 43-59.

Lewis, Diana M. (2011): «A discourse-constructional approach to the emergence of discourse markers in English», *Linguistics*, *49*(2), 415-443.

Lichtenberck, Frantisek (1991): «On the gradualness of grammaticalization», in E. C. Traugott and B. Heine (eds.), *Approaches to grammaticalization. Vol. 1: Focus on theoretical and methodological issues*. Amsterdam: John Benjamins, 37-80.

Linell, Per (2009): «Grammatical constructions in dialogue», in A. Bergs and G. Diewald (eds.), *Constructions and contexts*. Amsterdam: John Benjamins, 97-110.

López Serena, Araceli and Margarita Borreguero Zuloaga (2010): «Los marcadores del discurso y la variación lengua hablada/lengua escrita», in Óscar Loureda Lamas y Esperanza Acín Villa (coords.), *Los estudios sobre marcadores del discurso en español, hoy*. Madrid: Arco Libros, 415-295.

Loureda, Óscar (2013): «La historicidad del texto y la gramaticalización de las partículas discursivas», in Miguel Casas Gómez y Marta Sánchez-Saus Laserna (coords.), *XIII Jornadas de Lingüística*. Cádiz: Servicio de Publicaciones de la Universidad de Cádiz, 45-54.

Loureda, Óscar and Lola Pons Rodríguez (2015): «Partículas discursivas, gramaticalización y debilitamiento semántico», *Diskurstraditionelles und Einzelsprachliches im Sprachwandel*, 141, 317-348.

Loureda, Óscar, Inés Recio and Ted Sanders (2023): «Los estudios experimentales del discurso», in Carmen López Ferrero, Isolda E. Carranza and Teun A. Van Dijk (eds.), *Handbook of Spanish Language Discourse Studies*. Londres: Routledge, 85-98.

Loureda, Óscar, Adriana Cruz, Inés Recio and Martha Rudka (2021): *Comunicación, partículas discursivas y pragmática experimental*. Madrid: Arco/Libros.

Loureda, Óscar, Inés Recio, Adriana Cruz and Laura Nadal (2018): «Introduction», in Ó. Loureda, I. Recio, A. Cruz and L. Nadal (eds.), *Empirical studies of the construction of discourse*. Amsterdam: John Benjamins, 1-17.

Lyons, John (1968): *Introduction to theoretical linguistics*. Cambridge: Cambridge University Press.

Mair, Christian (2004): «Corpus linguistics and grammaticalization theory: Statistics, frequencies and beyond», in H. Lindquist and C. Mair (eds.), *Corpus Approaches to Grammaticalization in English*. Amsterdam/Philadelphia, 121-150.

Maldonado, Ricardo (2009): «Spanish middle syntax: a usage-based proposal for grammar teaching», in S. De Knop and T. De Ricker (eds.), *Cognitive Approaches to Pedagogical Grammar: a Volume in Honour of René Dirven*. Berlin: De Gruyter Mouton, 155-196.

Maldonado, Ricardo (2019): «Una aproximación cognitiva al clítico *se*», in I. Ibarretxe-Antuñano, T. Cadierno and A. Castañeda Castro (eds.), *Lingüística cognitiva y español LE/L2*. New York: Routledge, 145-167.

Martí Sánchez, Manuel (2021): «Construcciones, significado y sentidos de los marcadores del discurso del español», in C. Fuentes Rodríguez, M. Martí Sánchez and A. Messias (coords.), *Aportaciones desde el español y el portugués a los marcadores del discurso. Treinta años después de Martín Zorraquino y Portolés*. Sevilla: Ediciones Universidad de Sevilla, 55-76.

Martín Zorraquino, María Antonia (1998): «Los marcadores del discurso desde el punto de vista gramatical», in M. A. Martín Zorraquino and E. Montolío (coords.), *Los marcadores del discurso. Teoría y análisis*. Madrid: Arco Libros, 19-53.

Martín Zorraquino, María Antonia (2010): «Los marcadores del discurso y su morfología», in Ó. Loureda and E. Acín Villas (coords.), *Los estudios sobre marcadores del discurso en español, hoy*. Madrid: Arco Libros, 231-257.

Martín Zorraquino, María Antonia and José Portolés (1999): «Los marcadores del discurso», in I. Bosque and V. Demonte (dirs.), *Gramática Descriptiva de la Lengua Española,* vol. 3. Madrid: Espasa-Calpe, 4051-4213.

Meillet, Antoine (1982 [1912]): *Linguistique historique et linguistique genérale*. Paris: Editions Champion.

Mendoza, Josefa (1992): «El uso de sintagmas prepositivos para la expresión de la causa en castellano medieval», in M. Ariza (coord.), *Actas del II Congreso Internacional de Historia de la Lengua*. Madrid: Pabellón de España, 675-688.

Moeschler, Jacques (2011): «Causal, inferential and temporal connectives: Why *parce que* is the only causal connective in French», in S. Hancil (ed.), *Marqueurs discursifs et subjectivité*. Publications des universités de Rouen et du Havre, 97-114.

Moeschler, Jacques (2014): «Causality and non-iconic order», in G. Gobber and A. Rocci (eds.), *Language, reason and education. Studies in honor of Eddo Rigotti*. Bern: Peter Lang, 243-257.

Moeschler, Jacques (2016): «Where is procedural meaning located? Evidence from discourse connectives and tenses», *Lingua*, *175*, 122-138.

Milin, Petar, Dagmar Divjak, Strahinja Dimitrijević and R. Harald Baayen (2016): «Towards cognitively plausible data science in language research», *Cognitive Linguistics*, *27*(4), 507-526.

Millis, Keith and Marcel Just (1994): «The influence of connectives on sentence comprehension», *Journal of Memory and Language, 33*(1), 128-147.

Millis, Keith, Jonatha Golding and Gregory Barker (1995): «Causal connectives increase inference generation», *Discourse Processes*, *20*(1), 29-49.

Montolío, Estrella (2001): *Conectores de la lengua escrita*. Barcelona: Ariel.

Murray, John (1995): «Logical connectives and local coherence», in R. Lorch and E. O'Brien (eds.), *Sources of Coherence in Reading*. Londres: Routledge, 107-125.

Murray, John (1997): «Connectives and narrative text: The role of continuity», *Memory & Cognition 25*(2), 227-236.

Nadal, Laura (2017): *Lingüística experimental y contraargumentación: un estudio del conector sin embargo en español*. Heidelberg: Heidelberg University.

Narbona, Antonio (1978): *Las proposiciones consecutivas en castellano medieval*. Universidad de Granada.

Narrog, Heiko and Bernd Heine (2011): «Introduction», in H. Narrog and B. Heine (eds.)*, The Oxford handbook of grammaticalization*. New York: Oxford University Press, 1-19.

Narváez, Elisa (2019): *Causality and its Processing Paths: An Experimental Study of the Spanish por tanto*. Heidelberg: Universität Heidelberg.

Newmeyer, Frederick J. (2001): «Deconstructing grammaticalization», *Language Sciences*, *23*, 187-229.

Nicolle, Steve (1998): «A relevance theory perspective on grammaticalization», *Cognitive Linguistics*, *9*(1), 1-36.

Noël, Dirk (2007): «Diachronic construction grammar and grammaticalization theory», *Functions of Language*, *14*(2), 177-202.

Noël, Dirk (2016): «For a radically usage-based diachronic construction grammar», *Belgian Journal of Linguistics*, *30*(1), 39-53.

Noël, Dirk (2017): «The development of non-deontic be bound to in a radically usage-based diachronic construction grammar perspective», *Lingua*, 299, 72-93.

Noël, Dirk and Timothy Colleman (2021): «Diachronic construction grammar», in W. Xu & J. R. Taylor (eds.), *The Routledge Handbook of Cognitive Linguistics*. New York & Oxford: Routledge, 662-675.

Noordman, Leo G. and Wietske Vonk (1998): «Memory based processing in understanding causal information», *Discourse Processes*, *26*(2-3), 191-212.

Norde, Muriel (2009): *Degrammaticalization*. New York: Oxford University Press.

Ocampo, Francisco (2006): «Movement towards discourse is not grammaticalization: the evolution of *claro* from adjective to discourse particle in Spoken Spanish», in N. Sagarra and A. J. Toribio, *Selected Proceedings of the 9th Hispanic Linguistics Symposium*. Somerville, MA: Cascadilla Proceedings Project, 308-319.

Octavio de Toledo y Huerta, Álvaro (2018): «Paradigmaticalization through formal resemblance: a history of the reinforcer *bien* in Spanish discourse markers», in Ó. Loureda and S. Pons (eds.), *Beyond Grammaticalization and Discourse markers: new issues in the study of language change*. Leiden: Brill, 160-197.

Onodera, Noriko O. (2004): *Japanese Discourse Markers*: *Synchronic and Diachronic Discourse Analyisis*. Amsterdam: John Benjamins.

Pander Maat, Henk and Liesbeth Degand (2001): «Scaling causal relations and connectives in terms of Speaker Involvement», *Cognitive Linguistics*, *12*(3), 211-245.

Pander Maat, Henk and Ted Sanders (2001): «Subjectivity in causal connectives: an empirical study of language in use», *Cognitive Linguistics*, *12*(3), 247-273.

Perek, Florent (2015): *Argument structure in usage-based construction grammar: Experimental and corpus-based perspectives*. Amsterdam: John Benjamins.

Perek, Florent (2020): «Productivity and schematicity in constructional change», in L. Sommerer and E. Smirnova (eds.), *Nodes and Networks in Diachronic Construction Grammar*. Amsterdam: John Benjamins, 142-166.

Pérez Saldanya, Manuel (2014): «Oraciones causales», in C. Company (coord.), *Sintaxis histórica de la lengua española. Tercera parte: adverbios, preposiciones y conjunciones* (vol. 3). México D.F.: Fondo de Cultura Económica, 3447-3610.

Pons Bordería, Salvador (1998): *Conexión y conectores: estudio de su relación en el registro informal de la lengua*. Valencia: Universitat de València.

Pons Bordería, Salvador (1998b): «*Oye* y *mira* o los límites de la conexión», in M. A. Martín Zorraquino and E. Montolío (coords.), *Marcadores del discurso. Teoría y análisis*. Madrid: Arco Libros, 213-228.

Pons Bordería, Salvador (2006): «A functional approach to the study of discourse markers», in K. Fischer (ed.), *Approaches to Discourse Particles*. Leiden: Brill, 77-99.

Pons Bordería, Salvador (2008a): «Do discourse markers exist? On the treatment of discourse markers in Relevance Theory», *Journal of Pragmatics*, *40*, 1411-1434.

Pons Bordería, Salvador (2008b): «Gramaticalización por tradiciones discursivas: el caso de *esto es*», in J. Kabatek (ed.), *Sintaxis histórica del español y cambio lingüístico: nuevas perspectivas desde las Tradiciones Discursivas*. Madrid/Frankfurt: Iberoamericana, Vervuert, 249-274.

Pons Bordería, Salvador (2018): «Paths of grammaticalization: beyond de LP/RP debate», in Ó. Loureda Lamas and S. Pons Bordería (eds.), *Beyond grammaticalization and discourse markers. New issues in the study of language change*. Leiden: Brill, 334-383.

Pons Bordería, Salvador and Kerstin Fischer (2021): «Using discourse segmentation to account for the polyfunctionality of discourse markers: The case of well», *Journal of Pragmatics*, *173*, 101-118.

Pons Rodríguez, Lola (2010): «Los marcadores del discurso en la historia del español», in Ó. Loureda Lamas and E. Acín Villa (coords.), *Los estudios sobre marcadores del discurso en español, hoy*. Madrid: Arco Libros, 523-516.

Poplack, Shana (2011): «Grammaticalization and linguistic variation», in H. Narrog and B. Heine, *The Oxford Handbook of Grammaticalization*. New York: Oxford University Press, 209-224.

Portolés, José (1998): *Marcadores del discurso*. Barcelona: Ariel.

Portolés, José (2000): «El origen de los marcadores y la deixis discursiva», in P. Carbonero Cano, M. Casado Velarde and P. Gómez Moreno, *Estudios dedicados al profesor Vidal Lamíquiz*. Madrid: Arco Libros, 773-778.

Portolés, José (2007): *Pragmática para hispanistas*. Madrid: Síntesis.

Prince, Ellen F. (1981): «Towards a taxonomy of given-new information», in P. Cole (ed.), *Radical Pragmatics*. New York: Academic Press, 223-254.

Pulvermüller, Friedemann, Yuri Shtyrov and Olaf Hauk (2009): «Understanding in an instant: neurophysiological for mechanistic language circuits in the brain», *Brain & Language*, *110*(2), 81-94.

Rayner, Keith (1998): «Eye Movements in Reading and Information Processing: 20 Years of Research», *Psychological Bulletin, 124*(3), 372-422.

Rayner, Keith and Susan A. Duffy (1986): «Lexical complexity and fixation times in reading: Effects of word frequency, verb complexity, and lexical ambiguity», *Memory and cognition*, *14*, 191-201.

Rayner, Keith, Simon P. Liversedge and Sarah J. White (2006): «Eye movements when reading disappearing text: The importance of the word to the right of fixation», *Vision Research*, *46*(3), 310-323.

Real Academia Española (1973): *Esbozo de una nueva gramática de la lengua española*. Madrid: Espasa-Calpe.

Real Academia Española y Asociación de Academias de la Lengua Española (2010): *Nueva Gramática de la Lengua Española*. Madrid: Espasa-Calpe.

Real Academia Española: Banco de datos (CORPES) [en línea]. Corpus del español del siglo XXI. http://www.rae.es [22/09/2018].

R Core Team (2018): *R: A language and environment for statistical computing*, R Foundation for Statistical Computing. Vienna, Austria [URL https://www.R-project.org/].

Recio, Inés (2019): *The Impact of Procedural Meaning on Second Language Processing: A Study on Connectives*. Heidelberg: Universität Heidelberg.

Recio, Inés, Laura Nadal and Óscar Loureda (2018): «On argumentative relations in Spanish: experimental evidence on the grammaticalization of cause-consequence discourse markers», in S. Pons Bordería and Ó. Loureda (eds.), *Discourse Markers in Grammaticalization and Constructionalization: New Issues in the Study of Language Change*. Leiden: Brill, 384-409.

Redeker, Gisela (1990): «Ideational and pragmatic markers of discourse structure», *Journal of Pragmatics*, *14*(3), 367-381.

Reichle, Eric, Keith Rayner and Alexander Pollatsek (2003): «The E-Z Reader model of eye movement control in reading: Comparisons to other models», *Behavioral and Brain Sciences*, *26*(4), 445-526.

Rhee, Seongha (2003): «The parallel reduction hypothesis revisited: a case of English prepositions», *Discourse and cognition*, *10*, 197-205.

Rojas, Darío (2012): «*Huevón* como marcador del discurso del español de Chile: Huellas de un proceso de gramaticalización», *Revista de Humanidades*, *25*, 145-164.

Rosenbach, Anette (2003): «Aspects of iconicity and economy in the choice between the sgenitive and the of-genitive in English», in G. Rohdenburg and B. Mondorf (eds.), *Determinants of grammatical variation in English*. Berlin: Mouton de Gruyter, 379-412.

Rosenbach, Anette (2010): «How synchronic gradience makes sense in the light of language change (and *viceversa*)», in E. C. Traugott and G. Trousdale (eds.), *Gradience, gradualness and grammaticalization*. Amsterdam: John Benjamins, 149-179.

Ruiz Gurillo, Leonor (2009): «*Por lo visto*», in A. Briz, S. Pons Bordería and J. Portolés (coords.), *Diccionario de Partículas Discursivas del Español* [online: http://www.dpde.es/].

Rysová, Magdaléna and Kateřina Rysová (2015): «Secondary connectives in the Prague dependency treebank», in J. Nivre and E. Hajičova (eds.), *Proceedings of the Third International Conference on Dependency Linguistics*. Uppsala: Uppsala University, 291-299.

Rysová, Magdaléna and Kateřina Rysová (2018): «Primary and secondary discourse connectives: constraints and preferences», *Journal of Pragmatics*, *130*, 16-32.

Salameh, Shima (2019): *Reformulation and neighboring categories: a theoretical-experimental approach to the Sp. discourse marker* o sea. Heidelberg/Valencia: Universität Heidelberg/Universitat de València.

Salameh, Shima (2020): «*Pues eso* como construcción interactiva desde el modelo Val.Es.Co», *Zeitschrift für Katalanistik*, *33*, 99-130.

Sanders, Ted (1997): «Semantic and pragmatic sources of coherence: on the categorization of coherence relations in context», *Discourse Processes*, *24*(1), 119-147.

Sanders, Ted (2005): «Coherence, Causality and Cognitive Complexity in Discourse», in M. Aurnague, M. Bras, A. Le Draoulec and L. Vieu (eds.), Proceedings/Actes SEM-05 *First International Symposium on the exploration and modelling of meaning*. Tolouse: University of Toulouse, 105-114.

Sanders, Ted and Anneloes Canestrelli (2012): «The processing of pragmatic information in discourse», in H.-J. Schmid (ed.), *Cognitive Pragmatics*. Berlin: Gruyter Mouton, 201-231.

Sanders, Ted and Leo Noordman (2000): «The Role of Coherence Relations and Their Linguistic Markers in Text Processing», *Discourse Processes*, 29 (1), 37-60.

Sanders, Ted and Henk Pander Maat (2006): «Cohesion and Coherence: Linguistic approaches», in K. Brown (ed.), *Encyclopedia of Language and Linguistics*. Londres: Elsevier, 591-595.

Sanders, Ted and Wilbert Spooren (2009): «Causal categories in discourse – Converging evidence from language use», in T. J. Sanders and E. Sweetser (eds.), *Causal categories in discourse and cognition*. Berlin: Mouton de Gruyter, 205-246.

Sanders, Ted. and Eve Sweetser (eds.) (2009): *Causal categories in discourse and cognition*. Berlin: Mouton de Gruyter.

Sanders, Ted, Wilbert Spooren and Leo Noodrman (1992): «Towards a taxonomy of coherence relations», *Discourse processes*, *15*(1), 1-35.

Sanders, Ted, Wilbert Spooren and Leo Noordman (1993): «Coherence Relations in a Cognitive Theory of Discourse Representation», *Cognitive Linguistics*, *4*(2), 93-134.

Sandra, Dominiek (2009): «Experimentation», in D. Sandra, J.-O. Ötsman and J. Verschueren (eds.), *Cognition and Pragmatics*. Amsterdam: John Benjamins, 157-200.

Santana, Andrea, Dorien Nieuwenhuijsen, Wilbert Spooren and Ted Sanders (2017): «Causality and subjectivity in Spanish connectives: Exploring the use of automatic subjectivity analyses in various text types», *Revue de linguistique, Psycholinguisque and Informatique*, *20*.

Santana, Andrea, Dorien Nieuwenhuijsen, Wilbert Spooren and Ted Sanders (2018): «Subjectivity in Spanish discourse: Explicit and implicit causal relations in different text types», *Dialogue & Discourse*, *9*(1), 163-191.

Santos Ríos, Luis (2003): *Diccionario de Partículas*. Salamanca: Luso-Española de Ediciones.

Sasamoto, Ryoko (2008): «Japanese discourse connectives *dakara* and *sorede*: A re-assessment of procedural meaning», *Journal of Pragmatics*, *40*(1), 127-154.

Schiffrin, Deborah (1987): *Discourse markers*. Cambridge: Cambridge University Press.

Schmidt, Hans-Jörg (2000): *English Abstract Nouns as Conceptual Shells. From corpus to cognition*. Berlin/New York: Mouton de Gruyter.

Schröck, Jasmin (2018): *Die Reformulierung und ihre kognitive Verarbeitung: Eine experimentelle Studie zur Verwendung des Markers* es decir *im Spanischen*. Heidelberg: Universität Heidelberg.

Shiina, Michi (2007): «Positioning and functioning of vocatives: Casework in historical pragmatics», *Bulletin of the Faculty of Letters*, *Hosei University*, *55*, 17-32.

Smirnova, Elena (2015): «When secondary grammaticalizat starts: a look from the constructional perspective», *Language Science*, 47, 215-228.

Smirnova, Elena and Lotte Sommerer (2020): «Introduction. The nature of the node and the network – Openquestions in Diachronic Construction Grammar», in L. Sommerer and E. Smirnova (eds.), *Nodes and networks in diachronic construction grammar*. Amsterdam: John Benjamins, 2-42.

Sommerer, Lotte (2015): «The influence of constructions in grammaticalization», in J. Barðal, E. Smirnova, L. Sommerer and S. Gildea, *Diachronic Construction Grammar*. Amsterdam: John Benjamins, 107-138.

Sommerer, Lotte (2020): «Constructionalization, constructional competition and constructional death: Investigating the demise of Old English POSS DEM constructions», in L. Sommerer and E. Smirnova (eds.), *Nodes and networks in diachronic construction grammar*. Amsterdam, John Benjamins, 60-103.

Sperber, Dan and Deirdre Wilson (1996 [1986]): *Relevance: communication and cognition. Second edition*. Oxford: Blackwell Publishers.

Stukker, Ninke and Ted Sanders (2012): «Subjectivity and prototype structure in causal connectives: A cross-linguistic perspective», *Journal of Pragmatics*, *44*(2), 169-190.

Stukker, Ninke, Ted Sanders and Arie Verhagen (2009): «Categories of subjectivity in Dutch causal connectives: a usage-based analysis», in T. J. Sanders and E. Sweetser (eds.), *Causal categories in discourse and cognition*. De Gruyter Mouton, 119-172.

Sweetser, Eve (1988): «Grammaticalization and semantic bleaching», in J. D. McCawley, J. Axmaker, A. Jaissier and H. Singmaster (eds.), *Proceedings of the 14th Annual Meeting of the Berkeley Linguistics Society*. Berkeley: Berkeley Linguistics Society, 389-405.

Sweetser, Eve (1990): *From etymology to pragmatics: Metaphorical and cultural aspects of semantic structure*. Cambridge: Cambridge University Press.

Tabor, Whitney and Elizabeth Closs Traugott (1998): «Structural scope expansion and grammaticalization», *Typological studies in language*, *37*, 229-272.

Terkourafi, Marina (2009): «On de-limiting context», in A. Bergs and G. Diewald (eds.), *Context and Constructions*. Amsterdam: John Benjamins, 17-52.

Thome, Sarah (2018): *Additive Konnektoren mit argumentativer Funktion. Eine experimentelle Studie zu esp.* además *und it.* Inoltre. Heidelberg: Heidelberg University.

Tomasello, Michael and Hannes Rakoczy (2003): «What makes human cognition unique? From individual to shared to collective intentionality», *Mind & Language*, *18*(2), 121-147.

Torres Cacoullos, Rena (2011): «Variation and grammaticalization», in M. Díaz Campos (ed.), *The Handbook of Hispanic Sociolinguistics*. Blackwell, 148-167.

Torres Santos, Lourdes (2020): *The Scalar Focus Operator «hasta»: An Experimental Study on Processing Costs in Spanish*. Heidelberg: Universität Heidelberg.

Traxler, Matthew J., Michael D. Bybee and Martin J. Pickering (1997): «Influence of connectives in language comprehension: eye-tracking evidence for incremental interpretation», *The Quarterly Jounal of Experimental Psychology, Section A*, *50*(3), 481-497.

Traxler, Matthew J., Anthony J. Sandford, Joy P. Aked and Linda M. Moxey (1997): «Processing causal and diagnostic statements in discourse», *Journal of experimental psychology: learning, memory and cognition*, *23*(1), 88-101.

Traugott, Elizabeth Closs (1982): «From propositional to textual and expressive meanings: some semantic-pragmatic aspects of grammaticalization», in P. Lehmann, Winfred and Y. Malkiel (eds.), *Perspectives on historical linguistics*. Amsterdam/Philadelphia: John Benjamins, 245-271.

Traugott, Elizabeth Closs (1988): «Pragmatic strengthening and grammaticalization», in C. J. Fillmore, S. Axmaker, A. Jaissier and H. Singmaker, *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society*. Berkeley: Berkeley Linguistic Society, 406-416.

Traugott, Elizabeth Closs (1989): «On the rise of subjective epistemic meanings in English: a case of subjectification in semantic change», *Language*, *65*(1), 31-55.

Traugott, Elizabeth Closs (1995a): «The role of the development of discourse markers in a theory of grammaticalization», *12th International Conference on Historical Linguistics*, Manchester, August [online: http://web.stanford.edu/~traugott/papers/discourse.pdf].

Traugott, Elizabeth Closs (1995b): «Subjectification in grammaticalization», in D. Stein and S. Wright (eds.), *Subjectivity and subjectivisation*: *Linguistic Perspectives*. Cambridge: Cambridge University Press, 21-54.

Traugott, Elizabeth Closs (2002): «From etymology to historical pragmatics», in D. Minkova and R. Stockwell (eds.), *Studying the History of the English Language: Millennial perspectives*. Berlin: Mouton de Gruyter, 19-49.

Traugott, Elizabeth Closs (2003): «Constructions in grammaticalization», in B. D. Joseph and R. D. Janda (eds.), *The Handbook of Historical Linguistics*. Blackwell Publishing, 624-647.

Traugott, Elizabeth Closs (2008): «The grammaticalization of NP of NP patterns», in A. Bergs and G. Diewald, *Constructions and language change*. Berlin/New York: Mouton de Gruyter, 23-45.

Traugott, Elizabeth Closs (2010a): «Grammaticalization», in A. H. Jucker and I. Taavitsainen (eds.), *Historical Pragmatics*. New York: De Gruyter Mouton, 97-126.

Traugott, Elizabeth Closs (2010b): «(Inter)subjectivity and (inter)subjectivization: a reassessment», in K. Davidse, L. Vandelanotte and H. Cuyckens (eds.), *Subjectification, intersubjectification and grammaticalization*. New York: Gruyter de Mouton, 29-71.

Traugott, Elizabeht Closs (2012): «Pragmatics and language change», in *The Cambridge Handbook of Pragmatics*. Cambridge: Cambridge University Press, 549-566.

Traugott, Elizabeth Closs (2014): «Towards a constructional framework for research on language change», *Cognitive Linguistic Studies*, *1*(1), 3-21.

Traugott, Elizabeth Closs (2018a): «Modelling language change through constructional networks», in Ó. Loureda and S. Pons (eds.), *Beyond grammaticalization and discourse markers*: *New issues in the study of language change*. Leiden, Brill, 17-50.

Traugott, Elizabeth Closs (2018b): «Rethinking the role of invited inferencing in change from the perspective of interactional texts», *Open Linguistics*, *4*(1), 19-34.

Traugott, Elizabeth Closs (2020): «Is *back to my point* a discourse marker? An Inquiry into the Historical Development of some Metatextual Discourse Management Markers in English», *Catalan Journal of Linguistics*, *Special Issue*, 13-29.

Traugott, Elizabeth Closs (2022): *Discourse structuring markers in English: A historical constructionalist perspective on pragmatics*. Amsterdam: John Benjamins.

Traugott, Elizabeth Closs and Laurel J. Brinton (2005): *Lexicalization and language change*. Cambridge: Cambridge University Press.

Traugott, Elizabeth Closs and Richard B. Dasher (2002): *Regularity in Semantic Change*. Cambridge: Cambridge University Press.

Traugott, Elizabeth Closs and Ekkehard König (1991): «The semantics-pragmatics of grammaticalization revisited», in Elizabeth Traugott and Bernd Heine, *Approaches to Grammaticalization, Volume I: Theoretical and methodological issues*. Amsterdam: John Benjamins, 189-218.

Traugott, Elizabeth Closs and Graeme Trousdale (2010): «Gradience, gradualness and grammaticalization: how do they intersect?», in E. C. Traugott and G. Trousdale (eds.), *Gradience, gradualness and grammaticalization*. Amsterdam: John Benjamins, 20-44.

Traugott, Elizabeth Closs and Graeme Trousdale (2013): *Constructionalization and constructional changes*. Oxford: Oxford University Press.

Traugott, Elizabeth Closs and Graeme Trousdale (2014): «Contentful constructionalization», *Journal of Historical Linguistics*, *4*(2), 256-283.

Trousdale, Graeme (2014): «On the relationship between grammaticalization and constructionalization», *Folia Linguistica*, *48*(2), 557-577.

Valenzuela, Javier, Joseph Hilferty and Mar Garachana (2005): «On the reality of constructions: the Spanish reduplicative-topic construction», *Annual Review of Cognitive Linguistics*, *3*(1), 201-215.

Van de Velde, Freek (2014): «Degeneracy: the maintenance of constructional networks», in R. Boogaart, T. Colleman and G. Rutten (eds.), *Extending the scope of construction grammar*. Berlin/Boston: De Gruyter, 141-180.

Van Dijk, Teun A. (1977): *Text and context: explorations in the semantics and pragmatics of discourse*. New York: Longman.

Van Silfhout, Gerdineke, Jacqueline Evers-Vermeul and Ted Sanders (2015): «Connectives as processing signals: How students benefit in processing narrative and expository texts», *Discourse Processes, 52*(1), 47-76.

Vasishth, Shravan, Daniela Mertzen, Lena A. Jäger and Andrew Gelman (2018): «The statistical significance filter leads to overoptimistic expectations of replicability», *Journal of Memory and Language*, 103, 151-175.

Verhagen, Arie (2000): «Interpreting usage: construing the history of Dutch causal verbs», in M. Barlow and S. Kemmer (eds.), *Usage-based Models of Language*. Stanford: CSLI Publications, 261-286.

Waltereit, Richard (2006): «The rise of discourse markers in Italian: a specific type of language change», in K. Fischer (ed.), *Approaches to discourse particles, Vol. 1*. Leiden: Brill, 61-76.

Wichmann, Anne (2011): «Gramaticalización and prosody», in H. Narrog and B. Heine (eds.), *The Oxford handbook of grammaticalization*. New York: Oxford University Press, 331-342.

Wilson, Deirdre (2011): «The conceptual-procedural distinction: past, present and future», in Victoria Escandell, Manuel Leonetti and Aoife Ahern (eds.), *Procedural meaning: problems and perspectives*. Leiden: Brill, 3-31.

Wilson, Deirdre (2016): «Reassessing the conceptual–procedural distinction», *Lingua*, 175, 5-19.

Wischer, Ilse (2000): «Grammaticalization vs. lexicalization. *Methinks* there is some confusion», in O. Fischer, A. Rosenbach and D. Steiner (eds.), *Pathways of change. Grammaticalization in English*. Amsterdam: John Benjamins, 355-370.

Yoon, Soyeon (2012): *Constructions, semantic compatibility and coercion: an empirical usage-based approach*. Houston: Rice University.

Zehentner, Eva and Elizabeth Closs Traugott (2020): «Constructional networks and the development of benefactive distransitives in English», in L. Sommerer and E. Smirnova (eds.), *Nodes and networks in diachronic construction grammar*. Amsterdam: John Benjamins, 168-211.

Zufferey, Sandrine (2006): «Connecteurs pragmatiques et métareprésentation: l'exemple de *parce que*», *Nouveaux cahiers de linguistique française*, 27, 161-179.

Zufferey, Sandrine (2010): *Lexical pragmatics and theory of mind*. Amsterdam: John Benjamins.

Zufferey, Sandrine (2012): «*Car*, *parceque*, puisque revisited: three empirical studies on French causal connectives», *Journal of Pragmatics*, *44*(2), 138-153.

Zufferey, Sandrine, Willem Mak, Sara Verbrugge and Ted Sanders (2017): «Usage and processing of the French causal connectives 'car' and 'parce que'», *Journal of French Language Studies*, *28*(1), 85-112.

Zulaica, Iker (2009): «Demostratives and the rhetorical structure of discourse», *Sintagma: revista de lingüística*, *51,* 53-69.

Zunino, Gabriela, Abusamra, Valeria and Raiter, Alejandro (2012). «Causalidad: relación entre conocimiento del mundo y conocimiento lingüístico», *Pragmalingüística*, *20*, 200-219.

Appendices

Appendix 1. Sets (themes in each condition)

	SET 1	
A1	Guillermo y Victoria escriben novelas buenas. Venden muchos libros. Sus amigos los admiran.	L1
A2	Guillermo y Victoria escriben novelas buenas. Por tanto venden muchos libros. Sus amigos los admiran.	L2
A3	Guillermo y Victoria escriben novelas buenas. Por eso venden muchos libros. Sus amigos los admiran.	L3
A4	Guillermo y Victoria escriben novelas buenas. Por ello venden muchos libros. Sus amigos los admiran.	L4
A5	Guillermo y Victoria escriben novelas buenas. Por esto venden muchos libros. Sus amigos los admiran.	L5

	SET 2	
A1	Tamara y Ernesto tienen clientes ricos. Reciben muchas propinas. Están muy contentos con su trabajo.	L5
A2	Tamara y Ernesto tienen clientes ricos. Por tanto reciben muchas propinas. Están muy contentos con su trabajo.	L1
A3	Tamara y Ernesto tienen clientes ricos. Por eso reciben muchas propinas. Están muy contentos con su trabajo.	L2
A4	Tamara y Ernesto tienen clientes ricos. Por ello reciben muchas propinas. Están muy contentos con su trabajo.	L3
A5	Tamara y Ernesto tienen clientes ricos. Por esto reciben muchas propinas. Están muy contentos con su trabajo.	L4

	SET 3	
A1	Adrián y Elena hacen películas geniales. Ganan muchos premios. Este año han estado en el Festival de Venecia.	L4
A2	Adrián y Elena hacen películas geniales. Por tanto ganan muchos premios. Este año han estado en el Festival de Venecia.	L5
A3	Adrián y Elena hacen películas geniales. Por eso ganan muchos premios. Este año han estado en el Festival de Venecia.	L1
A4	Adrián y Elena hacen películas geniales. Por ello ganan muchos premios. Este año han estado en el Festival de Venecia.	L2
A5	Adrián y Elena hacen películas geniales. Por esto ganan muchos premios. Este año han estado en el Festival de Venecia.	L3

	SET 4	
A1	Valentín y Camila ocupan puestos importantes. Ganan mucho dinero. Se pueden permitir lujos.	L3
A2	Valentín y Camila ocupan puestos importantes. Por tanto ganan mucho dinero. Se pueden permitir lujos.	L4
A3	Valentín y Camila ocupan puestos importantes. Por eso ganan mucho dinero. Se pueden permitir lujos.	L5
A4	Valentín y Camila ocupan puestos importantes. Por ello ganan mucho dinero. Se pueden permitir lujos.	L1
A5	Valentín y Camila ocupan puestos importantes. Por esto ganan mucho dinero. Se pueden permitir lujos.	L2

	SET 5	
A1	Arturo y Nicolás arbitran partidos importantes. Sufren mucha presión. Antes de los partidos no duermen.	L2
A2	Arturo y Nicolás arbitran partidos importantes. Por tanto sufren mucha presión. Antes de los partidos no duermen.	L3
A3	Arturo y Nicolás arbitran partidos importantes. Por eso sufren mucha presión. Antes de los partidos no duermen.	L4
A4	Arturo y Nicolás arbitran partidos importantes. Por ello sufren mucha presión. Antes de los partidos no duermen.	L5
A5	Arturo y Nicolás arbitran partidos importantes. Por esto sufren mucha presión. Antes de los partidos no duermen.	L1

	SET 7	
A1	Lucía y Emilio contratan abogados brillantes. Ganan muchos juicios. La empresa se enfrenta a una gran cantidad de casos cada año.	L5
A2	Lucía y Emilio contratan abogados brillantes. Por tanto ganan muchos juicios. La empresa se enfrenta a una gran cantidad de casos cada año.	L1
A3	Lucía y Emilio contratan abogados brillantes. Por eso ganan muchos juicios. La empresa se enfrenta a una gran cantidad de casos cada año.	L2
A4	Lucía y Emilio contratan abogados brillantes. Por ello ganan muchos juicios. La empresa se enfrenta a una gran cantidad de casos cada año.	L3
A5	Lucía y Emilio contratan abogados brillantes. Por esto ganan muchos juicios. La empresa se enfrenta a una gran cantidad de casos cada año.	L4

	SET 8	
A1	Jennifer y Elisa tienen sueldos bajos. Pagan pocos impuestos. Buscan un trabajo mejor.	L4
A2	Jennifer y Elisa tienen sueldos bajos. Por tanto pagan pocos impuestos. Buscan un trabajo mejor.	L5
A3	Jennifer y Elisa tienen sueldos bajos. Por eso pagan pocos impuestos. Buscan un trabajo mejor.	L1
A4	Jennifer y Elisa tienen sueldos bajos. Por ello pagan pocos impuestos. Buscan un trabajo mejor.	L2
A5	Jennifer y Elisa tienen sueldos bajos. Por esto pagan pocos impuestos. Buscan un trabajo mejor.	L3

	SET 9	
A1	Leticia y Estela compran ropa cara. Gastan mucho dinero. En las tiendas las tratan muy bien.	L3
A2	Leticia y Estela compran ropa cara. Por tanto gastan mucho dinero. En las tiendas las tratan muy bien.	L4
A3	Leticia y Estela compran ropa cara. Por eso gastan mucho dinero. En las tiendas las tratan muy bien.	L5
A4	Leticia y Estela compran ropa cara. Por ello gastan mucho dinero. En las tiendas las tratan muy bien.	L1
A5	Leticia y Estela compran ropa cara. Por esto gastan mucho dinero. En las tiendas las tratan muy bien.	L2

Appendix 2. Statistical models

Model 1

First Reading Time (FRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	FRT.Pred	TRT.Pred. StdErr
EC_A1	234.81	8.27	7.18	7.59	233.75	8.29
EC_A2	-1.93	7.29	7.44	7.59	231.82	8.28
E-S_A1	10.78	7.35	7.85	7.59	244.53	8.28
E-S_A2	2.60	7.52	8.15	7.59	236.35	8.37
Ca-S_A1	5.09	7.49	8.17	7.59	238.84	8.46
Ca-S_A2	-7.27	7.53	8.17	7.59	226.48	8.49
Co_A1	3.73	7.23	7.23	7.59	237.48	8.29
Co_A2	-12.78	7.27	7.22	7.59	220.97	8.32
E-M_A2	-7.24	7.27	7.14	7.59	226.51	8.33
E-SM_A2	-4.24	7.39	7.85	7.59	229.51	8.31
CoM_A2	2.89	7.41	7.89	7.59	236.64	8.30

Re-reading time (RRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	RRT.Pred	TRT.Pred. StdErr
EC_A1	13.41	8.22	7.18	7.59	16.92	3.78
EC_A2	-2.75	4.83	7.44	7.59	14.17	3.79
E-S_A1	-5.37	4.85	7.85	7.59	11.56	3.76
E-S_A2	-8.12	4.93	8.15	7.59	8.81	3.83
Ca-S_A1	6.04	4.90	8.17	7.59	22.97	3.80
Ca-S_A2	1.29	4.93	8.17	7.59	18.21	3.83
Co_A1	-4.25	4.80	7.23	7.59	12.68	3.77
Co_A2	-7.99	4.82	7.22	7.59	8.94	3.80
E-M_A2	-2.73	4.82	7.14	7.59	14.20	3.81
E-SM_A2	-8.99	4.87	7.85	7.59	7.94	3.79
CoM_A2	-7.15	4.88	7.89	7.59	9.78	3.80

Total Reading Time (TRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	TRT.Pred	TRT.Pred. StdErr
EC_A1	252.52	9.35	7.18	7.59	250.53	9.38
EC_A2	-4.66	8.74	7.44	7.59	245.87	9.37
E-S_A1	4.23	8.79	7.85	7.59	254.77	9.35
E-S_A2	-7.30	8.96	8.15	7.59	243.24	9.45
Ca-S_A1	9.64	8.96	8.17	7.59	260.18	9.57
Ca-S_A2	-7.48	9.01	8.17	7.59	243.05	9.61
Co_A1	-0.69	8.67	7.23	7.59	249.84	9.38
Co_A2	-20.93	8.72	7.22	7.59	229.60	9.42
E-M_A2	-9.92	8.72	7.14	7.59	240.61	9.43
E-SM_A2	-14.44	8.83	7.85	7.59	236.09	9.39
CoM_A2	-5.26	8.87	7.89	7.59	245.27	9.38

Model 2

First Reading Time (FRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	FRT.Pred	TRT.Pred. StdErr
EC_A1	234.81	8.27	7.18	7.59	233.75	8.29
EC_A3	0.54	7.31	7.25	7.59	234.29	8.34
E-S_A1	10.78	7.35	7.85	7.59	244.53	8.28
E-S_A3	10.09	7.44	7.88	7.59	243.84	8.34
Ca-S_A1	5.09	7.49	8.17	7.59	238.84	8.46
Ca-S_A3	3.56	7.57	8.20	7.59	237.31	8.53
Co_A1	3.73	7.23	7.23	7.59	237.48	8.29
Co_A3	-14.59	7.31	7.25	7.59	219.16	8.36
E-M_A3	-5.10	7.31	7.17	7.59	228.65	8.36
E-SM_A3	2.42	7.44	7.89	7.59	236.17	8.35
CoM_A3	2.30	7.33	7.41	7.59	236.05	8.32

Re-Reading Time (RRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	RRT.Pred	TRT.Pred. StdErr
EC_A1	13.41	8.22	7.18	7.59	16.92	3.78
EC_A3	-6.82	4.85	7.25	7.59	10.10	3.83
E-S_A1	-5.37	4.85	7.85	7.59	11.56	3.76
E-S_A3	-10.21	4.90	7.88	7.59	6.72	3.83
Ca-S_A1	6.04	4.90	8.17	7.59	22.97	3.80
Ca-S_A3	3.41	4.96	8.20	7.59	20.33	3.87
Co_A1	-4.25	4.80	7.23	7.59	12.68	3.77
Co_A3	-9.64	4.85	7.25	7.59	7.29	3.83
E-M_A3	-7.10	4.85	7.17	7.59	9.82	3.84
E-SM_A3	-11.21	4.90	7.89	7.59	5.71	3.83
CoM_A3	-8.28	4.85	7.41	7.59	8.64	3.82

Total Reading Time (TRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	TRT.Pred	TRT.Pred. StdErr
EC_A1	252.52	9.35	7.18	7.59	250.53	9.38
EC_A3	-6.13	8.77	7.25	7.59	244.41	9.45
E-S_A1	4.23	8.79	7.85	7.59	254.77	9.35
E-S_A3	-1.26	8.89	7.88	7.59	249.27	9.43
Ca-S_A1	9.64	8.96	8.17	7.59	260.18	9.57
Ca-S_A3	5.51	9.06	8.20	7.59	256.04	9.66
Co_A1	-0.69	8.67	7.23	7.59	249.84	9.38
Co_A3	-24.46	8.76	7.25	7.59	226.08	9.46
E-M_A3	-12.18	8.76	7.17	7.59	238.35	9.47
E-SM_A3	-10.10	8.89	7.89	7.59	240.44	9.44
CoM_A3	-5.97	8.78	7.41	7.59	244.57	9.42

Model 3

First Reading Time (FRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	FRT.Pred	TRT.Pred. StdErr
EC_A1	234.81	8.27	7.18	7.59	233.75	8.29
EC_A4	-15.13	7.28	7.34	7.59	218.62	8.29
E-S_A1	10.78	7.35	7.85	7.59	244.53	8.28
E-S_A4	-8.29	7.46	8.03	7.59	225.46	8.34
Ca-S_A1	5.09	7.49	8.17	7.59	238.84	8.46
Ca-S_A4	-11.78	7.56	8.24	7.59	221.97	8.52
Co_A1	3.73	7.23	7.23	7.59	237.48	8.29
Co_A4	-24.24	7.27	7.23	7.59	209.51	8.32
E-M_A4	-18.83	7.27	7.16	7.59	214.92	8.33
E-SM_A4	-12.56	7.40	7.87	7.59	221.19	8.31
CoM_A4	-13.58	7.34	7.67	7.59	220.17	8.27

Re-Reading Time (RRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	RRT.Pred	TRT.Pred. StdErr
EC_A1	13.41	8.22	7.18	7.59	16.92	3.78
EC_A4	-6.48	4.83	7.34	7.59	10.45	3.79
E-S_A1	-5.37	4.85	7.85	7.59	11.56	3.76
E-S_A4	-10.42	4.90	8.03	7.59	6.50	3.81
Ca-S_A1	6.04	4.90	8.17	7.59	22.97	3.80
Ca-S_A4	-4.41	4.94	8.24	7.59	12.51	3.84
Co_A1	-4.25	4.80	7.23	7.59	12.68	3.77
Co_A4	-8.03	4.82	7.23	7.59	8.90	3.80
E-M_A4	-6.27	4.82	7.16	7.59	10.66	3.81
E-SM_A4	-10.77	4.87	7.87	7.59	6.16	3.79
CoM_A4	-8.11	4.85	7.67	7.59	8.81	3.78

Total Reading Time (TRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	TRT.Pred	TRT.Pred. StdErr
EC_A1	252.52	9.35	7.18	7.59	250.53	9.38
EC_A4	-21.48	8.73	7.34	7.59	229.06	9.38
E-S_A1	4.23	8.79	7.85	7.59	254.77	9.35
E-S_A4	-20.20	8.91	8.03	7.59	230.34	9.41
Ca-S_A1	9.64	8.96	8.17	7.59	260.18	9.57
Ca-S_A4	-17.38	9.05	8.24	7.59	233.15	9.65
Co_A1	-0.69	8.67	7.23	7.59	249.84	9.38
Co_A4	-32.47	8.72	7.23	7.59	218.06	9.42
E-M_A4	-25.06	8.72	7.16	7.59	225.47	9.43
E-SM_A4	-24.58	8.84	7.87	7.59	225.96	9.39
CoM_A4	-22.06	8.79	7.67	7.59	228.47	9.36

Model 4

First Reading Time (FRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	FRT.Pred	TRT.Pred. StdErr
EC_A1	234.81	8.27	7.18	7.59	233.75	8.29
EC_A4	-15.13	7.28	7.34	7.59	218.62	8.29
E-S_A1	10.78	7.35	7.85	7.59	244.53	8.28
E-S_A5	14.23	7.44	8.03	7.59	247.98	8.32
Ca-S_A1	5.09	7.49	8.17	7.59	238.84	8.46
Ca-S_A5	0.64	7.56	8.27	7.59	234.39	8.51
Co_A1	3.73	7.23	7.23	7.59	237.48	8.29
Co_A5	-10.28	7.25	7.23	7.59	223.47	8.31
E-M_A5	-5.52	7.25	7.16	7.59	228.23	8.31
E-SM_A5	1.16	7.38	7.87	7.59	234.91	8.30
CoM_A5	16.05	7.32	7.65	7.59	249.80	8.26

Re-Reading Time (RRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	RRT.Pred	TRT.Pred. StdErr
EC_A1	13.41	8.22	7.18	7.59	16.92	3.78
EC_A4	-6.48	4.83	7.34	7.59	10.45	3.79
E-S_A1	-5.37	4.85	7.85	7.59	11.56	3.76
E-S_A5	-10.38	4.89	8.03	7.59	6.54	3.79
Ca-S_A1	6.04	4.90	8.17	7.59	22.97	3.80
Ca-S_A5	-1.30	4.94	8.27	7.59	15.63	3.83
Co_A1	-4.25	4.80	7.23	7.59	12.68	3.77
Co_A5	-10.67	4.81	7.23	7.59	6.25	3.79
E-M_A5	-6.31	4.81	7.16	7.59	10.61	3.79
E-SM_A5	-11.28	4.86	7.87	7.59	5.64	3.78
CoM_A5	-9.24	4.84	7.65	7.59	7.68	3.77

Total Reading Time

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	TRT.Pred	TRT.Pred. StdErr
EC_A1	252.52	9.35	7.18	7.59	250.53	9.38
EC_A4	-21.48	8.73	7.34	7.59	229.06	9.38
E-S_A1	4.23	8.79	7.85	7.59	254.77	9.35
E-S_A5	2.38	8.89	8.03	7.59	252.91	9.39
Ca-S_A1	9.64	8.96	8.17	7.59	260.18	9.57
Ca-S_A5	-2.37	9.04	8.27	7.59	248.16	9.62
Co_A1	-0.69	8.67	7.23	7.59	249.84	9.38
Co_A5	-21.13	8.69	7.23	7.59	229.40	9.40
E-M_A5	-11.78	8.69	7.16	7.59	238.76	9.41
E-SM_A5	-11.36	8.82	7.87	7.59	239.17	9.37
CoM_A5	6.50	8.76	7.65	7.59	257.03	9.34

Model 5

First Reading Time

	Estimate	StdErr	nLetters.WD_obs	nLetters.WD_fix	FRT.Pred	TRT.Pred.StdErr
EC_A1	234.81	8.27	7.18	7.59	233.75	8.29
EC_A2	-1.93	7.29	7.44	7.59	231.82	8.28
EC_A3	0.54	7.31	7.25	7.59	234.29	8.34
EC_A4	-15.13	7.28	7.34	7.59	218.62	8.29
EC_A5	4.38	7.26	7.34	7.59	238.13	8.27
E-M_A2	-7.24	7.27	7.14	7.59	226.51	8.33
E-M_A3	-5.10	7.31	7.17	7.59	228.65	8.36
E-M_A4	-18.83	7.27	7.16	7.59	214.92	8.33
E-M_A5	-5.52	7.25	7.16	7.59	228.23	8.31
E-S_A2	2.60	7.52	8.15	7.59	236.35	8.37
E-S_A3	10.09	7.44	7.88	7.59	243.84	8.34
E-S_A4	-8.29	7.46	8.03	7.59	225.46	8.34
E-S_A5	14.23	7.44	8.03	7.59	247.98	8.32
E-SM_A2	-4.24	7.39	7.85	7.59	229.51	8.31
E-SM_A3	2.42	7.44	7.89	7.59	236.17	8.35
E-SM_A4	-12.56	7.40	7.87	7.59	221.19	8.31
E-SM_A5	1.16	7.38	7.87	7.59	234.91	8.30
E-S_A1	10.78	7.35	7.85	7.59	244.53	8.28

Re-Reading Time

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	RRT.Pred	TRT.Pred. StdErr
EC_A1	13.41	8.22	7.18	7.59	16.92	3.78
EC_A2	-2.75	4.83	7.44	7.59	14.17	3.79
EC_A3	-6.82	4.85	7.25	7.59	10.10	3.83
EC_A4	-6.48	4.83	7.34	7.59	10.45	3.79
EC_A5	-6.18	4.81	7.34	7.59	10.74	3.78
E-M_A2	-2.73	4.82	7.14	7.59	14.20	3.81
E-M_A3	-7.10	4.85	7.17	7.59	9.82	3.84
E-M_A4	-6.27	4.82	7.16	7.59	10.66	3.81
E-M_A5	-6.31	4.81	7.16	7.59	10.61	3.79
E-S_A2	-8.12	4.93	8.15	7.59	8.81	3.83
E-S_A3	-10.21	4.90	7.88	7.59	6.72	3.83
E-S_A4	-10.42	4.90	8.03	7.59	6.50	3.81
E-S_A5	-10.38	4.89	8.03	7.59	6.54	3.79
E-SM_A2	-8.99	4.87	7.85	7.59	7.94	3.79
E-SM_A3	-11.21	4.90	7.89	7.59	5.71	3.83
E-SM_A4	-10.77	4.87	7.87	7.59	6.16	3.79
E-SM_A5	-11.28	4.86	7.87	7.59	5.64	3.78
E-S_A1	-5.37	4.85	7.85	7.59	11.56	3.76

Total Reading Time (TRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	TRT.Pred	TRT.Pred. StdErr
EC_A1	252.52	9.35	7.18	7.59	250.53	9.38
EC_A2	-4.66	8.74	7.44	7.59	245.87	9.37
EC_A3	-6.13	8.77	7.25	7.59	244.41	9.45
EC_A4	-21.48	8.73	7.34	7.59	229.06	9.38
EC_A5	-1.64	8.71	7.34	7.59	248.89	9.36
E-M_A2	-9.92	8.72	7.14	7.59	240.61	9.43
E-M_A3	-12.18	8.76	7.17	7.59	238.35	9.47
E-M_A4	-25.06	8.72	7.16	7.59	225.47	9.43
E-M_A5	-11.78	8.69	7.16	7.59	238.76	9.41
E-S_A2	-7.30	8.96	8.15	7.59	243.24	9.45
E-S_A3	-1.26	8.89	7.88	7.59	249.27	9.43
E-S_A4	-20.20	8.91	8.03	7.59	230.34	9.41
E-S_A5	2.38	8.89	8.03	7.59	252.91	9.39
E-SM_A2	-14.44	8.83	7.85	7.59	236.09	9.39
E-SM_A3	-10.10	8.89	7.89	7.59	240.44	9.44
E-SM_A4	-24.58	8.84	7.87	7.59	225.96	9.39
E-SM_A5	-11.36	8.82	7.87	7.59	239.17	9.37
E-S_A1	4.23	8.79	7.85	7.59	254.77	9.35

Model 6

First Reading Time (FRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	FRT.Pred	TRT.Pred. StdErr
Ca-S_A1	239.90	8.34	8.17	7.59	238.84	8.46
Ca-S_A2	-12.36	7.27	8.17	7.59	226.48	8.49
Ca-S_A3	-1.53	7.31	8.20	7.59	237.31	8.53
Ca-S_A4	-16.87	7.28	8.24	7.59	221.97	8.52
Ca-S_A5	-4.45	7.25	8.27	7.59	234.39	8.51
Ca_A1	-18.69	7.52	6.97	7.59	220.15	8.41
Ca_A2	-25.28	7.56	6.93	7.59	213.56	8.46
Ca_A3	-21.20	7.60	6.97	7.59	217.64	8.48
Ca_A4	-30.38	7.55	6.97	7.59	208.46	8.44
Ca_A5	-19.86	7.54	6.95	7.59	218.98	8.43
CoM_A2	-2.20	7.44	7.89	7.59	236.64	8.30
CoM_A3	-2.79	7.54	7.41	7.59	236.05	8.32
CoM_A4	-18.67	7.47	7.67	7.59	220.17	8.27
CoM_A5	10.96	7.45	7.65	7.59	249.80	8.26
Co_A1	-1.36	7.46	7.23	7.59	237.48	8.29
Co_A2	-17.87	7.50	7.22	7.59	220.97	8.32
Co_A3	-19.68	7.54	7.25	7.59	219.16	8.36
Co_A4	-29.33	7.50	7.23	7.59	209.51	8.32
Co_A5	-15.37	7.48	7.23	7.59	223.47	8.31
M_A2	20.88	7.54	9.00	7.59	259.72	8.84
M_A3	26.14	7.67	7.00	7.59	264.98	8.41
M_A4	-3.69	7.48	8.00	7.59	235.15	8.33
M_A5	35.04	7.47	8.00	7.59	273.88	8.31

Re-Reading Time (RRT)

	Estimate	StdErr	nLetters. WD_obs	nLetters. WD_fix	RRT.Pred	TRT.Pred. StdErr
Ca-S_A1	19.45	9.13	8.17	7.59	22.97	3.80
Ca-S_A2	-4.75	4.82	8.17	7.59	18.21	3.83
Ca-S_A3	-2.64	4.85	8.20	7.59	20.33	3.87
Ca-S_A4	-10.46	4.82	8.24	7.59	12.51	3.84
Ca-S_A5	-7.34	4.81	8.27	7.59	15.63	3.83
Ca_A1	10.98	4.95	6.97	7.59	33.95	3.81
Ca_A2	12.50	4.98	6.93	7.59	35.47	3.84
Ca_A3	6.71	5.00	6.97	7.59	29.68	3.87
Ca_A4	0.40	4.98	6.97	7.59	23.37	3.84
Ca_A5	4.38	4.97	6.95	7.59	27.35	3.82
CoM_A2	-13.19	4.83	7.89	7.59	9.78	3.80
CoM_A3	-14.33	4.91	7.41	7.59	8.64	3.82
CoM_A4	-14.16	4.85	7.67	7.59	8.81	3.78
CoM_A5	-15.29	4.84	7.65	7.59	7.68	3.77
Co_A1	-10.29	4.89	7.23	7.59	12.68	3.77
Co_A2	-14.03	4.92	7.22	7.59	8.94	3.80
Co_A3	-15.68	4.94	7.25	7.59	7.29	3.83
Co_A4	-14.07	4.92	7.23	7.59	8.90	3.80
Co_A5	-16.72	4.90	7.23	7.59	6.25	3.79
M_A2	22.20	4.90	9.00	7.59	45.16	4.05
M_A3	24.06	5.00	7.00	7.59	47.03	3.87
M_A4	17.21	4.83	8.00	7.59	40.18	3.81
M_A5	57.18	4.81	8.00	7.59	80.15	3.79

Total Reading Time (TRT)

	Estimate	StdErr	nLetters.WD_obs	nLetters.WD_fix	TRT.Pred	TRT.Pred.StdErr
Ca-S_A1	262.16	9.44	8.17	7.59	260.18	9.57
Ca-S_A2	-17.13	8.72	8.17	7.59	243.05	9.61
Ca-S_A3	-4.14	8.76	8.20	7.59	256.04	9.66
Ca-S_A4	-27.03	8.72	8.24	7.59	233.15	9.65
Ca-S_A5	-12.02	8.70	8.27	7.59	248.16	9.62
Ca_A1	-7.43	9.00	6.97	7.59	252.75	9.51
Ca_A2	-12.48	9.06	6.93	7.59	247.70	9.57
Ca_A3	-14.09	9.10	6.97	7.59	246.09	9.60
Ca_A4	-29.58	9.05	6.97	7.59	230.60	9.54
Ca_A5	-15.15	9.03	6.95	7.59	245.02	9.54
CoM_A2	-14.91	8.90	7.89	7.59	245.27	9.38
CoM_A3	-15.61	9.02	7.41	7.59	244.57	9.42
CoM_A4	-31.71	8.93	7.67	7.59	228.47	9.36
CoM_A5	-3.15	8.91	7.65	7.59	257.03	9.34
Co_A1	-10.34	8.93	7.23	7.59	249.84	9.38
Co_A2	-30.58	8.98	7.22	7.59	229.60	9.42
Co_A3	-34.10	9.02	7.25	7.59	226.08	9.46
Co_A4	-42.12	8.98	7.23	7.59	218.06	9.42
Co_A5	-30.78	8.95	7.23	7.59	229.40	9.40
M_A2	40.55	8.94	9.00	7.59	300.73	9.92
M_A3	52.41	9.15	7.00	7.59	312.59	9.52
M_A4	13.79	8.94	8.00	7.59	273.97	9.40
M_A5	92.52	8.92	8.00	7.59	352.70	9.38

List of figures

List of tables

This book explores the synchronic and diachronic relations between a group of Spanish consecutive markers (*por tanto*, *por eso*, *por ello* and *por esto*) and models their similarities and differences by relying on experimental and observational evidence. A usage-based construction grammar approach allows us to map the results of both methods in a constructional network with multiple horizontal and vertical links intended to conceptualize the traditional notion of paradigm in a more dynamic way.

Going beyond the grammaticalization framework, procedural meaning, schematicity, compositionality, entrenchment and other constructional relevant parameters of these discourse markers are assessed on the basis of an eye-tracker and a corpus study. The book endorses the benefits of combining empirical methods and usage-based models for the synchronic and diachronic description of discourse markers and their neighboring categories.