Beyond Grammaticalization and Discourse Markers

New Issues in the Study of Language Change

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Modeling Language Change with Constructional Networks

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1   Introduction

A constructionalist approach to the study of grammar envisions a grammar as an account of:

> the network of constructions [that] captures our grammatical knowledge of language *in toto*.
>
> GOLDBERG 2006: 18, italics original

A different approach is:

> we suggest that all the attested uses constitute a network of expressions with similar or overlapping functions and/or formal features, and that capturing the details of that network is the ultimate goal in making adequate generalizations about the speakers' knowledge.
>
> FRIED and ÖSTMAN 2005: 1771

"Grammatical knowledge *in toto*" and "all the attested uses" are not equivalent. The first refers to abstract, entrenched and "internal" linguistic knowledge about form-meaning pairs that is instantiated in use. The second refers to external evidence for that kind of knowledge. While Goldberg focuses on psychological underpinnings of linguistic knowledge, Fried (2015: 140) draws attention to "the interconnectedness of the internal structure of a particular linguistic form and its constructional surroundings in specific types of usage events"; these surroundings include cultural norms of interaction. Therefore the models of "generalizations about the speaker's knowledge" concern partially different aspects of that knowledge.

In this paper I explore which of the available constructional network models might be most useful for historical research, and by extension synchronic work as well, using the development of the discourse marker *after all* as a case study.[1] What is needed is a model that accounts for the fact that networks come into being, grow, and come to be reorganized (Colleman 2011, Traugott and Trousdale 2013, Van de Velde 2014, Torrent 2015). I will argue that this model needs to combine several approaches to networks.

The organization is as follows. In section 2 I introduce three network models that have been proposed in the construction grammar literature. These are known as "vertical", "horizontal", and "multidimensional" models. I also suggest that networks can be thought of as contexts for change. Section 3 provides some background information, specifically the data and methodology, and well-known cautions that need to be heeded when doing historical work. In section 4 I present the development of the discourse marker *after all* in British and American English as an example of the development of a multifunctional construction. Section 5 interprets this development from the perspective of all three network models, and section 6 concludes.

2   Three Network Models

In this section I introduce three network models, two of them showing relationships internal to schemas ("vertical" and "horizontal" networks, sections 2.1 and 2.2), and a third that shows relationships with other, "external", schemas ("multidimensional" networks, section 2.3). Finally, I discuss work on contexts for change, including networks (section 2.4).

2.1   *"Vertical" Inheritance Networks*
Goldberg's type of network is a taxonomy of learned knowledge that consists of form-meaning ([F - M]) pairings (signs) (see e.g. Goldberg 1995, 2003, 2006). From a "bottom-up" perspective this network has at least two levels:

i)   "Substantive" micro-construction types: [F - M] pairs, such as *give some-one something*, *anyway*, *happiness*, with "rich semantic/pragmatic and

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1   In some varieties of construction grammar, e.g. Sign-Based Construction Grammar (see Boas and Sag 2012) constructions are defined restrictively as phrasal configurations (Michaelis Forthcoming). On this interpretation, discourse marker uses of the "chunked" and univerbated expression *after all* would not be included.
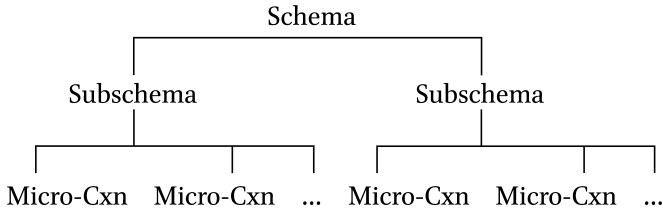
FIGURE 2.1 *Minimal architectural representation of an inheritance hierarchy*

complex formal constraints" (Goldberg 2006: 5) on their internal patterns and external distributions. These are construction types, abstractions away from token utterances, which are known as "constructs".

ii) Abstract sets of these pairs that generalize over several members. These are schemas that may have subschemas, e.g. the ditransitive schema [SUBJ V OBJ1 OBJ2] has several subschemas including [X causes Y to receive Z], [X causes Y not to receive Z], [X intends to cause Y to receive Z]. Examples of verbs associated each of these are *give, refuse, bake*, respectively (Goldberg 1995: 75). There may be several levels of schemas, depending on the degree of abstraction proposed by the linguist. Schemas and subschemas have slots with variables, e.g. X, Y, Z. Members of schemas are "licensed" in the sense that they are possibilities allowed by the schema.

This vertical kind of network is hypothesized to represent our knowledge of language, whether spoken or written, being acquired or already acquired. It encompasses both procedural ("grammatical") and contentful ("lexical") expressions, and many in between. The network is an "inheritance hierarchy" in which members of lower levels have properties of higher level ones. Defaults apply when constructions are combined, e.g. in English, when used in yes-no questions, finite clauses inherit subject-auxiliary inversion by default (see Goldberg 2003). A network of this type has the basic structure in Figure 2.1. Networks link "vertically" either top-down or bottom-up.

2.2 *"Horizontal" Networks*

Recently attention has been paid to "horizontal" network relationships among schemas and subschemas that capture the fact the schemas and subschemas within them may not be discrete (Traugott 2016a) and that "a particular construction may be partly motivated in relation to its neighbours" (Van de Velde 2014: 147). Van de Velde's concept of horizontal networks draws on Edelman and Gally's (2001) account of the phenomenon called "degeneracy" in biology:
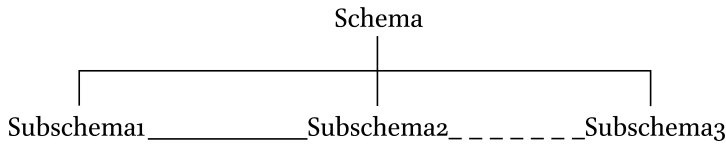
Schema

FIGURE 2.2 *Abstract horizontal network*

"structurally different elements can fulfil the same function" (Van de Velde 2014: 141). A horizontal network accounts for the tendency for schemas to have members from different sources, and for new constructions to "strengthen ... already available resources" (p. 173), especially when a system comes under pressure, for example with the loss or reorganization of a category. "Horizontal relations between constructions ... express semantic distinctions that are (partly) expressed by other means as well" (p. 172). These horizontal network relationships supplement "vertical" inheritance hierarchies and give a more nuanced view of relationships among constructions than do vertical models alone.

In this paper I will use the characterization of horizontal networks developed in Traugott (2016a: 122) that part of a speaker's knowledge of language "recognizes continuities and proximities at all levels of a construction and across networks". Like Van de Velde, I require that the semantics of the constructions involved can be partly expressed by other means as well. In addition, I distinguish between substantial ("strong") overlap and weaker overlap. Figure 2.2 models a situation in which two schemas have strong overlap (solid horizontal lines) but a third has only weak overlap (broken horizontal line).

2.3 *Multidimensional Networks*

Likewise Fried and Östman's (2005) network model is concerned with links between functions of schemas in different domains. However, vertical schema hierarchies play a background role in this model, and horizontal networks are not envisioned. Fried and Östman's model links schemas not only with each other but also with cultural schemas. The authors focus on interaction in conversation and seek to combine construction grammar with Östman's (1981 and elsewhere) work on implicit anchoring, and Linell's (1998) on conversational analysis. Fried and Östman's paper is one of the first attempts to analyze pragmatic markers from a constructional perspective. One of their examples, the Czech pragmatic marker *jestli*, which is restricted to use in interactional conversation, occurs in embedded yes-no questions and marks real or potential conditions in conditional sentences (p. 1763). *Jestli* is shown to have semantic and pragmatic network links to questions (real, quoted, and rhetorical), requests (directive, negotiating), and assertions (doubt, estimate, etc.) (p. 1772). These in turn are linked to cultural norms of politeness that require degrees of
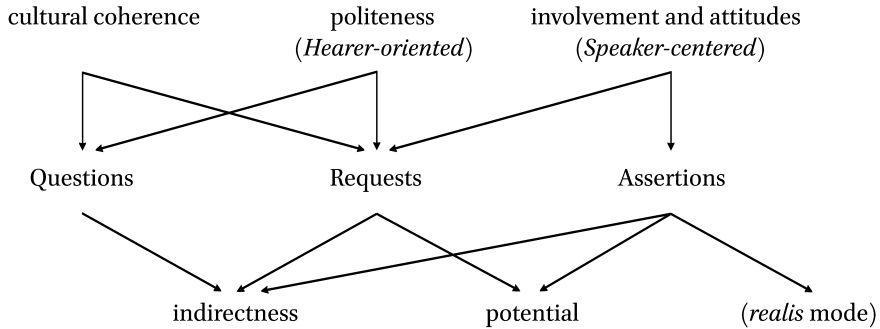
FIGURE 2.3 *A simplified semantic-pragmatic network for Czech* jestli *patterns*

indirectness and to interlocutors' degree of involvement. This kind of network is a non-taxonomic model with several dimensions of which only the semantic, pragmatic, and socio-cultural ones are shown in Figure 2.3.

Such links across domains are regarded as essential contexts for change in Bybee (2013, especially p. 54).

2.4 *Networks as Contexts for Change*

My question in this paper is how the three models discussed above might be combined in historical work to account for shifts within and across schemas in the domain of pragmatic markers, more specifically discourse markers.

It is well established by now that change occurs in context.

> We cannot understand how one thing has turned into another without locating the pivot context in which the change originated and understanding how the properties of that context invite the change.
>
> GARRETT 2012: 71

In work on grammaticalization, the prime "pivot" context under consideration is syntagmatic. In work on constructional change, however, the pivot is both syntagmatic and paradigmatic (Fried 2013). While change starts in the (linear) context of larger constructions, a new construction typically comes to be aligned with an existing constructional network. Fried's example is the changes that eventually led to the constructionalization of BE *going to* as an auxiliary. These changes started out in the context of a biclausal motion with a purpose construction. In particular syntagmatic contexts including cooccurence of BE *going to* with V (not a locational prepositional phrase), the relative temporality associated with purpose (the 'be about to' pragmatic context) came to be salient and eventually the auxiliary was constructionalized (Traugott and

Trousdale 2013: 217–224).[2] Such changes in syntagmatic contexts are considered to be "critical contexts" for grammaticalization in Diewald (2002) and for constructional change in Diewald and Smirnova (2012).[3] They are referred to as pre-constructionalization constructional changes in Traugott and Trousdale (2013: 26). In terms of networks, there was chunking of *BE going to* that led to the development of a new construction within the subschema of future auxiliaries. While *BE going to* was at first a marginal member of the Future.Cxn schema because it was used only for relative future, it later came to be a regular member, inheriting deictic properties of future auxiliaries (Traugott and Trousdale 2013: 117–118).

Three contexts in particular have been identified as important to constructional change (Traugott and Trousdale 2013: 197, Zehentner 2016, Forthcoming):

i)   The linear flow of speech and writing on the axis of combination and syntagmatic relations, both within larger constructions and between constructions. "Collostructional analysis", the study of collocations or patterns of combinations and the degree to which items are attracted to a construction, was initially developed for synchronic work by Stefanowitsch and Gries (2003) and for diachronic work by Hilpert (2008).

ii)   The alternatives available on the axis of similarity and choice ("paradigmaticity"). The focus is on ways in which patterns that arise through collocation may be interpreted as belonging paradigmatically to (sub)schemas within a hierarchic network (see Diewald and Smirnova 2010). An important factor here is analogical thinking that may lead to analogization, the mechanism by which particular expressions may be matched.

iii)   The more general and systemic changes affecting nodes[4] and links in the networks at the time. These are changes with wide-sweeping effects such as phonological changes and word order changes.

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2   Petré (2015), however, argues that implicatures from discourse organization, e.g. subordination of *BE V-ing* (cf. *as they were comynge homwarde* 'as they were coming toward home') may be more important than local temporal implicatures in the history of *BE going to* future. This analysis is compelling, but, like the earlier one, it is syntagmatic.

3   A characteristic of critical contexts that Diewald (2002) discusses is the obsolescence of the context after grammaticalization. While context obsolescence occurred in the particular case of the German modals she discusses, it is not typical of change in general; for example, all the original context types that enabled the development of *BE going to* are available in PDE.

4   Hilpert (2018) suggests that putting greater emphasis on associative connections than on nodes may be helpful in work on historical construction grammar.

This paper is an exploration of the way in which networks can contribute to a better understanding of the first two constructional contexts, especially the second. Given its architecture, construction grammar provides a framework that is particularly well suited to accounts of analogical change. This is in distinct contrast to earlier work on grammaticalization which, for the most part, avoided "analogy". For example, Lehmann (2004: 9) refers to "pure grammaticalization without analogy". However, in recent years there has been a shift toward recognizing the importance of analogy in grammaticalization (e.g. Fischer 2007, De Smet 2007 on exemplar analogy, and Kiparsky 2012 on analogy as optimization).

I suggest that pragmatic "invited inferences" (Traugott and Dasher 2002: 34–40) can be interpreted as providing direct links to more abstract schemas, not only internal to their domain but also external to it. Invited inferences were originally conceptualized as providing one account of the conventionalizing of pragmatic meanings. They were assumed to be pragmatic implicatures arising in the syntagmatic flow of speech that, if sufficiently frequently replicated, could enable the rise of a new polysemy. From a constructional perspective, if sufficiently frequently replicated, they can be understood to contribute to the reanalysis of the semantic, pragmatic or functional side of a micro-construction (Traugott Forthcoming). By hypothesis, this occurs most frequently when the implicature evokes analogical association with meaning component(s) of a schema; sufficient strength of this association may enable association with the form side as well, leading to a constructionalization (see Traugott 2016a). Referring again to *BE going to* above, association of the invited inferences/ implicatures from the purpose construction to future can be hypothesized to have evoked analogical association with the relative future, a subschema of the Future.Cxn. Over time the pragmatic implicatures came to be conventionalized or "semanticized" (17th c). Association with the relative future subschema enabled links with the more abstract schema itself, allowing for reinterpretation of the relative future semantics as a deictic future, probably due in part to analogy with the "exemplar clouds" (Bybee 2013: 54) provided by uses of *will* and *shall* (18th c). This second semantic reinterpretation in turn enabled neoanalysis[5] of the form component, hence constructionalization with the syntactic and distributional form of an auxiliary. If this is correct,

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5 I prefer the term "neoanalysis" (Andersen 2001: 231, ft. 3) to "reanalysis" because the latter is problematic. A child or second language learner cannot "re-analyze" a construction that is not part of his or her knowledge.

then some changes, especially in the procedural domain, involve individual token uses (constructs) that are replicated sufficiently frequently with conceptual links to external schemas to enable shifts in form.

3 Background to the Case Study

For my case study I have chosen to recast and expand two earlier brief accounts of the history of the discourse marker *after all* (Lewis 2000, Traugott 2004) because, like most pragmatic markers, *after all* is multifunctional and requires a rich view of changes in network relationships. Also, since little has been done to date on the history of pragmatic markers from a constructional perspective, the paper serves as a contribution to this branch of research (synchronic studies include Fried and Östman 2005, Fischer 2010, Fischer and Alm 2013).

Before presenting the case study I provide some background by outlining the data and methodology used (3.1) and reminding readers of some cautions for doing historical work (3.2).

3.1 *Data and Methodology*

The data are retrieved from CED (1.2 million words of Early Modern English speech-related texts from 1560–1760), CLMETEV (approximately 15 million words of largely literary British English texts from 1710–1920), COHA (385 million words of American English from 1810–2009, grouped by decades), and COCA (520 million words of American English from 1990–2015, as of March 2016).

There are 31,000 hits of *after all* in COHA, and 31,249 hits in COCA, in all its uses, across all genres. This is a qualitative, not quantitative study, but to maintain relative comparability across the corpora, I analyzed the first 66 hits manually for each of the represented genres in the following decades: 1820, 1850, 1880, 1910, 1950, 2000.[6] The first four of these periods are divided equally between fiction, magazine and non-fiction so 198 examples were used for each decade.[7] For the decades 1950 and 2000 the corpus also includes equal amounts of data from newspapers, so I analyzed 66 examples from all four genres in these periods (264 examples in each period). I also analyzed the first 66 hits for

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6   The reason for selecting data three decades apart from 1820–1910 is that this was the period of greatest change; from 1910 on there is minimal change, hence the decision to allow longer time-lapse between decades in the 20th c data.

7   Some examples from newspapers appear in the 1880s, but they do not exemplify *after all*.

the year 2015 in COCA for each of fiction, magazines, newspapers, and academic writing[8] (also totaling 264 examples).

I coded for prepositional phrase (not a DM use), and for standard DM positions: clause-initial prior to subject, clause-medial post-subject, and clause-final post-argument structure. (I use the term "clause" rather than "utterance" because my data is written representation of spoken language.) The clause unit was defined as a finite clause, whether main, or subordinate. Therefore, some examples are 'sentence'-medial, but clause-initial (1a) or clause-final (1b):

(1)   a. The argument of the more hopeful would be that, **after all**, modern science is what people call a "great fact." (1880 *North American Review* [COHA])
      b. Is it possible, ***after all***, that a being of infinite goodness and wisdom said …? (1881 *North American Review* [COHA])

The DM positions were also coded for the inferential adverb use 'in the end' (to be discussed below) and for the two currently most widely recognized functions of *after all*: justifying ('I say this because') and contrastive concessive ('despite what was/might be expected').

My focus in this paper will be on clause-initial and clause-final uses.[9] Some attention is also paid to clause-medial (post-subject and pre-final) uses. For purposes of this paper, by clause-initial is meant 'pre-subject'—'initial' *after all* may be preceded by e.g. *and, but, I mean, because, that* (but not by focused object arguments or adverbials). By clause-final is meant in position at the end of the clause, after the argument structure. Here it may be followed by politeness formulae (e.g. *please*) and vocatives (e.g., *sir*).

3.2   *Cautions for Doing Historical Work*

Since I am concerned in this paper with change, it may be useful, by way of reminder, to point out that there are several well-known hurdles when studying language change:

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8   In the case of academic writing, there were only 49 examples from 2015, so I also used the next 17 from 2014.
9   These are sometimes known as left periphery (LP) and right periphery (RP) respectively (e.g. Beeching and Detges 2014). For detailed discussion of discourse positions in the Val.Es.Co. model, see Pons (2014, this volume).

i)   Attested uses are a happenstance of what is left of the historical record.
ii)   Data is a function of what kinds of texts we choose to study, for example, of whether or not we include medical texts (e.g. Taavitsainen et al. 2005), and trials (e.g. Huber et al. 2012).
iii) Because most historical records are written, they represent a particular kind of knowledge of language, not only of written language but also of sociocultural factors such as what was thought worthy of being written down (which depended in part on the medium—velum, paper, internet, etc.).
iv)   As historical linguists, we do not have speakers from earlier periods whose intuitions can be checked to fill out the hypothesized gaps in the data.
v)   Although significant advances have been made in coming to understand sociocultural processes and how they interact with particular situations and with uses of linguistic resources (see Culpeper and Nevala 2012 for a summary), the data are often sporadic and hard to integrate consistently with linguistic analysis.

Despite these hurdles, with extensive corpora, especially ones that include conversation that is recorded (trials) or represented (drama, fiction), much can be done to give an account of changes in language use over time, including in spoken interaction (Nevalainen and Raumolin-Brunberg 2003, Culpeper and Kytö 2010). Provided it is rich, as is often the case at least for more recent eras, historical data is mostly not "bad data ... riddled with the effects of hypercorrection, dialectal mixture, and scribal error" as Labov (1994: 11) suggested.

These issues are well known. But they remind us that any detail achieved in our accounts of change is limited by our data as well as our models. What I focus on here is how thinking about linguistic aspects of networks, how they grow and how they change, can enrich our view of the history of particular constructions.

4   A Case Study: The Rise of Discourse Marker Use of *After All*

The term "discourse marker" (DM) has been used in a variety of ways, so I start with a definition (section 4.1). Since a historical account requires a synchronic analysis of the phenomenon that is the output of changes, I take a brief look at the uses and functions of *after all* in contemporary American English in section 4.2. I then go on to outline the history of *after all* in British English (4.3) and American English (4.4). Section 4.5 summarizes the changes.

4.1   *Definition of Discourse Marker*

I adopt a restrictive definition of "discourse markers" and regard them as sub-types of pragmatic markers (PMs) (see e.g. Fraser 2009). By a DM I mean a meta-textual marker that signals some kind of relationship between clauses/utter-ances. Early work on DMs highlighted their use at the beginning of a clause and on links between two adjacent clausal segments (e.g. Schiffrin 1987, Fraser 2009). However, recent interest in the use of PMs, including DMs, clause-finally (e.g. Traugott 2016b) and awareness that often the link is between longer stretches of discourse (e.g. Haselow 2013) has necessitated a broader view of the distributional potential of DMs, such as the one presented here.

DMs form a metatextual subschema of a pragmatic marker macro-schema (PM.Cxn). Like most macro-schemas, the PM.Cxn has very general M and F components. The M component specifies pragmatic, non-contentful meaning, and scope over the clausal construction it accompanies; the F component specifies that position typically precedes or follows the clausal construction it accompanies, or the finite verb of a clausal construction. The DM.Cxn is more restrictive with respect to M. The M of the DM.Cxn is metatextual, specifying a relationship between clauses/utterances, but F is inherited from the macro-PM.Cxn.[10] Schemas of the PM.Cxn macro-schema include metatextual markers, epistemic markers (*surely*, *I think, y'know, I guess*), and interpersonal politeness markers (*well, please*).

Metatextual markers are of two types:

a)   Discourse structuring markers (DSMs), e.g. topic markers like *as far as, by the way*, and attention-getters like *look, Oh* in some of their uses,

b)   Discourse markers. Fraser (2009) proposes three subcategories of DM, which I reinterpret as constructional subgroups of the DM.Cxn schema.

The three subgroups of the DM.Cxn schema are:

i)   **Contrastive discourse markers (CDM.Cxn).** A CDM is used to signal a direct or indirect contrast between Segment 1 and Segment 2, e.g. *but, however, instead, nevertheless, rather, still, though, yet*

ii)   **Elaborative discourse markers (EDM.Cxn).** An EDM is used to signal that Segment 2 is an elaboration of Segment 1, e.g. *and, above all, admittedly, all*

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10   Members lower in the inheritance hierarchy inherit features from higher members, unless specified otherwise (Goldberg 1995: 73).
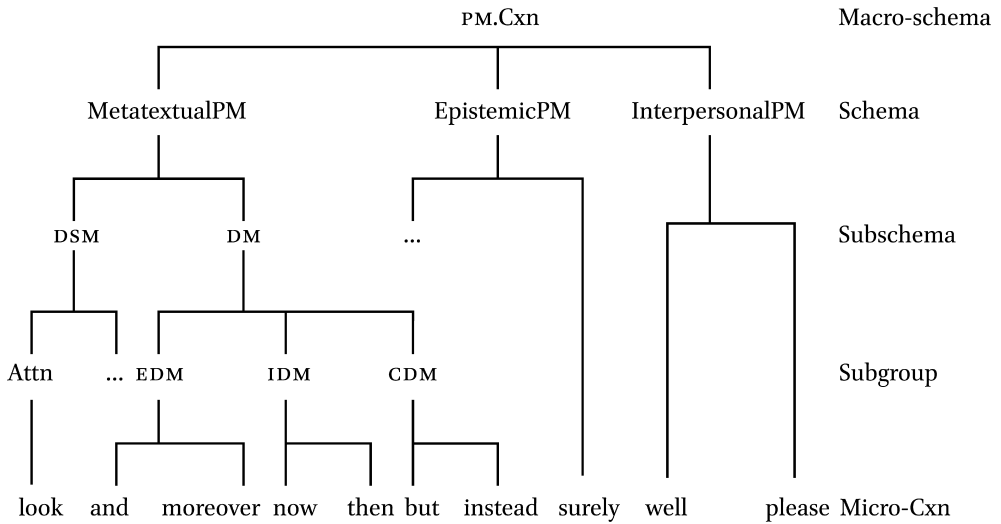
FIGURE 2.4 *Partial pragmatic marker network in English*

> *the same, also, besides, in other words, moreover, similarly*. Many of these
> implicate speaker stance, especially *admittedly, besides*.

iii) **Inferential discourse markers (IDM.Cxn).** An IDM is used to signal that
      Segment 1 serves as the basis for inferring or arguing Segment 2, e.g.
      so, accordingly, consequently, for that reason, given that, now, then, there-
      fore. Some IDMs are used to instantiate a speech act such as *I say this*
      because/My reason for saying this is (see Sweetser's 1990: 76–86 "speech
      act" causality).

There are problems with any categorization, and I will argue below that there
is considerable overlap between the three subgroups, at least with respect to
use of *after all*, but from a constructional perspective these construction types
are a useful starting point, as is the partial vertical taxonomic hierarchy/net-
work of pragmatic marker schemas in Figure 2.4. The PM.Cxn macro-schema
is language-specific and assumed to represent the general category of PMs in
English, much as Verb represents the general category of verbs in English in
Croft (2001: 55–56).

Figure 2.4 draws from the categories in Fraser (2009 and elsewhere). Assume
that ".PMCxn" is attached to each label except the highest one, and that each
subschema is instantiated by several PMs. The micro-constructions on the bot-
tom row of the DSM subschema and of the Epistemic and the Interpersonal
schemas are examples of larger sets that are not discussed here. These sets are,
however, part of the conceptual space of the PMs in Figure 2.4.

4.2   After All *in Present Day American English*

There are two main uses of *after all* in Present Day English. One is use in a temporal prepositional phrase where *all* quantifies the N, as in:

(2)   a. Yet, **after all explanations** are given, an element of mystery remains. (2015 *Journal of Ecumenical Studies* [COCA])
       b. 'if he was still alive **after all that time**, why would he choose to disappear into hiding?' (2000 Meade, *Sands of Sakkara* [COHA])

The other, and in contemporary data far more frequent, use is as a chunked DM. It may occur in clause-initial position (the majority in most genres), clause-medial, or clause-final position. Fraser (2009: 10) classifies *after all* as an EDM that strengthens "an existing assumption by providing better evidence for it". Most examples strongly implicate justification of a prior or upcoming statement. Justification presupposes alternatives and therefore implies contrast.[11] It also presupposes conclusions reached by reasoning and functions as a speech act causal signaling something like 'my reason for saying X (as opposed to some unspecified Y)' and concedes that interlocutors might reach different conclusions. Justifying uses are therefore best classified as instantiating the IDM.Cxn. They are externally linked to the abstract schema of causality, especially the subschema of reasoning. Given the nature of justification, they are strongly preferred in monologic discourse. In the spoken component of COCA, a small number of temporal uses occur turn initially, but only about 1 in every 100 examples occurs at a turn.

Most examples in clause-initial (3a, b) and clause-medial position (3c) can be said to be primarily justifying, pointing to evidence:

(3)   a. Europe … feared a tough response would mean a new cold war, for which none on the continent had an appetite. **After all**, the West had done very little after Russia invaded Georgia in 2008. (2015 *World Affairs* [COCA])
       b. He explained that he's not pro-pesticide—**after all**, his huge fruit and vegetable garden here is pesticide-free. He is just anti-bad-winemaking. (2015 *New York Times* [COCA])
       c. Mack was left orphaned, although orphaned wasn't a word anyone used, and neither was it a word Mack thought of often. He was, **after all**, eighteen. An adult. (2001 Hilderbrand, *The Beach Club* [COHA])

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11   See Schwenter (1999) for discussion of the link between justification and contrast in use of Spanish *si*.

In (3a) *after all* not only elaborates on why Europe feared a tough response but signals that the speaker/writer is justifying the particular position taken regarding the link between what preceded and the upcoming segment. This use has affinities with use of IDMs such as *because* in its speech act meaning 'I say this because'. Use of *after all* also injects the speaker/writer's point of view. The clause 'the West had done very little' is introduced as the speaker's way of justifying the prior clause, and implicates that Europeans had the same reason. In (3b) the clause introduced by *after all* justifies 'not pro-pesticide' after mocking preference for organic wines among those whom 'he' characterizes as not knowing wine. Likewise in (3c) the narrator uses 'he was eighteen' to justify why the word 'orphan' was not used.

When a third person's speech is quoted, speaker and third person's stances are presented as aligned, so the cognizer of *after all* may be ambiguous between the speaker and the third person. In (3b) 'he' (an expert in wines) may have said *'I am not pro-pesticide. After all my huge fruit and vegetable garden here is pesticide-free'* or something similar. But it is also possible that all 'he' said was *'I am not pro-pesticide'*, and the rest was added by the speaker. *Huge* is probably the speaker's contribution. In (3c) it is less likely that Mack thought *'I don't use the word 'orphan'. After all I am eighteen'*, but again the speaker's and the third person's stances are presented as aligned.

Justifying *after all* can also be used with a meaning close to epistemic 'as is well known, of course' (Ariel 1998: 243) in generic comments and comments on individuals or events that are well-known or expected to be well-known, such as (3a). To the extent that *after all* appears turn-initially in the spoken component of COCA, it is typically used in this epistemic sense. Like *of course*, *after all* may be used to imply the addressee agrees, or should agree. In (4) note *to be sure, there is nothing surprising* in the prior context, not only conveying 'as is well known' but implying 'and is surely well known to you'. Many medial examples are of this type, especially in the magazine genre.

(4)   Now, to be sure, there is nothing surprising about the fact that a personal anecdote might undergo extensive revision over time: **after all**, since the 1980s psychologists studying memory have largely agreed that … (2015 *Art Journal* [COCA])

Justifying uses are also found in clause-final position, usually after a copula construction:

(5)   Her mask and gloves are long gone. It's her son, **after all**. Infection control, be damned. (2015 *Atlanta Journal Constitution* [COCA])

In (5) the writer links what we might expect of a distraught, grieving mother to the reason for her recklessness in an isolation ward, partially injecting himself into the scene while implying that she, and perhaps readers too, would have given the same reason, while at the same time conceding that the norm would be for a mother to be extra cautious in an isolation ward.

However, the function of *after all* in final position is in many cases not justification with weakly concessive implicatures, but strongly concessive (contrastive and epistemic), meaning 'despite what was/might be expected'. While often following a negative like *not* (6a), or *question* (6b), it can evoke presuppositions and counter them in other contexts as well, especially modal ones (6c):

(6)   a.   she realized where all this was heading, and that it wasn't a movie **after all**. It was real. (2002 Von Ziegesar, *You Know You Love Me* [COHA])
      b.   The real question is whether scientific, empirical studies have shown that action is rare or non-existent, that conscious will is an illusion **after all**. (2003 *Harvard Journal of Law & Public Policy* [COHA])
      c.   it makes me think that perhaps this reading thing might catch on **after all**. (2015 *Washington Post* [COCA])

It is this counter-expectation use that is typically cited in dictionaries as the prime meaning of *after all* (e.g. Merriam-Webster on-line). '[I]n spite of any indications or expectations to the contrary; when all is said and done, nevertheless' is the only definition given in the OED (*after* 7.c), although some of OED's examples are better analyzed as justificational. An interesting case of the potential multiple readings of *after all* in final position is the title *One Nation, After All* by Alan Wolfe (1998), where the readings 'despite expectations/claims that the nation is fractured', 'one nation, of course', and 'one nation, I will argue/justify' are all evoked and relevant. As in many other cases, encyclopedic, experiential knowledge is also evoked, in this case, *One nation under God* in the US Pledge of Allegiance.

In general, readings of *after all* are strongly influenced by context, especially the argumentative orientation of the discourse (Waltereit and Detges 2007). Local contexts, such as subordinators *because* and *why* are semantically highly coherent with justification, and unsurprisingly strengthen the justificational reading, as in (7):

(7)   But he … just sat there through the whole speech, even agreed to "give it your full consideration," **because after all**, she was his wife's mother. (2015 *Fantasy and Science Fiction* [COCA])
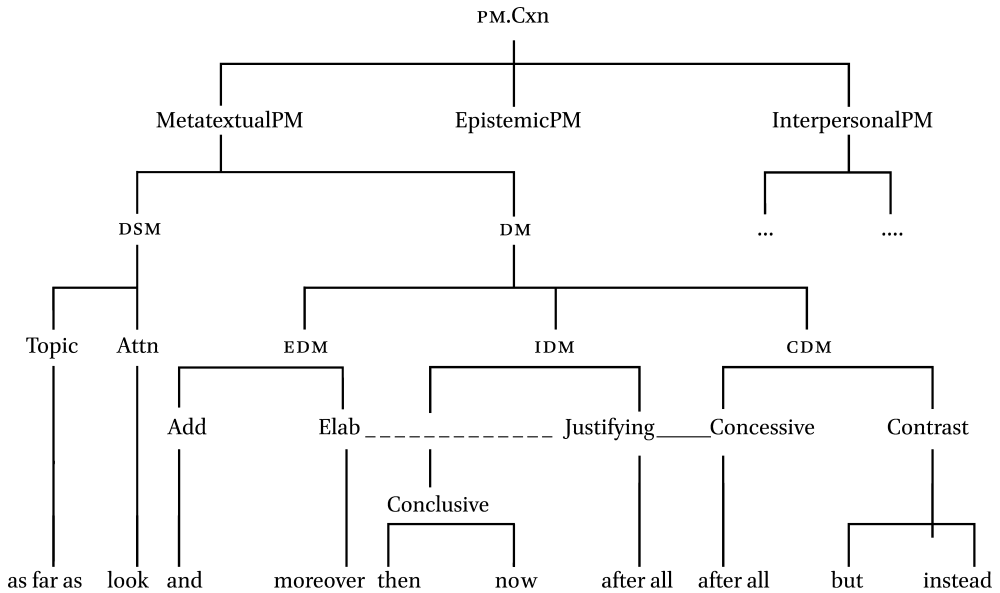
FIGURE 2.5 *Inheritance and horizontal networks for* after all *in present day US English*

Other subordinators such as *that* following expressions of cognition, however, may block a justificational reading in clause-initial position, as illustrated in (8):

(8)   But then he became aware of Abigail's legs, exposed beneath a short, pleated skirt, and had the thought **that**, **after all**, her apparent youthfulness simply reflected the fashion of the age, women affecting the dress of girls. (2000 *Southern Review* [COHA])

In (8), *had the thought that* suggests 'despite the fact that he thought she appeared young' for *after all*, a reading strengthened by *apparent* in the following clause. Justification implicates possible objections and counterarguments and therefore is pragmatically linked to the concessive use. This and the high context-dependency of the concessive and justifying uses of *after all* suggest that its network relations are not discrete in the way that an inheritance taxonomy suggests, but that there is a strong overlap between the two main uses and a weaker one between justifying and elaborative uses such as horizontal networks aim to capture.

An inheritance network supplemented by a horizontal network is represented in Figure 2.5. As with Figure 2.4, assume ".PMCxn" is appended to each node label except the highest, and that each sub-schema has several mem-

TABLE 2.1A *Distribution of* DM *after all in the sample from* COCA *2015*

	Initial	Medial	Final
Fiction	21 (1c)	11	22 (10c)
Magazines	38	10	8 (4c)
Newspapers	29	10	12 (9c)
Academic	31	11	7 (4c)
Total	**119 (1c)**	**42**	**49 (27c)**

TABLE 2.1B *Distribution of* DM *after all in the sample from* COHA *2000–2009*

	Initial	Medial	Final
Fiction	21 (1c)	9 (1c)	23 (16c)
Magazines	31	13	17 (10c)
Newspapers	37	19 (2c)	6 (5c)
Non-fiction	32	10	12 (8c)
Total	**121 (1c)**	**51 (3c)**	**58 (39c)**

bers. In Figure 2.5, Topic is short for the set of PMs that mark topic, including resumptive topic, and Attn for attention-getting, Add for additive, and Elab for elaborative PMs.

Figure 2.5 shows where *after all* in its two main contemporary DM uses fits in the organization of DMs and ultimately PMs. It generalizes over distribution with respect to initial, medial and final position.

Tables 2.1a and 2.1b show the distribution of DM uses in the data set from COCA 2015 and COHA 2000–2009 (66 examples of each genre within each corpus, totaling 528 examples, see section 3.1). The total number of examples in the relevant genre is given, with the number of those examples that are concessive (c) in parenthesis, e.g. in Table 2.1a, in fiction there are 21 examples of initial use of *after all*, of which 1 is concessive; there are 11 examples of medial use, of which none is concessive, and 22 of use in final position, of which 10 are concessive.

Note that in total there are only 5 concessive uses in non-final position as against 66 in final position. In final position over half the total number of exam-
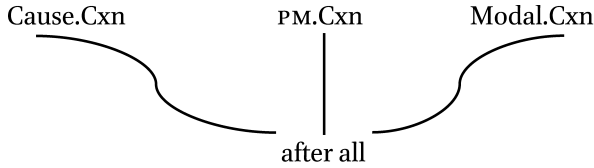
FIGURE 2.6 *Skeletal partial external network for* after all *in Present Day American English*

ples in COCA are concessive (27 out of 49), and in COHA over two-thirds are (39 out of 58).

To summarize this section, *after all* has several uses in Present Day American English, of which justifying use is the most frequent and is preferred in initial and medial position, and concessive, contrastive use in final position. Additionally, there is evidence of an epistemic 'of course' use. This means that there are external multi-dimensional links to Cause (justifying) and Modality (concessive and epistemic). Figure 2.6 is a skeletal partial model of the network relationships between *after all* and external domains. External relationships are represented by curved lines. The model could be expanded to include links with sociocultural, genre and other external domains when their contextual effects are known.

These dimensions are limited to those that the textual record (and intuition) shows are part of the relevant conceptual space of *after all*. For example, deontic modality and locative are not part of the space.

I turn now to the history of *after all*.

4.3 *The Development of* After All *in British English*
After all originated in clause-initial temporal PPs 'after every x' as in (9).

(9) a. But, **after all this fooling**, I would not have it so. (1604 Shakespeare, *Measure for Measure* I. ii. 71)

    b. But **after all the doe and stir you make about the Church,** I believe I may say to you as the little Boy said to his Mother, 'Mother, what need you talk so much of the Church? you don't go so often to it'. (1697 Ridpath, *Dialogue between Jack and Will* [CED: D4HORIDP])

This sequential use is still found, but in smaller numbers than clause-initial DM *after all*: a total of 86 initial prepositional phrases in the two contemporary data sets as compared with 240 DM uses.

PPs denoting temporal sequence with pronoun *all* were generalized in the 16th C to sequences of speech events, and can be paraphrased as 'then, at the conclusion of the speech events', as in (10):
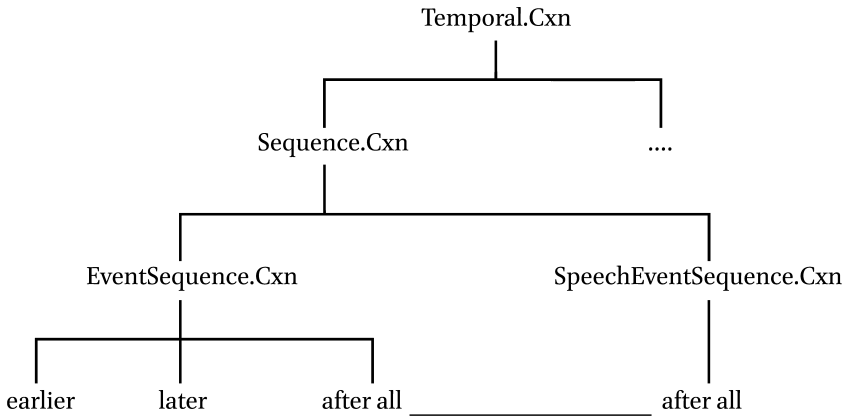
FIGURE 2.7 *Constructional network for* after all *in Early Modern English:*

(10) and **after all** they whent to his plasse for dener
      'and after everything [eulogies at a funeral] they went to his place for din-
      ner' (c. 1560 Machyn, *Diary* [Traugott 2004: 556])

This particular usage is not attested in my contemporary data.

These early uses of *after all* are members of the temporal schema, and can
be characterized as in Figure 2.7.

By the end of the 17th C in some contexts *after all* appears to be used not as
'at the end' but as 'in the end' (Lewis 2000: 128–129). While 'in the end' is also
a temporal adverbial, it is used in contexts where the final event is understood
to take an unexpected turn, as in (11a), where *at last* delimits a set of abusive
speech acts and *after all* signals an unexpected turn toward reasonable, prais-
ing discourse:

(11) a. at last he falls foul by his Cit upon Le Strange,[12] whom he calls Dog in a
          doublet or worse, but **after all** he ends in a panagyrick of his wisedome.
          (1680 E. P., *Dialogue between Crackbrain and Tom* [CED: D4HOEP])
      b. Whereas by joining cordially in this matter, they may unite us insep-
          arably to themselves for ever, inrich their own nation, ... and prevent
          the returns of its danger ... Therefore we cannot believe **after all**, but
          ['other than that'] our wise and politick Neighbours will at last see it
          in their Interest to protect and encourage us in this matter. (1699 Lam-
          peter, pola1699.sgm [Lewis 2000: 127])

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12   Reference is being made to a satire *Cit and Bumpkin*, and to an author named Le Strange.

There are causal pragmatic implicatures in the readings of the examples in (11), linking them to IDMs such as *then, now* which signal metatextual reasoning. However, neither example illustrates a fully metatextual DM use since the temporal 'later than' and quantifier 'everything' readings are still available. In the context of contrastive *but* as in (11a), and *yet*, norms regarding coherent discourse are invoked and a reading 'despite everything/all' seems appropriate in addition to 'in the end' linking them to concessive modality. This is especially true following a verb of cognition, even if a connective does not precede, as in (11b). Uses such as are represented in (11) appear to have been among critical contexts for the rise of the discourse marker use (see also Lewis 2000: 126[13]), linking the 'in the end' reading of *after all* with concessive modality.

In the 18th C we begin to find examples of *after all* without contexts such as the contrastive DM *but* in (11a) or the explicit cognitive verb *believe* in (11b). In examples like those in (12) *after* is not temporal, and *all* does not refer to 'everything'. Instead, *after all* signals concessive stance, e.g. 'despite what I/others have said/thought'. This is a DM use with contrastive meaning. Temporal finality has been backgrounded while the implicature of unexpected conclusion has been foregrounded.

(12) a. Why, if she should be innocent, if she should be wronged **after all**? I don't know what to think. (1700 Congreve, *Way of the World* V [Traugott 2004: 558])

   b. Lettice (soliloquy after a dream that her mother was alive).

   But let me think a little. If my Mother shou'd be Alive, **after all**. Ay marry, that wou'd fright me worse than seeing twenty Ghosts, for she'll force me to marry Ned Ploughshare. (1730–1731 Lillo, *Sylvia* [CLMET 3_0_14])

   c. Truelove. Who is that person you have taken into custody?

   Tinker.   Why sir! he is my runaway prentice—…

   Truelove. Ha! ha! ha! So he turns out to be a tinker's apprentice **after all**?—with his country seats, gigs and tandems. (1819 Taylor, *False Appearances* [COHA])

In (12c) *after all* invites a concessive reading ('despite appearances') but it also implicates the correctness of the speaker's earlier suspicions, confirming and justifying them.

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13   Lewis uses the terms "counter-expectational" and "justificative" for what I refer to as concessive and justificational uses.

After all in (12) functions as a pragmatic marker in that it is non-referential. It is a DM in that it is used to signal that a metatextual tactical/strategic move involving speaker's attitude (concessive) is being made. It is procedural/grammatical in that it cues interpretations of the discourse unit it accompanies. It has been subjectified in that the meaning cues the speaker's metatextual stance toward the relationship between two segments (Traugott 2010; also Lewis 2000). In (12) then we have a new [F - M] pairing. F is new in that the phrase appears to be used as a unit. M is new in that *after* ≠ 'at a subsequent time', *all* ≠ 'everything,' i.e. *after all* is no longer compositional, and the meaning is concessive. As this use is replicated in the data in the first half of the 18th C, we can conclude that a constructionalization has occurred in the sense of the creation of a form$_{new}$-meaning$_{new}$ sign (Traugott and Trousdale 2013: 22).

After all meaning 'in the end' is also found occasionally in the early 18th C in initial position. At first it is used there following connectives like *but, for*, and *and* with implicatures dependent on those expressions. With *but* it is contrastive (13), but typically has less concessive force than in final position:

(13) He knew not what course to take ... Yet he ... was ready to believe the surmised correspondence between the clergyman and her ... But, **after all**, he resolved, as well to quiet his own as her mother's uneasiness, to undertake a journey to the squire's. (1740 Richardson, *Pamela* [CL I])

With *for* and *and* it implicates justificational 'my reason for saying this is' as in (14):

(14) a. You need not be much concerned at it; for **after all**, this way of explaining things, as you called it, could never have satisfied any reasonable man. (1713 Berkeley, *Dialogue* 2 [Traugott 2004: 559; Lewis 2000: 128])
b. I know it is her love for me, though thus oddly expressed, that makes her so uneasy: and, **after all**, she comes, I'm sure, to be reconciled to me. (1740 Richardson, *Pamela* [CL I])

In the 17th C justifying uses are contextually modulated. In CL some uses without any preceding DM appear in the mid 1800s, e.g.:

(15) A long life, passed without blame, and in the faithful discharge of arduous duties, ought to have secured him from this misconstruction at its close. **After all**, the pieces objected to are such as are more offensive to good manners than dangerous to morality. (1846 Carey, *Lives of the Poets* [CL II])

The anonymous reviewer was skeptical that *after all* initially occurred as a DM in final position as in (12), arguing that normally DMs originate in initial position. However, Brinton (2008) suggests that e.g. *I mean* originated in subordinate clauses in final position. Llopis (This volume) shows that Spanish *eso si* originated in final position. Since contrastive, concessive meaning is stronger than justificational meaning, and this is the position in which *after all* is associated with concessive meaning, one could argue that it is more plausible that *after all* originated in final position and was weakened.

With the availability of EEBO in late 2017, I checked whether further evidence could be found for the development of clause-final *after all*. In this large corpus (755 words of texts from the 1470s to the 1690s), *after all* is attested very frequently from the 1650s on (3384 hits in the 1690s, almost all of them in prepositional phrases such as *after all this*). The texts are primarily about philosophy, theology and history. Some scattered examples of clause-final *after all* appear from the 1650s on, e.g.

(16) a. and by these arts wholy promised himselfe the victory; and confided more in his magicall arts, then in the good will of his subjects: but the Emperour constantine, by faith, and prayer, and the power of god, utterly vanquisht him, and he was miserably drown'd in tyber, **after all**. (1652 Gaule, *Pus-mantia* [EEBO-BYU])

b. but whilst they were in dispute about the conditions with those whom the pope had preposed for this affair, they wholly abstained from celebrating, and thus in effect, submitted to the interdict **after all**. (1683 Mélzeray, *General chronological history of France*, trans. From French by Bulteel [EEBO-BYU])

In both examples *after all* could mean 'in the end', but given the context of thwarted expectations, a concessive reading seems preferred. So EEBO-BYU shows that use in final position at least with pragmatically inferred concessive meaning was emerging in the late 17th C.

It also shows that by the end of the century justificational readings were available in initial position without a prior *but* or *for* to cue reasoning, as in:

(17) i am sure that there is no man, who is but moderately Accquainted with the world, especially this town, but may find half a dozen, or more originals for every picture: **after all**, if any man have so little wit, as to appropriate any of these characters to himself, he takes a liberty i have hitherto never given him. (1696 Astell, *Essay in defense of the female sex* [EEBO-BYU])

This finding is different from the one based in CL described above, since in that corpus "bare" justificational uses do not appear until the mid 19th C. There is no evidence in EEBO-BYU, however, that justificational uses in initial position preceded concessive ones in final position. It is possible that since several of the relevant examples of *after all* occur in translations from French (e.g. (16b)), there is some influence from that language and from didactic text traditions (see also Garachana, this volume, on the influence of borrowing from Medieval Latin on Old Spanish uses of "counter-argumentative particles"). Further research using EEBO-BYU and other corpora from the late 17th C are needed to answer this question.

In any event, by the mid 19th C the network relations for *after all* as it was used in British English were essentially the same as in Figures 2.5 and 2.6 for Present Day American English, except that a link with the macro-temporal schema still survived in the 'in the end' readings. This link is now all but lost.

4.4   After All *in American English*

I turn now to the data from COHA to compare use of *after all* in American English. In the data from the first decade of the COHA corpus (1810–1819) there are 23 examples of *after all* that can be interpreted as 'in the end'. Some can be read with possible justificational or concessive implicatures (the latter in clause-final position), but none is clearly used as a DM.

The richer data of the 1820 decade reveals that clause-final use of *after all* implicating concessive is robust in fiction. Of the 19 clause-final examples in fiction, 4 can be read only with a temporal 'in the end' meaning, 15 as meaning either 'in the end' or 'despite expectations'. For example, in (18) the discussion about *innumerable accidents* licenses an 'in the end' reading, but a 'despite our plans to marry' reading is more plausible given the preceding list of ways in which expectations could be thwarted:

(18)   We were speaking of the innumerable accidents, such as death or sickness, ... that so often tear asunder hearts that have almost grown together. It is possible,' said I, in conclusion, dear Elvira, that we may not be married **after all**. (1822 Neal, *Logan* [COHA])

(19a) is an early example of *after all* that can be understood as meaning 'as is well known, of course', as well as 'despite what you may think'. The 'of course' meaning is drawn from invocation of an authority, in this case the speaker's mother. Some 'as is well known' readings can be found in medial position, for example (19b), but like most medial examples at the time, it can also be understood as 'in the end'.

(19) a. "it's only when we don't pay the priest well enough to say mass for our
          souls, heaven bless them! that the devil thrashes them: but it's for their
          good **after all**, as my mother used to say." (1823 McHenry, *Wilderness*
          [COHA])
      b. She [Madam de Stael] is not satisfied with a merely natural and per-
          spicuous expression of thought, which is, **after all**, the perfection of
          art, but aims assiduously and constantly at effect and brilliancy. (1822
          North American Review [COHA])

Of the 25 clause-initial *after all* in the 1820s data, all allow 'in the end' para-
phrases. 17 are preceded by *and, but, for, so, yet*, which pragmatically enrich *after
all*. As in the 17th C British data, *but* invites a contrastive/concessive reading,
and *for* invites a justificational interpretation. It appears that *after all* is still
underspecified for meaning and highly context dependent.

   However, by the mid 19th C meanings appear to have crystallized. In (20) an
'in the end' reading does not appear plausible, and a causal one is preferred ('I
talked pretty severely to him because …'):

(20) I talked pretty severely to him, and he got frightened. **After all**, the best
      way is to use very pointed language to these fellows. (1850 Optic, *Poor and
      Proud* [COHA])

In the data for the decade starting 1850 the ratio of initial examples preceded
by another DM such as *and, but, so, why, yet* has declined (9 of 26 examples in
fiction, 6 of 17 in magazines, and 9 of 20 in non-fiction). By 1880 the number of
initial examples preceded by another DM has reached close to contemporary
lows in fiction and non-fiction but remains relatively high in magazines (3 of
15 initial examples in fiction, 3 of 22 in non-fiction, but 14 of 19 in magazines).
Numbers in 1910 are similar. They suggest that retention of use of *after all* after
another DM is related to the magazine genre. More data are needed to test this
proposal.

   My hypothesis is that in American English as represented in the early de-
cades of COHA, the dominant uses of *after all* were inferential 'in the end' and
'as is known' and also the concessive use of *after all*. Over time there was a
division of labor. *After all* in clause-final position became a core member of
the CDM subschema of DMs. *After all* meaning 'in the end' and 'as is known'
continued to be available in all positions, initial, medial, and final, but came
to be dispreferred in final position. By the end of the 19th C *after all* came to
be entrenched as an IDM (of justification), independent of prior DMs. It was
used with strong preference for clause-initial position. Just as *after all* in its con-

cessive sense became an option among other contrastives used in clause-final position (e.g. *all the same, instead*), so justifying use became an option among a set of markers that were developing similar ranges of meaning. Such multifunctionality is typical of PMs. For example, *of course* has uses involving concession, givenness ('as is known'), and topic shift, among others (Lewis 2000: Chapter 9), and *you see* 'you understand' can be used as a marker of givenness (Fitzmaurice 2004, Brinton 2008).

In both British and American English, the 19th C was the period in which contemporary uses of *after all* became entrenched. In general, the data suggest that the trajectory was the same, but change was slower in American English, and the 'in the end' reading was favored for a longer time.

4.5   *Summary of the Development of* After All

A time-line for the development of *after all* is approximately as follows:

Stage I.   During Early Modern English temporal *after all* was used in several critical contexts, most importantly increasing use:
– of pronominal *after all* referring to the end of a temporal succession of speech events ('at the end'),
– in contexts implicating causal reasoning ('in the end'),
– with a prior DM signaling contrast (*but*), reason (*for, so*) or elaboration (*and*).

The latter two pre-constructionalization changes involve the association with *after all* of pragmatic implicatures and distributions that are close to IDM use, but do not yet have full metatextual DM function. They suggest some analogical thinking matching 'in the end' readings to the external domains Cause and Modality.

Stage II.   By 1700 *after all* was being used clause-finally as a DM with concessive meaning ('despite all the things that had been thought or said') as a member of the CDM subschema. An external link to the Concessive.Cxn within the macro-Modality.Cxn had become entrenched. This was a first constructionalization.

Stage III.   By the mid-19th C *after all* was being used primarily in initial position with justificational meaning ('my reason for saying X is') as a member of the IDM subschema. An external link with the reasoning schema of the macro-Cause.Cxn had become entrenched. This was a second constructionalization.

The 'in the end' use, which is now almost obsolete but persisted from about 1700 to 1950, was a crucial step in the development from the temporal phrase

(Lewis 2000). It serves as a link between the several meanings of *after all*. On the one hand it has links to temporal sequence. On the other it introduces an element of conclusion from reasoning that has direct connections with both concessive and justifying uses: as a scalar expression with a quantifier, *after all* meaning 'in the end' implicates alternatives, whether concessive (*despite X, Y*), or justifying (*my reason for saying X as opposed to Y*).

The anonymous reviewer suggested that 'in the end' is concessive from the start, and that therefore all the changes can be analyzed as having occurred within the concessive schema. However, this would in my view attribute too strong a concessive meaning to the 'in the end' reading, which a) concerns succession of steps in reasoning and is therefore primarily temporal (in an extended sense), and b) is compositional (*all* is a quantifier), unlike the concessive and justificational readings. To the extent that concessive implicatures are associated with this reading, they appear to derive from discursive argumentation rather than from the expression itself.

The development of *after all* can be seen as part of two systemic changes identified in Lenker (2010). One is that discursive contexts for the development of an association between temporal expressions and DMs begin to appear in Middle English.[14] Lenker (2010: 108–114) gives examples of "adverbial connectors" with source domains TIME, SPACE, and TRUTH. She argues that from Middle English on, TIME is a robust source especially for contrast and concession (e.g. *nevertheless, however, at the same time*). *After all* is one of this set. The second systemic change is the development in the 17th C and 18th C of a pattern that has only recently received much attention: use of adverbs clause-finally with contrastive and concessive, conditional, or other modal functions. Examples that have been cited are *all the same, however, then, though* (Lenker 2010, Haselow 2012, 2013), and refutational *too* (Schwenter and Waltereit 2010). Recently, *but* has been used with similar functions in Australian English (Mulder and Thompson 2008).

Haselow (2013) discusses use in utterance-final position of *actually, anyway, but, even, so, then, though* in contemporary British English as exemplified in ICE-GB. They mark the unit they accompany as "reactive to a preceding one" (p. 378). This set has a variety of sources including IDMs (e.g. *so, then*) and CDMs (e.g. *though, but*) that over time came to be used in clause-final position to signal that the speaker perceives some dissonance between the discourse units. The histories of each of these uses needs to be better understood, but it appears

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14   Prior to Middle English, demonstratives were the main source of adverbial connectors.

that concessive *after all* in clause-final position is the first of them to appear. If so, it may have been the model for the later development of other members of the set.

5   Elaborating the Network Approach

The preceding sketch of the history of *after all* has emphasized not only the multifunctionality of *after all*, but also how this multifunctionality results from speakers using it to instantiate extant subtypes of DM. In this it differs from a grammaticalization account such as Lewis (2000). A grammaticalization perspective asks how a referential expression such as *after all* became a nonreferential DM, usually without consideration of the schemas which it instantiates. Working with the monostratal view of change typical of grammaticalization studies, Lewis (2000: 129) suggests that the distinction between concessive and justifying uses arose as a "functional split". This metaphor about change assumes a "semasiological" perspective that focuses on an individual expression and its syntactic contexts and addresses how that meaning changes. It also reifies the item in question as an entity with a life of its own, rather than as the speaker's output.

    In the present analysis, constructionalizations are conceptualized as the outcome of speakers partially matching the expressions to extant abstract constructional schemas and subschemas. This is enabled by interlocutors drawing on several elements of discourse production and understanding, most especially i) the pragmatic implicatures that arise from engagement in coherent discourse, and ii) the unconscious knowledge of both general conceptual domains and of the nodes in the extant networks of DMs, allowing for analogical matching. There is an affinity here with work by Heine and his colleagues on sources for grammatical categories (e.g. Heine et al. 1991, Heine 1997, Heine and Kuteva 2002), but their interests lie more in meaning and metaphor and less in possible network connections and the micro-steps leading to changes in both meaning and form (in the case of *after all*, distributional preferences associated with particular meanings). There is also an affinity with onomasiology, the study of how the inventory of expressions instantiating concepts grows and declines. To date this has been conducted mainly in connection with lexical contentful change (see Geeraerts 1997 and elsewhere), or with paradigmatic developments in modality (Diewald and Smirnova 2010) (for extension of these domains, see Hansen this volume).

    As indicated earlier, the resulting overlap of IDM and CDM uses within the domain of PMs suggests a network relationship where members of different
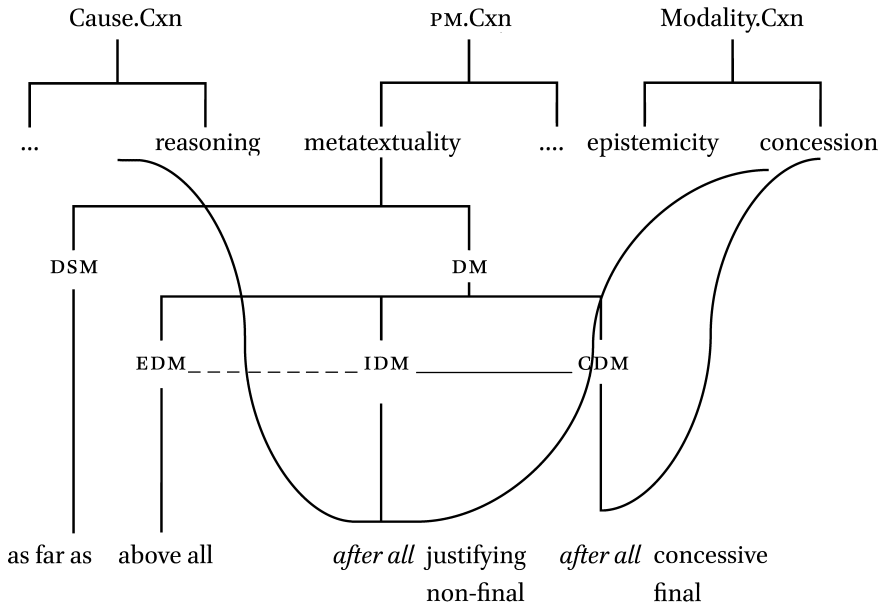
FIGURE 2.8 *Partial elaborated network for* after all *in English since the mid 19th c*

DM subschemas not only inherit from the PM schema, but have partially overlapping functions and share properties, especially abstract reasoning about alternatives. These functions are broadly differentiated in terms of justification and concession on the meaning side and in terms of clause-non-final and clause-final position on the form side. But they are not mutually exclusive. A weaker link has also been shown between justifying (IDM) and elaborative (EDM) uses. Again, these are not mutually exclusive. The network relationships are arguably horizontal. In addition, more distant links need to be recognized to causality (especially modes of reasoning, including justification) and modality (especially concessive). This suggests a complex network model that combines "vertical" inheritance hierarchies that have "horizontal" links within schemas and "external" links to other domains such as are represented in Fried and Östmann's (2005) paper (see Figure 2.3 in section 2.2).

Figure 2.8 is an elaborated, but still very partial, model showing all three types of network relationship:

6   Conclusion

In this paper I have highlighted the importance of thinking about individual, construction-specific changes in the context of the larger constructional

networks of which they are or come to be members. I have also highlighted the role of speakers in using new individual expressions to instantiate extant (sub)schemas, thereby expanding the functional range of the item and expanding the inventory of the (sub)schema. I have suggested that "the network of constructions [that] captures out grammatical knowledge *in toto*" (Goldberg 2006: 18) deserves to be thought of as having a number of different dimensions. In doing so I have combined aspects of Goldberg's (1995, 2006) vertical inheritance networks with Van de Velde's (2014) horizontal networks and with Fried and Östman's (2005) external networks. Complex as these relationships may appear to be, they best reflect speakers' multidimensional knowledge, the constructional domains in which particular changes can occur, and the small transitions by which these changes take place.

Abbreviations

CDM	contrastive discourse marker
Cxn	construction
DM	discourse marker
EDM	elaborative discourse marker
IDM	inferential discourse marker
OBJ	object
PM	pragmatic marker
SUBJ	subject
V	verb

Data Sources

CED	*A corpus of English Dialogues 1560–1760*. 2006. Compiled by Merja Kytö and Jonathan Culpeper, in collaboration with Terry Walker and Dawn Archer, Uppsala University. http://www.engelska.uu.se/corpus.html
CL	CLMETEV. *The Corpus of Late Modern English Texts Extended Version*. 2006. Compiled by Hendrik de Smet. Department of Linguistics, University of Leuven. https://perswww.kuleuven.be/~u0044428/clmet.htm
COCA	*Corpus of Contemporary American English*. 1990–2015. Compiled by Mark Davies. Brigham Young University. http://corpus.byu.edu/coca/.
COHA	*Corpus of Historical American English*. 1810–2009. Compiled by Mark Davies. Brigham Young University. http://corpus.byu.edu/coha/
EEBO-BYU	*Early English Books Online*, 1470s to 1690s. Corpus created as part of

the SAMUELS PROJECT (2014–2016). Made available by Mark Davies. Brigham Young University. https://corpus.byu.edu/eebo/

ICE-GB   *International Corpus of English-Great Britain.* International http://ice -corpora.net/ice/index.htm

Lampeter   *The Lampeter Corpus of Early Modern English Tracts.* Edited by Josef J. Schmied, Claudia Claridge, Rainer Siemund, 1998. Chemnitz University of Technology. University of Oxford Text Archive. http://ota.ox.ac .uk/desc/3193.

References

Ariel, Mira. 1998. Discourse markers and form-function correlations. In Andreas H. Jucker and Yael Ziv, eds., *Discourse Markers: Description and Theory*, 223–259. Amsterdam: Benjamins.

Beeching, Kate and Ulrich Detges, eds. 2014. *Discourse Functions at the Left and Right Periphery: Crosslinguistic Investigations of Language Use and Language Change*. Leiden: Brill.

Boas, Hans C. and Ivan A. Sag, eds. *Sign-Based Construction Grammar*. Stanford, CA: CSLI Publications.

Brinton, Laurel J. 2008. *The Comment Clause in English: Syntactic Origins and Pragmatic Development*. Cambridge: Cambridge University Press.

Bybee, Joan L. 2013. Usage-based theory and exemplar representations of constructions. In Thomas Hoffmann and Graeme Trousdale, eds., *The Oxford Handbook of Construction Grammar*, 49–69. New York: Oxford University Press.

Colleman, Timothy. 2011. Ditransitive verbs and the ditransitive construction: A diachronic perspective. *Zeitschrift für Anglistik und Amerikanistik* 59: 387–410.

Croft, William. 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford: Oxford University Press.

Culpeper, Jonathan and Merja Kytö. 2010. *Early Modern English Dialogues: Spoken Interaction as Writing*. Cambridge: Cambridge University Press.

Culpeper, Jonathan and Minna Nevala. 2012. Sociocultural processes and the history of English. In Terttu Nevalainen and Elizabeth Closs Traugott, eds., *The Oxford Handbook of the History of English*, 365–391. New York: Oxford University Press.

De Smet, Hendrik. 2007. For … to-infinitives as verbal complements in Late Modern English: Between motivation and change. *English Studies* 88: 67–94.

Diewald, Gabriele. 2002. A model for relevant types of contexts in grammaticalization. In Ilse Wischer and Gabriele Diewald, eds., *New Reflections on Grammaticalization*, 103–120. Amsterdam: Benjamins.

Diewald, Gabriele and Elena Smirnova. 2010. *Evidentiality in German: Linguistic Realization and Regularities in Grammaticalization*. Berlin: De Gruyter Mouton.

Edelman, Gerald M. and Joseph A. Gally. 2001. Degeneracy and complexity in biological systems. *Proceedings of the National Academy of Sciences* 98: 13763–13768.

Fischer, Olga. 2007. *Morphosyntactic Change: Functional and Formal Perspectives*. Oxford: Oxford University Press.

Fischer, Kerstin. 2010. Beyond the sentence: Constructions, frames and spoken interaction. *Constructions and Frames* 2: 185–207.

Fischer, Kerstin and Maria Alm. 2013. A radical construction grammar perspective on the modal particle-discourse particle distinction. In Liesbeth Degand, Bert Cornillie, and Paola Pietrandrea, eds., *Discourse Markers and Modal Particles: Categorization and Description*, 47–88. Amsterdam: Benjamins.

Fitzmaurice, Susan. 2004. Subjectivity, intersubjectivity and the historical construction of interlocutor stance: From stance markers to discourse markers. *Discourse Studies* 5: 427–448.

Fraser, Bruce. 2009. An account of discourse markers. *International Review of Pragmatics* 1: 293–320.

Fried, Mirjam. 2013. Principles of constructional change. In Thomas Hoffmann and Graeme Trousdale, eds., *The Oxford Handbook of Construction Grammar*, 419–437. New York: Oxford University Press.

Fried, Mirjam. 2015. Irregular morphology in regular syntactic patterns: a case of constructional re-alignment. In Jóhanna Barðdal, Elena Smirnova, Lotte Sommerer, and Spike Gildea, eds., *Diachronic Construction Grammar*, 141–174. Amsterdam: Benjamins.

Fried, Mirjam and Jan-Ola Östman. 2005. Construction Grammar and spoken language: The case of pragmatic particles. *Journal of Pragmatics* 37: 1752–1778.

Garrett, Andrew. 2012. The historical syntax problem: Reanalysis and directionality. In Dianna Jonas, John Whitman, and Andrew Garrett, eds. *Grammatical Change: Origins, Nature, Outcomes*, 52–72. Oxford: Oxford University Press.

Geeraerts, Dirk. 1997. *Diachronic Prototype Semantics: A Contribution to Historical Lexicology*. Oxford: Clarendon Press.

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

Goldberg, Adele E. 2003. Constructions: A new theoretical approach to language. *Trends in Cognitive Sciences* 7: 219–224.

Goldberg, Adele E. 2006. *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press.

Haselow, Alexander. 2012. Discourse organization and the rise of final *then* in the history of English. In Irén Hegedüs and Alexandra Fodor, eds., *English Historical Linguistics 2010. Selected Papers from the Sixteenth International Conference on English Historical Linguistics (ICEHL 16), Pécs, 23–27 August 2010*, 153–175. Amsterdam: Benjamins.

Haselow, Alexander. 2013. Arguing for a wide conception of grammar: The case of final particles in spoken discourse. *Folia Linguistica* 47: 375–424.

Heine, Bernd. 1997. *Cognitive Foundations of Grammar*. New York: Oxford University Press.

Heine, Bernd, Ulrike Claudi, and Friederike Hünnemeyer. 1991. *Grammaticalization: A Conceptual Framework*. Chicago: University of Chicago Press.

Heine, Bernd and Tania Kuteva. 2002. *World Lexicon of Grammaticalization*. Cambridge: Cambridge University Press.

Hilpert, Martin. 2008. *Germanic Future Constructions: A Usage-based Approach to Language Change*. Amsterdam: Benjamins.

Hilpert, Martin. 2018. Three open questions in diachronic construction grammar. In Evie Coussé, Joel Olofsson, and Peter Andersson, eds., *Grammaticalization meets Construction Grammar*, 22–39. Amsterdam: John Benjamins.

Huber, Magnus, Magnus Nissel, Patrick Maiwald, and Bianca Widlitzki. 2012. *The Old Bailey Corpus. Spoken English in the 18th and 19th centuries* (OBC). University of Giessen. www.uni-giessen.de/oldbaileycorpus.

Kiparsky, Paul. 2012. Grammaticalization as optimization. In Dianna Jonas, John Whitman, and Andrew Garrett, eds. *Grammatical Change: Origins, Nature, Outcomes*, 15–51. Oxford: Oxford University Press.

Labov, William. 1994. *Principles of Linguistic Change. Vol. 1: Internal Factors*. Oxford: Blackwell.

Lehmann, Christian. 2004. Theory and method in grammaticalization. In Gabriele Diewald, ed., *Grammatikalisierung*. Special issue of *Zeitschrift für Germanistische Linguistik 32*: 152–187. http://www.christianlehmann.eu/

Lenker, Ursula. 2010. *Argument and Rhetoric. Adverbial Connectors in the History of English*. Berlin: De Gruyter Mouton.

Lewis, Diana M. 2000. Some emergent discourse connectives in English: Grammaticalization via rhetorical patterns. Unpublished Ph.D. dissertation, University of Oxford.

Linell, Per. 1998. *Approaching Dialog. Talk, Interaction and Contexts in Dialogical Perspective*. Amsterdam: Benjamins.

Michaelis, Laura. Forthcoming. Constructions are patterns and so are fixed expressions. In Beatrix Busse and Ruth Möhlig-Falke, eds., *Patterns in Language and Linguistics: Crossing the Boundaries in Interdisciplinary Discourse*. Berlin: De Gruyter Mouton.

Mulder, Jean and Sandra A. Thompson. 2008. The grammaticalization of *but* as a final particle in conversation. In Laury Ritva, ed., *Crosslinguistic Studies of Clause Combining: The Multifunctionality of Conjunctions*, 179–204. Amsterdam: Benjamins.

Nevalainen, Terttu and Helena Raumolin-Brunberg. 2003. *Historical Sociolinguistics: Language Change in Tudor and Stuart England*. London: Pearson Education.

Östman, Jan-Ola. 1981. You know: *A Discourse-Functional Approach*. Amsterdam: Benjamins.

Petré, Peter. 2015. Grammaticalization by changing co-text frequencies, or why [BE
    Ving] became the 'progressive'. *English Language and Linguistics* 20(1): 31–54.

Pons Bordería, Salvador. 2014. Paths of grammaticalization in Spanish "o sea". In Chiara
    Ghezzi and Piera Molinelli, eds., Discourse and Pragmatic Markers from Latin to
    Romance, 109–138. Oxford: Oxford University Press.

Schiffrin, Deborah. 1987. *Discourse Markers*. Cambridge: Cambridge University

Schwenter, Scott A. 1999. *Pragmatics of Conditional Marking: Implicature, Scalarity, and
    Exclusivity*. New York: Garland.

Schwenter, Scott A. and Richard Waltereit. 2010. Presupposition accommodation and
    language change: From additivity to speech-act marking. In Kristin Davidse, Lieven
    Vandelanotte, and Hubert Cuyckens, eds., *Subjectification, Intersubjectification and
    Grammaticalization*, 75–102. Berlin: Mouton de Gruyter.

Stefanowitsch, Anatol and Stefan Th. Gries. 2003. Collostructions: Investigating the
    interaction between words and constructions. *International Journal of Corpus Lin-
    guistics* 8: 209–243.

Sweetser, Eve E. 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects
    of Semantic Structure*. Cambridge: Cambridge University Press.

Taavitsainen, Irma, Päivi Pahta, and Martti Mäkinen, et al. 2005. *Middle English Med-
    ical Texts* (MEMT). University of Helsinki: Varieng. http://www.helsinki.fi/varieng/
    CoRD/corpora/CEEM/MEMTindex.html

Torrent, Tiago Timponi. 2015. On the relation between inheritance and change: The
    Constructional Convergence and Construction Network Reconfiguration hypothe-
    ses. In Jóhanna Barðdal, Elena Smirnova, Lotte Sommerer, and Spike Gildea, eds.,
    Diachronic Construction Grammar, 173–211. Amsterdam: Benjamins.

Traugott, Elizabeth Closs. 2004. Historical pragmatics. In Laurence R. Horn and Gre-
    gory Ward, eds., *Handbook of Pragmatics*, 538–561. Oxford: Blackwell.

Traugott, Elizabeth Closs. 2010. Revisiting subjectification and intersubjectification. In
    Kristin Davidse, Lieven Vandelanotte, and Hubert Cuyckens, eds., *Subjectification,
    Intersubjectification and Grammaticalization*, 29–71. Berlin: de Gruyter Mouton.

Traugott, Elizabeth Closs. 2016a. Do semantic modal maps have a role in a construction-
    alization approach to modals? In Bert Cappelle and Ilse Depraetere, eds., special
    issue on modals and construction grammar of *Constructions and Frames* 8(1): 97–
    124.

Traugott, Elizabeth Closs. 2016b. On the rise of types of clause final pragmatic markers
    in English. *Journal of Historical Pragmatics* 17: 29–62.

Traugott, Elizabeth Closs. Forthcoming. Rethinking the role of invited inferencing in
    change from the perspective of interactional texts. In Malte Rosemeyer and Oliver
    Ehmer, eds., Special issue on inferencing, Open Linguistics.

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

Traugott, Elizabeth Closs and Graeme Trousdale. 2013. *Constructionalization and Constructional Changes*. Oxford: Oxford University Press.

Van de Velde. 2014. Degeneracy: The maintenance of constructional networks. In Ronny Boogaart, Timothy Colleman, and Gijsbert Rutten, eds., *Extending the Scope of Construction Grammar*, 141–180. Berlin: De Gruyter.

Waltereit, Richard and Ulrich Detges. 2007. Different functions, different histories. Modal particles and discourse markers from a diachronic point of view. In Maria Josep Cuenca, ed., *Contrastive Perspectives on Discourse Markers*. Special issue, *Catalan Journal of Linguistics* 6: 61–80.

Zehentner, Eva. 2016. *On cooperation and competition in Middle English ditransitves*. Doctoral dissertation, University of Vienna.

Zehentner, Eva. Forthcoming. *On Competition and Cooperation in Language Change: The Case of Dative Alternation in English*. Berlin: De Gruyter Mouton.