

Particles: A brief synchronic, diachronic and contrastive introduction

Remus Gergel, Ingo Reich, Augustin Speyer

Saarland University

1. Delimiting current scope

The goal of this introduction is to offer (A) a short selection of major issues from a vast field that go beyond the articles included in the present volume, but those we consider to be relevant or helpful for some readers in the conceptual area of the present volume, and (B) the standard preview function regarding the papers ahead. The structure navigated is as follows: after introducing the major terrain of the volume in this first section, we will turn to a discussion of the synchronic background of particles in section two. This will be followed by a diachronic one in section three, before concluding with a brief discussion of the contrasting stance and an outlook on the individual papers in section four.

The volume itself grew out of the inquisitive desire to capture as contemporary research much as possible in an area that has been both exciting and hard to grasp in the multifaceted research on particles. Our primary focus has been set on contrastive considerations – hence the title of the volume itself – as well as on pertinent analytical observations in terms of meaning and form. The papers included in the work have mostly been presented, in original form, at a workshop organized by the English and German departments at Saarland University in 2019, or were invited with the specific scope to elucidate certain contrastive points of view. These chapters have undergone a standard peer-review process for such occasions based on internal and external reviewing. We are indebted to our entire dedicated group of reviewers who have critically increased the value of the contributions found in this final product; the shape and

orientation of which we will contextualize further below. Special thanks are due to the external reviewers including Josef Bayer, Andrea Beltrama, Marco Coniglio, Marcel den Dikken, Rita Finkbeiner, Elly van Gelderen, Jutta Hartmann, Vera Hohaus, Lukasz Jedrzejowski, Martin Kopf-Giammanco, Edgar Onea, Svetlana Petrova, Fabian Renz-Gabriel, Manfred Sailer, Richard Waltireit and Sarah Zobel for their extremely helpful involvement.

A first key question when it comes to the conceptual background: an analysis of which types of particles can a reader expect from the current volume? The brief answer: modal, focus, and intensifying particles, as we illustrate further in section two. Particles with well-known discourse functions of the type that are known as ‘modal’ (and sometimes called ‘mood’) particles from languages like German and which, to some extent, are also available across several of the Germanic languages (cf. e.g. van Gelderen 2001, Gast this volume, Grosz this volume, Trotzke & Haegeman this volume, van Kemenade this volume, as well as the references in these contributions) have been at the center of the enterprise from the very beginning. Crucially, several issues arise already in this area, for instance, English is standardly considered to lack particles of the same kind (Abraham 2010, Lenker 2010, Zimmermann 2011, among several others), but pragmatic and developmental-diachronic considerations also make it clear that the line drawn between English and German is not as firm as standardly assumed (cf. e.g. Haselow 2012, Gast this volume, Puhl & Gergel this volume, for different considerations of the debate).

At the same time, it was both the explicit intention of the original workshop and the papers eventually included to incorporate insights from related types of particles as well as languages, even if at first glance they did not seem directly connected to the long-standing ‘modal’ contrastive stance between English and German. That is, we wanted to capture as much as possible of the currently available expertise and thinking; including those cases in which the types of particles addressed in the respective contributions were not necessarily deemed modal. For readers less familiar with the terminology used in German linguistics, we must emphasize

that (out of convenience) we use the most widely established term ‘modal’ for discourse particles such as German *ja*, *doch*, etc., even though only a small subset of the approximately seventeen typically recognized German particles (Thurmair 1989) has been seriously entertained to also have a semantics that mimics the classical semantics of modality (see section two for more context on the pertinent German tradition). In fact, even those particles that *are* more straightforwardly recognizable as, say, in part inferential markers, have key additional discourse-managing functions of various types.¹ Hence, we will stick to the traditional and widely used terminology despite its limitations. The central German type of modal particles hinges on a mixture of syntactic and grammaticalized discourse-managing functions (cf. sections two and three below for relevant specifics regarding the constitution of the class).

One of the emergent themes of the volume is that not only is the distinction between English and German more nuanced than standardly assumed, but that other languages often also fall within a similar grey area if the standard German-English dichotomy is maintained. This is especially illustrated by the insights provided in this collection by Cognola et al, Erlewine, Gyuris, and Modicom on Italian, Mandarin, Hungarian, and French, respectively, for items that show both similarities and differences from German particles of different types. Moreover, if the limited syntactic options of the English middle field are factored in, as done by van Gelderen (2001) or van Kemenade (cf. the article in this volume and the references cited there), then even some of the utterance-final types of particles utilized by English may stand a chance of fulfilling similar, if certainly not identical common-ground managing functions, as, Puhl & Gergel’s chapter also discusses.

¹ Cf. e.g. Zimmermann (2011, 2018) for analyses of epistemic particles like *wohl* and arguably *schon*. To be clear: the German particle class is not usually considered on the basis of standard modalizing syntactic or semantic notions, but rather on syntactic and semantic grounds on which we elaborate in section two below. Conversely, cf. Reis (2001), Portner (2009), Axel-Tober & Gergel (2016), Kaufmann & Kaufmann (2016) for the disjoint conceptualization of the usual types of modality and mood in languages like German and English. But see especially Abraham (2010) for an interesting tête-à-tête of modal particles and epistemic modality cast against the background of theory-of-mind approaches (Papafragou 2002).

There is further disappointing or murky news for a traditional take on particles: not only are the distinctions between languages more nuanced than previously thought. The borderlines between the different classes of particles have also increasingly been argued to be relatively flexible, especially based on the historical processes of reinterpretation available more generally in natural language (cf. e.g. Traugott & Dasher 2002, Detges & Waltereit 2009, Eckardt 2012, Eckardt & Speyer 2014, Beck & Gergel 2015, Deo 2015 for suggestions going far beyond the issues of particles). For example, it would seem ad-hoc to draw an absolute and irreversible line between, say, modal particles and other items such as particularizers (words with meanings such as *just* or *exactly*) or the class of focus particles. (See: cf. Beaver & Clark 2002 for a systematic semantic inquiry of focus and particularizer particles, as well as Nevalainen 1991 and Traugott 2006 for diachronic connections in this area). The latter connections are notably between particularizer meanings and scalar focus particles like *even*. Following the Human Diachronic Simulation Paradigm (Gergel 2020), Gergel, Kopf-Giammanco & Puhl (2021) have also extended this line of thought to argue on an experimental basis for a connection between German *eben* (which, in addition to being a modal particle, functions as a particularizer) and the scalar focus-particle meaning available in its English cognate *even* via a bias in reinterpretation. Eberhardt's contribution in this volume goes one step further and stresses the viability of yet another connection between different types of particles diachronically. This time, one that is originally discernible on the route leading from intensifying particles to scalar focus particles. Finally, and more generally, it is especially the directly contrastive micro-aspects contained in several papers of the current volume that led editors and contributors of this volume alike to conclude that, rather than following a particular terminological self- or otherwise imposed restriction, a reasonable understanding of the deeper nature of apparently idiosyncratic and language-specific types of particles can only be gained by including not only analytical tools that are as sharp as possible in each individual case, but also a number of comparative considerations on multiple dimensions. This, i.e. the broader

comparative take, is the general orientation that the vast majority of the papers follow. We next turn to building up a minimal scaffolding of some general synchronic considerations for readers less familiar with the field. Readers who do not need the background, and are only interested in reading the short previews of the articles ahead, are invited to go directly to section four and, even more directly, to the real action of the contributing papers.

2. Particles from a synchronic point of view

From a synchronic point of view, the class of particles is like a sack of fleas – they are difficult to get a grip on. This starts with the fact that it is, at least in some languages, not fully clear how to define the class of particles. In this respect, German is a nice exception. And yet there are also two major different uses of the term ‘particle’ in German. The more general use defines the class of particles exclusively in terms of inflection: any expression that cannot be inflected is taken to be a particle. This apparently includes adverbs, prepositions and conjunctions. This is not the use, however, that we refer to in this volume. The use we and the contributors to this volume have in mind is more restrictive: only expressions that (i) cannot be inflected *and* (ii) are excluded from the German prefield (the position immediately preceding the finite Verb in German V2-clauses), are particles. This still leaves us with a very heterogeneous class that is usually subdivided in different types according to further syntactic, semantic and prosodic characteristics. Disregarding the negation *nicht* (‘not’), interjections like *Aua!* (‘Ouch!’), and discourse particles like *ähm* (‘well’) – which are with a probability bordering on certainty not part of the sentence proper – we can distinguish at least three central subtypes:

1. **Intensifying particles** like *sehr* (‘very’) modify scalable properties like *nett* (‘nice’) and narrow the denotation by shifting the boundary on the scale of niceness from *nett* (‘nice’) to *sehr nett* (‘very nice’): *Hans ist sehr nett* (‘John is very nice’).

2. **Focus particles** like *auch* ('also') modify constituents that are contrastively focused or contain a contrastive focus (indicated by pitch accent) that triggers alternatives to that constituent. The focus particle operates on those alternatives by excluding ('only') or including ('also') them: *HANS ist AUCH sehr nett* ('JOHN is also very nice').
3. **Modal particles** like *doch* ('after all') operate on the sentence-level and communicate the speaker's attitude towards the proposition, for example by reminding the addressee of this very proposition: *HANS ist doch auch sehr nett*. (This may be translated, for instance, as a tag: 'JOHN is also very nice, isn't he?', but on a practical level, see e.g. König & Gast (2012: 307-309) or Gast (this volume) for some of the difficulties in finding appropriate translational equivalents for particles).

Beyond that, classifying particles is complicated by two factors. First, particles are typically recruited from other syntactic categories like adverbs, adjectives or nouns. Diachronically this is also true of focus and modal particles, but synchronically this is arguably most obvious with intensifiers: While the intensifier *sehr* ('very') in (1a) is traditionally an adverb, it is clear that *fürchterlich* ('terrible') in (1b) stems from an adjective, cf. *der fürchterliche Vater* ('the terrible father' – notice that German does not have designated adverbial derivational affixes with a same productivity as e.g. English *-ly*), and that the only plausible source for *sau* in (1c) is the noun *Sau* ('pig'). As a consequence, intensifiers cannot be identified by their morphosyntactic category alone. One needs to rely on other properties like their syntactic distribution, their semantics, and their pragmatic function.

- (1)
 - a. Der Kuchen ist **sehr** lecker. ('The cake is very delicious.')
 - b. Der Kuchen ist **fürchterlich** lecker. ('The cake is terribly delicious.')
 - c. Der Kuchen ist **sau** lecker. ('The cake is PART delicious.')

The relevant counterparts in other syntactic categories are, however, quite often rather close in meaning or pragmatic function. This is best illustrated with modal particles. Consider, for example, the modal particle *doch*:

- (2) a. Xaver wollte nach Harvard, doch er hat sich anders entschieden.
(‘Xaver wanted to go to Harvard, but he changed his mind.’)
- b. Xaver wollte nach Harvard, und doch hat er sich anders entschieden.
(‘Xaver wanted to go to Harvard and yet he changed his mind.’)
- c. Du wirst doch nicht wirklich nicht nach Harvard gehen?
(‘You’re not really not going to Harvard, are you?’)
- d. Und Harvard wäre DOCH die bessere Entscheidung gewesen!
(‘And Harvard would have been the better decision, EVERYWHERE’)
- e. A: Du gehst (doch) nicht wirklich nach Harvard oder? B: Doch.
(‘A: You’re not really going to Harvard, are you? B: Yes.’)

In (2a), *doch* functions like a coordinating conjunction since it links two full sentences. In this use, *doch* can be paraphrased with *aber* (‘but’). In (2b), *doch* is in the prefield of the second clause, and thus an integral part of it. In this use, *doch* can be paraphrased with *trotzdem* (‘yet’) and is a connective adverb. The version of *doch* in (2c) is the modal particle one. This is evidenced by the prefield test (cf. the status of the rewording of (2c) as **Doch wirst du nicht wirklich nach Harvard gehen wollen?*) What *doch* contributes to the meaning in (2a-c), however, is intuitively rather similar: In each case the linguistic context raises some expectations, and *doch* expresses that these very expectations are (to the surprise of the speaker) not met. This is also true of stressed *doch* in (2d), which is an adverb according to Thurmair (1989: 110), and of the use as a contradicting answer particle in (2e) to biased negative polar questions.

Thus, the first crucial task in investigating particles is the limitation and the delimitation of the relevant cases. For example, which occurrences of *doch* are in fact to be classified as modal particles? And how do they relate to or derive from other uses of *doch*? That the question of delimiting different classes is non-trivial is already clear from the above discussion and, for example, the fact that Weydt (1986) classifies accented *doch* in (1d) as a modal particle, while Thurmair (1989) argues that *doch* is an affirmative adverb. Cognola et al. (this volume) discuss different types of German *auch* and Italian *anche* (additive particle, connective adverb, modal particle), and relate these types to different projections in syntax. The motivated relation between different meanings of expressions is, above all, at the heart of diachronic investigations as in Eckardt (2006), Deo (2009), Beck & Gergel (2015), Gergel & Beck (2015), Gergel (2011, 2016), and we will return to that from the perspective of particles in section three.

However, even if we restrict ourselves to one and the same adverb or particle at one and the same stage of a language, we are still frequently faced with different senses. This raises the question whether those senses can be captured with one lexical entry or whether we have to deal with a network of different, but systematically related, senses. A recent case study in this respect is Zwarts (2019) on Dutch *terug* ('back'). Zwarts (2019) identifies a total of 6 different senses, which he arranges in a semantic map according to their semantic relationships. In a seminal paper, von Stechow (1996) argues (compare Dowty 1979) that the repetitive and restitutive readings of the adverb *wieder* ('again') can be modeled as a syntactic scope ambiguity (rather than a lexical ambiguity), given a decomposition analysis of the modified predicate. On its restitutive reading, (3) essentially presupposes that the door was closed before and asserts that Xaver opened it. On its repetitive reading, (3) presupposes that Xaver opened the door before, and asserts that he opened the door. The basic idea then is that in the restitutive reading the adverb *again* only modifies the result state (*again (door open)*), while it modifies the complete representation, including the subject, in the repetitive reading (*again (Xaver causes (door open))*).

- (3) Xaver has opened the door again.
- a. Restitutive: The door is open again.
 - b. Repetitive: Xaver opened the door before.

Pedersen (2015) in turn argues on the basis of sentences like *the river widened again* explicitly for a scalar approach (but cf. e.g. Yu 2020 for a recent summary and discussion). Another case in point is the German adverb *noch* ('still'), which shows, amongst others, temporal (4a) and marginal (4b) readings (see Beck 2020: 1ff):

- (4) a. Es regnet noch. ('It is still raining.')
- b. Durham liegt noch in England. ('Durham is still in England.')

While for example Ippolito (2007) assumes different – though on a more abstract level related – lexical entries, Beck (2020a) argues for a uniform analysis. Here, the crucial idea is that *noch* is a scalar particle in the sense that it always relates to some contextually given scale, which can be temporal or local in nature. Scalar analyses of particles and adverbs become more and more popular and have been proposed, for instance, for *noch* ('still') in Beck (2016, 2020a) and Kopf-Giammanco (2020), *again* in Pedersen (2015), the modal particle *schon* in Zimmermann (2018) and *wohl* in Grosz (this volume).

This development relates to another core question in the research on particles: What is the meaning or function of particles? And how do we model those meanings? There is a long tradition in German linguistics that investigates particles, especially modal particles, see amongst others Weydt (1977), Thurmair (1979), Meibauer (1994), Ormelius-Sandblom (1997), Authenrieth (2002), Coniglio (2012) and Müller (2018). Many observations, generalizations and fine-grained descriptions of different uses go back to this tradition and form the empirical

basis of current research. More formally oriented approaches have initially concentrated on focus particles and their interaction with focus (see Rooth 1985, 1992), and shifted their focus to modal particles only with the work by Kaplan (2004) and Kratzer (1999). And this for good reasons. First, the semantic contribution of focus particles like *nur* ('only') is intuitively quite accessible. Second, the semantic contribution of focus particles like *nur* ('only') has an impact on the truth-conditions of sentences, and thus affects the descriptive meaning.

- (5) Only XAVER was invited to the party.
- a. Presupposition: Xaver was invited to the party.
 - b. Assertion: No salient alternative to Xaver was invited to the party.

This is different with modal particles. Consider the modal particle *halt* in (6). Descriptively, (6) tells us that Xaver is always a bit difficult. What *halt* communicates is that the speaker thinks, with some resignation, that there is really nothing we can do about it. However, what the speaker thinks about Xaver being always a bit difficult does not affect the fact that Xaver is always a bit difficult. If it is true that Xaver is always a bit difficult, then (6) is true, too. And if it is false, then (6) is false, too. To put it differently, (6) has exactly the same truth-conditions as the sentence *Xaver ist immer etwas schwierig* without the modal particle *halt*.

- (6) Xaver ist halt immer etwas schwierig. ('Xaver is PART always a bit difficult')

Conventional meaning, that does not contribute to the truth-conditions of a sentence, is called a conventional implicature in Grice (1975). In the more recent literature, the term *expressive meaning* is frequently used (essentially following Kaplan 2004). This term contrasts with the term *descriptive meaning*, which refers to aspects of conventional meaning that *do* contribute to the truth-conditions of a sentence. It is in no way obvious how to deal with expressive

meanings in a model-theoretic semantics. This is where Kaplan (2004) comes in. Kaplan (2004) generalizes the notion of truth to the notion of correctness and distinguishes *descriptive correctness* (what is described is the case) from *expressive correctness* (what is expressed is correct), a distinction that presupposes two different *modes of presentation* of information, namely a descriptive mode and an expressive mode. The information presented, be it descriptive or expressive, is identified with the set of contexts in which the relevant expression is used descriptively or expressively correct. This way, Kaplan (2004) paves the way for a formal use-conditional semantics of expressive meanings as spelled-out in Potts (2005, 2007), McCready (2012), Gutzmann (2015, 2019). In the spirit of Kaplan (2004), Kratzer (1999) describes the expressive information conveyed by the German modal particle *ja* in a situation-based semantics. This line of research focuses on specific properties of expressives, in particular the fact that expressive meanings typically operate on descriptive meanings, but not the other way round (which is why, as already Kaplan 2004 observed, expressive meanings cannot be negated or conditionalized). Another focus is on the way modal particles operate on and change the context of an utterance in terms of common ground management (see Krifka 2008 for the term, and Repp 2013 for discussion). For example, in a sentence like *Xaver ist doch zurückgetreten* ('Xaver has resigned') the modal particle *doch* can be described as reminding the addressee of the fact that the proposition that Xaver has resigned is already part of their common ground (CG) in the sense of Stalnaker (2002), see Schmerse et al. (2014). Similarly for the modal particles *ja*, see Fischer (2007), Zeevat & Karagjosova (2009) and *schon*, see Zimmermann (2018). This shift in perspective also justifies the current use of the term *discourse particle* for expressions that are traditionally called modal particles, see also the discussion in Diewald (2006). It should be noted that while this perspective does not easily generalize to all modal particles in German, Zimmermann (2004), for example, argues that the particle *wohl* is better treated as weakening the proposition it operates on. This suggests that one needs to distinguish two kinds of modal particles, modal particles like *doch* which relate the proposition they operate

on in one way or another to the common ground, and modal particles like *wohl* whose primary function is to modify the proposition or the illocutionary force of the utterance and to (more directly) express a speaker's attitude, see e.g. Zimmermann (2004), Repp (2013), Gutzmann (2015) and Gutzmann & Turgay (2015) for relevant discussion.

3. Diachronic aspects

In this section, we offer a brief background discussion of certain essential facts in the diachrony of particles, by focusing on German in exemplary fashion. We take this to be the appropriate counterfoil against which other discussions can be conducted in an informed fashion due to the strong focus in the particles literature on German modal particles and because we do not want to assume that the historical facts are always well-known in this area outside of the German literature. (For the history of particles in English, cf. van Gelderen 2001, Lenker 2010, van Kemenade, this volume, and references cited there.)

The different classes of particles in German, such as e.g. modal particles, focus particles etc. in their current form were not part of the German language system to begin with. Rather, we can observe their development over the history of German from its very (attested) beginning. The earliest stage of German had only few particles in the sense in which we use the term in Modern German, and it is questionable whether they were particles or rather some sort of adverbials. This is hard to distinguish in historical texts, as one important characteristic many classes of particles (such as modal particles) share, the impossibility to stress them, is not visible in the texts. Another feature that distinguishes particles from adverbs, the phrasal status of adverbs versus the non-phrasal status of particles, is not conclusively discernible, because the only secure hint to phrasal status, the lone positioning of the element in question in the prefield, potentially fails for older stages of German, as the verb-second constraint was not as rigid as it is in Modern German (e. g. Axel 2007, Axel-Tober 2018). Therefore, the evidence is

notoriously inconclusive. Keeping this in mind, we can still assume that Old High German featured two modal particles, the predecessors of *denn* and *doch*, in Middle High German *halt* was added, and the development of modal particles gained momentum only after the 16th century (Abraham 1991, Molnár 2002).

The particles, as we observe them today, are mostly the outcome of grammaticalization processes (Abraham 1991, Molnár 2002). Grammaticalization is here understood (s. Eckardt 2012) as a conspiracy of changes, a semantic change (“bleaching”) that slightly precedes or goes hand in hand with a syntactic change; either the recategorization of (head) elements into a more functional category, or the reanalysis of a phrase to a functional head. The syntactic change is often accompanied by a phonological reduction process of the grammaticalised element. Zeevat & Karagjosova (2009) describe the process in more detail. The conditions under which the grammaticalization process can take place are (a.) that the source word weakly entails the target use, (b.) that non-recognition of the target use leads to communicative failure, (c.) that not expressing the target meaning is overwhelmingly interpreted as excluding the target use.

The source words for the grammaticalization processes are manifold (see e.g. Hentschel 1986, Molnár 2002, Diwald 2011), it is, however, to be noted that particles *stricto sensu* tend to be recruited from words whose meaning is already mostly functional and are, only to a slight degree, conceptual. In the case of *doch* (see Hentschel 1986, Zeevat & Karagjosova 2009), for instance, the etymology is a combination of the demonstrative stem *to-*, a question marker *-u* and an emphatic marker *-h*, giving an original meaning something like ‘(Really) *that?*’. Note that all of these components are of a functional, non-conceptual nature to begin with and in themselves the product of grammaticalization, which occurred so long ago in the Proto-Indoeuropean prehistory that the source words are totally opaque. But sometimes we find examples whose source word is conceptual and whose grammaticalization history is transparent, e.g. the modal particle *eben* (e.g. *Das ist eben so* – ‘that’s how it is’) via the

temporal adverb *eben* (*Sie ist eben angekommen* – ‘she arrived just now’) from the adjective *eben* ‘flat’ (e.g. Molnár 2002).

Characteristically, particles are first grammaticalized for one special function (in the case of e.g. *doch* the corrective use) and spread to other usages as well (in the case of *doch* e.g. the proconcessive use, see Zeevat & Karagjosova 2009). This accounts for the startling polysemy of particles. The particle *ja*, for instance, functions, among others, as an answer particle (*Hast du das verstanden?* – *Ja*. ‘Did you understand this? – Yes.’), as a discourse particle (*Ich habe das gelesen, ja sogar verstanden.* – ‘I read this, even understood it.’) and as a modal particle indicating that the proposition is assumed to be in the common ground (*Wir haben das ja alle schon gelesen* – ‘We all have read this already, for sure.’). This particle underwent grammaticalization long ago, and had enough time to develop this abundance of usages (s. e.g. Hentschel 1986), which display different fossilised stages of its grammaticalization (Diewald 2011). In cases in which the whole development history is observable, we see a gradual loss of conceptual meaning and, at the same time, a permeation from lexical, open-class parts of speech such as noun, adjective via more functional parts of speech such as adverbs to particles. This pathway is typical of grammaticalization, which renders the development of particles a textbook example of grammaticalization processes (e.g. Ferraresi 2014). It is, however, to be asked, in what ways the advent of modal particles in particular and of other classes of particles in general is really a prototypical process of grammaticalization. What distinguishes the grammaticalization process of e.g. modal particles is that the semantic change involved could not be mere “bleaching”, but arguably rather a subjectification process, i.e. the development of meanings “that encode or externalize their perspectives and attitudes as constrained by the communicative world of the speech event” (Traugott & Dasher 2002:30, more detailed on subjectivization Smirnova 2012). As in the case of e.g. particles the outcome of the grammaticalization process induced by subjectification is not an exponent of a grammatical-functional feature such as e.g. tense, but rather a) an exponent

of the speaker's attitude and b) an element with a clearly pragmatic function, it was suggested to term this development pragmatization instead (see e.g. the discussion in Diewald 2011, who argues against this distinction).

4. Contrasting and comparing towards explanatory building blocks

4.1. A contrasting paradigm

Semantic comparative work which considers the interfaces of meaning is usually faced with a dilemma: both universality and points of serious divergence in meaning are hard to show. There is a strong view, for instance, that semantic concepts are universal and there should be no place for significant semantic variation between languages at all (cf. e.g. Chomsky & Lasnik 1993, among many others). In this view, variation can be relegated to the structural or morphosyntactic component (whether as parameters, features, or completely otherwise – this need not concern us further right now). Interestingly, the view from the pragmatic angle of meaning is not considerably different. The standard assumption, here too across many frameworks, is that general pragmatic principles on a fundamental level are universal, including on a diachronic dimension (cf. e. g. Traugott 2019). At the same time, there have been several empirical and theoretically anchored attempts in recent decades that have pointed to the conclusion that some aspects of fine-grained but not-trivial variation may exist (cf. Chierchia 1998, Matthewson 2001, Beck et al. 2004, 2009, Kennedy 2008, among others). In fact, some of the work searching for deeper semantic *universals* ends up with listing interesting points of *variation* (see von Stechow & Matthewson 2008, Beck 2020b for recent discussions and several additional pointers). Where the point of variation is exactly located depends still to a large degree on the specifics of each phenomenon and sometimes the approach chosen. But the very possibility of some non-trivial divergences in the meaning component is significant. This currently seems to go beyond the meaningful and equally interesting distinctions that can be

tied to the way the languages of the world may split the cake when it comes to the negotiation of meaning-form correspondences. Thus, meaning components that have to do with the notion of common ground and presuppositions have also been claimed to be subject to cross-linguistic variation; see Matthewson (2006).

If we try to apply the dichotomy just sketched to particles, we can observe that both points of fine-grained differentiation and the quest towards generalizations (up to universal ones) must have a certain appeal, in that certain types of particles appear to be quite idiosyncratic (as the modal ones found in German(ic)), while others are frequently found well beyond German(ic) (such as e.g. the focusing type). The papers of the volume reflect this two-pronged general space of possibilities. If one then further wonders, as for instance Deo (2015) or Grosz (this volume) do, about a possible universal functional repertoire, and then tries to reconcile it with the presence of sometimes highly idiosyncratic features in modal particles, then an interesting balancing act towards the description of new facts and ideally the broader explanation thereof may ensue. We, therefore, turn directly to the papers of the volume.

4.2. The contributions of this volume

In this section, we offer brief previews of the individual articles of the volume. We decided not to group the papers according to the grammatical aspect discussed (syntax, semantics, usage etc.), but rather into a threefold division according to the representative languages that have been at their center, i.e. German, English, and – crucially: others. We wish to stress that the category ‘others’ (or ‘beyond’ in the title of the volume) is not a residual one and much less a dustbin, but rather where we see that much of the action takes place in terms of current revealing particles research. Here, too, we must note that the overwhelming majority of the papers do not stay within the confines of analyzing one language, but that they compare languages (or stages of languages) directly or indirectly.

4.2.1 Papers with their main focus on German

Within the articles that focus exclusively on German, Eberhardt's and Schmidt's are corpus studies that include diachrony at different stages of the language, while Butschety's is a synchronic one.

Eberhardt's contribution is concerned with German focus particles, specifically of the scalar type and in a diachronic process crystalizing around 1600. She claims to uncover a new developmental path originating from an intensifying particle. The syntax-semantics interface turns out to play a major role, which is buttressed with interested corpus findings. While the starting research question is semantic in nature, Eberhardt finds critical contexts of change of two types, specifically with a syntactically motivated one figuring prominently alongside a perhaps more expected semantic type. As already mentioned in the first section of our introduction, the contribution could be particularly relevant for researchers on language change because it points out several connections and diachronic possibilities beyond the classically established ones. Needless to say, just like the previously discussed article and the following one in the group concerned with German, intriguing questions arise as to how one could derive smaller building blocks that can be observed at work cross-linguistically. Eberhardt shows, for instance, that the two classes of particles she discusses share a reference to scalarity. In the case of intensifying particles, they denote that the entity in their scope is in a high position on a salient scale, while focus particles include focus alternatives and order them on a scale. This semantic bridge then makes the classes involved prone to reanalysis.

The contribution by Schmidt is concerned with the development of intensifying particles in German in the last 70 years. The hypothesis by e.g. Biedermann (1969) that a rise in frequency of intensifiers leads to loss of expressivity (an inflationary process) and consequently to a declining usage of a give intensifier, since it lost its expressive function, are scrutinized using a German newspaper corpus spanning seven decades. The principal distinction between descriptive and expressive meaning is matched by two classes of intensifiers, purely descriptive

ones such as Modern German *sehr* ('very') and expressive ones such as e.g. *wahnsinnig*, *derb*, *krass* (literally 'crazy', 'bawdy', 'gross', in function like 'awfully' and the like). The semantic development is to be seen from the expressive to the descriptive class, with only *sehr* having completed the developmental process. She distinguishes four classes of expressive intensifiers that are distinguished by their change in frequency, among which are also some (e.g. *hammer*) that originated only in the investigated time period. A hierarchical cluster analysis that took the frequencies as basis led to semantically rather homogenous groups. The study finds no support for Biedermann's hypothesis.

The German particle *auch*, 'too', on its non-scalar additive reading is at the center of Butschety's paper. Her testing stone are sentences with a quantified nominal phrase and an additive particle together with a non-quantified nominal in apposition to it. The suggestion of the author is that the nominal argument should be a subset of the intersection of the quantifier's restrictor set and its nuclear scope, where significant assumptions at the syntax-semantics interface must be made. While Butschety does not address other languages or other stages of the language, this raises interesting comparative considerations regarding an otherwise often studied item. Should the modeling turn out to be interesting for readings of the German additive, then the question arises: to what extent and alongside which criteria is such a (putative) generalization subject to cross-linguistic variation? In which other languages could similar effects occur, i.e. so that the appositive nominal must be understood inclusively (or not)? The question is a primary one, as additive particles are particularly widely attested cross-linguistically. But follow-up comparative questions could include, for instance, whether the modeling of the modal particle readings (in German or in those languages in which such readings exist) could also profit from such views as the one proposed in her article (cf. e.g. Cognola et al, this volume, for an illustration how a relevant Italian particle also allows different and partially similar readings).

4.2.2 Papers with their main focus on English

The three papers that have a major focus on English in terms of their empirical coverage are all corpus-based and all share a contrastive orientation. This is most clearly visible in Gast's contribution that is originally based on a translation corpus and investigates the English counterparts of the German particle *ja*. Van Kemenade's as well as Puhl & Gergel's study the English particles *then* and *though*, respectively and are both to be viewed against the old-standing debate to what extent English at various stages has (or does not have) particles such as those found in languages like German.

Gast's article takes a *prima facie* classic approach as far as the English-German dichotomy is concerned, but it offers a data-rich scrutiny of possible English correlate expressions for the German modal particle *ja*. The key point is that functional equivalence is specifically searched for. Under this strong premise, none of the expressions studied are found to be equivalent to *ja*, even if their communicative effects are claimed to be similar under specific circumstances. The main generalization proposed is that there is a categorical difference in the use conditions of *ja* and the English expressions under study. It is proposed that *ja* does not establish a speaker's commitment to the truth of a proposition, but it presents a proposition as uncontroversial (ratified) information from the Common Ground. By contrast, all the English expressions studied are claimed to establish some type of epistemic commitment.

Van Kemenade studies the course of the discourse particle Modern English *then*, Old English *þonne*, spanning the whole attested time period of English. This development is related to the development of the English clause structure, which underwent a change from a special version of the Germanic verb-second-syntax to its Modern strict SVO-structure. Notably, the position of *then* changed during that time from a position after the finite verb, with pronominal subjects potentially intervening (quite comparable to the position of modal particles in Modern German or Dutch), to a clause-peripheral position. The adverb *þonne* in Old English is in complementary distribution with *þa*, the former being used in questions, imperatives and

conditionals, that is: environments in which truth conditions are unrealized, suggesting that it indicates non-factuality. Its position after the finite verb is seen as head of a Particle Phrase. In the further course of the history of English, with the loss of V-to-C and V-to-T-movement, and the subsequent loss of PartP, other positional variants of the particle (that is: clause-peripheral) were resorted to keeping the pragmatic value of the particle stable.

Puhl & Gergel follow a similar line of thought while studying the final particle *though*, primarily (but not exclusively) from a synchronic perspective. The proposal of this contribution is that English has items that can be identified syntactically and pragmatically as particle-like, but English lacks the middle-field syntax available in German. Capitalizing on the final position is a way in which certain use-conditional functions can be produced in a systematic fashion. An experimental study is conducted indicating that *though* is permissive outside of concessive contexts. The focus of the study is placed on corpus examples, which have remained unaccounted for in previous approaches. A descriptive generalization is proposed in terms of noteworthiness and an initial modelling in terms of a split notion of common ground following a suggestion made in Bar-Asher Siegal & Boneh (2016) in a different domain.

4.2.3 Further contrastive studies and papers primarily concerned with particles in other languages

While in fact all of the papers of this section are contrastive to some degree, the first four we will discuss have contrastivity as a main defining feature on their agenda. The latter two are focused more specifically on interesting and controversial items from different languages without carrying out larger cross-linguistic investigations; crucially, however, important and, we believe quite revealing, cross-linguistic comparisons are drawn in the latter two contributions as well. The first group consists of the articles by Cognola, Moroni & Bidese, by Grosz, by Modicom, and the one by Trotzke & Haegeman. The second one of the articles by Erlewine and Gyuris, respectively.

The paper by Cognola, Moroni & Bidese compares the two lexical items German *auch* and Italian *anche* ('also'), which show startling similarities. They both share a common basic semantics connected with the notion of addition on different levels, and consequently exhibit three functions, that of an additive particle, a connective adverb, and a modal particle, which is the more striking as the fact that modal particles exist as a class in Italian has only become known quite recently. As the German modal particle *auch* is much less restricted, with respect to illocutionary forces, it is compatible with than its Italian counterpart *anche*, the authors see this as an indication that these particles differ in their respective structure, Italian *anche* being a polarity item (implemented as being a functional head in the scope of an operator in PolarityP, a functional projection in the C-domain), whereas German *auch* is not a polarity item.

Grosz starts out from the observation that German *wohl* 'well', Norwegian *vel* 'well' and French *bien* 'well' have been claimed to have a modal particle reading that roughly amounts to 'surely, probably, I guess' (Zimmermann 2008, Fretheim 1991, Detges & Waltereit 2009). While the investigation is carried out mostly synchronically, the key question raised by Grosz is a genuinely diachronic one; namely, how such a reading could have arisen from the source meaning of these elements. An analysis of *wohl*-type (i.e. 'well'-type) modal particles as scalar operators is proposed, which is based on the observation that each of them appears to have diachronically gone through an intermediate stage in which it was a scalar modifier (namely *wohl* 'approximately', *vel* 'approximately, more than', and *bien* 'very'). The core idea is that while the modal particle variant is still a scalar operator, it has evolved through a shift in the type of scale that the particle operates on. This leads Grosz to propose that *scalarity* is a common meaning atom when it comes to the construction of meaning in *wohl*-type particles.

The role of scales also turns out to be eventually instrumental in Modicom's contribution. The empirical ground covered in this case is the behavior of modal particles in non-standard questions such as rhetorical and surprise-disapproval questions in French in comparison with German. The overarching background is the hypothesis that modal particles

are illocutionary type modifiers. Specifically, the behavior of the French candidates *bien*, *diable* and *donc* is interpreted in the light of Bayer & Obenauer's (2011) proposal for German non-standard questions with some extra attention being paid to the "Small PrtP construction" where the particle combines with a *wh*-item. Out of the three candidates, *bien* is considered closest to modal particles. And diachrony looms in this contrastive contribution as well: Modicom looks at a specific path of pragmaticalization for particles in non-standard *wh*-questions, i.e. a potential case of poly-grammaticalization and pragmaticalization is discussed. He claims that the three items have other uses outside of interrogatives where they either interact preferably with items denoting sets of alternatives, or where they are used to mark the high degree of a quality or the atypicality of an entity. From these usages, he proposes to derive the semantic value associated with each particle in non-standard questions. The conclusion drawn: sensitivity to scales and sets of alternatives is seen as a major player in the rise of illocution-modifying particles in *wh*-questions in this contrastive account as well (recall e. g. Grosz's point).

Finally, in the group of explicitly contrastive papers, Trozke & Haegeman's shows the value of careful – this time primarily syntactic – inquiry on the properties of a language specific item that can be revealing when contrasted with a better-known candidate (such as German *denn*). The overall claim of the paper, substantiated on the basis of Dutch, is that discourse particles can not only appear at the structurally high sentential level of the CP, but also inside prepositional phrases. The item this is exercised on is Dutch *dan*, which can receive a non-temporal interpretation, and in this reading is claimed to appear as a functional head inside a complex PP constituent. The direct comparison drawn is with the German cognate *denn* and the role the latter plays at the level of the CP. The proposal made is that both cases can be analyzed along the same lines because they express the same abstract discourse function. In the authors' view, both PP-internal *dan* and German *denn* are discourse-navigating devices that link 'a ground' to 'a figure'. The cross-linguistic difference is here relegated to their semantic domains of application.

Turning to the contributions focusing on specific languages, Erlewine's is one of the good examples of illustrating how the contrastive turn can also impact language-specific analyses. The focus here is decidedly set on the focus marker *shì* in Mandarin Chinese, for which three constraints are proposed. First, that the particle adjoins as low as possible; second, that it requires a congruent Question under Discussion; and third, that reference to a Question under Discussion is mediated by a functional head in the clausal periphery. The latter constraint is suggested to account for the incompatibility of *shì* with certain reduced clauses even though 'only' can occur in them. Interestingly, Erlewine indicates how the paper relates to exhaustivity markers of different types in English, German, and Vietnamese.

Gyuris's contribution makes a very similar point – that is, on a general level of observing the combination of language-specific investigation with implication for contrastive studies – but with an item that is much closer to modal adverbs and particles rather than a focus particle, namely Hungarian *talán*, 'perhaps'. While the item had previously been treated as an evidential marker, the current paper proposes a unified account of its denotation in declaratives and polar interrogatives encoding assertions and questions. In addition to its inferential properties, the item is thus claimed to refer to the current Question under Discussion, which in turn is suggested to be derivable from the information structure of the declarative or interrogative in which it surfaces. Careful readers may remember that German *wohl*, 'perhaps', also has components of meaning that are inferential and modal-particle-like properties at the same time. An interesting difference, however, between Hungarian *talán* and German *wohl*: the former (unlike the latter) does not appear to participate in the so-called 'interrogative flip'.

Overall, the gist of the mostly contrastive and comparatively oriented work presented in the volume – whether the most direct comparison available in each case is with other languages or stages of a language – consists in finding, or refining, relevant building blocks and mappings between form and meaning when it comes to the characterization of particles. A key generalization that emerges is that in most of the papers it has proven particularly fruitful to

consider both morphosyntax and the semantico-pragmatic component, no matter how the individual weighting and technical implementation has been proposed in each case. We take it to be a real advantage when experts on morphosyntax consider conditions of actual use and, vice-versa, when e.g. semanticists (even if this should not be too surprising in the compositional paradigm either) scan the structural environment of particles rather closely.

The close observation of the partition between German, English (as a diametrically different representative of Germanic in some of the pertinent respects), and other languages has turned out to be particularly beneficial as well. Building on mountains of earlier literature on particles (only a fraction of which we have been able to briefly review above), the papers of the volume also show a simple but important point: that the field has been making some good progress. Notice, for instance, that nobody needs to still show today that German has a class of grammaticalized modal particles with clear meaning and especially with its structural correlates. Thus, given that important structural facts are already in the scientific common ground, a further generalization is that it has become an increasingly productive enterprise to consider different aspects for instance of the Robertsian Question under Discussion and precise conditions of use for each particle/adverb under scrutiny. Time will have to tell, whether this also leads to further and higher-level generalizations, but a diversification and precisification, including of the tools used in the field, can already be observed today.

Furthermore, while the contributions that are specifically focusing on German happen not to be concerned with modal particles in a narrow sense (but rather with interesting phenomena concerning additive, scalar, and intensifying uses of particles), the clear delimitation of the class available from German has proven to be very fruitful in multiple ways in our volume, too. For example, both the Anglicist and the more widely comparative camp operating in it have been able to capitalize on the class(es) of particles known from German in order to show interesting contrastive points. And, as, for example, Grosz's contribution shows, the final word on the pragmatic-semantic atoms of modal particles – even in the case of German

and partially similar languages – still remain a worthy scientific goal; reasonably a step closer, but also quite reasonably not having yet been fully attained.

References

- Abraham, Werner. 1991. The grammaticalization of the German modal particles. In: Traugott, Elisabeth & B. Heine (eds.): *Approaches to Grammaticalization*. Vol. II. Amsterdam / Philadelphia: Benjamins, 331-380.
- Abraham, Werner. 2010. Diskurspartikel zwischen Modalität, Modus und Fremdbewusstseinsabgleich (Theory of Mind). In Theo Harden & Elke Hentschel (eds.): *40 Jahre Partikelforschung*. Tübingen: Stauffenburg, 33-77.
- Authenrieth, Tanja. 2002. Heterosemie und Grammatikalisierung bei Modalpartikeln: eine synchrone und diachrone Studie anhand von "eben", "halt", "e(cher)t", "einfach", "schlicht" und "glatt". Tübingen: Niemeyer.
- Axel, Katrin. 2007. *Studies in Old High German Syntax: Left sentence periphery, verb placement and verb-second*. Amsterdam / Philadelphia: Benjamins.
- Axel-Tober, Katrin. 2018. Origins of verb-second in Old High German. In Agnes Jäger, Gisella Ferraresi & Helmut Weiß (eds.): *Clause structure and word order in the history of German*. Oxford: Oxford University Press, 22-47.
- Axel-Tober, Katrin & Remus Gergel. 2016. Modality and mood in generative and other formal linguistic approaches. In *The Oxford Handbook of Modality and Mood*, Jan Nuyts & Johan van der Auwera (eds), 473-494. Oxford: Oxford University Press.
- Beaver, David & Brady Z. Clark. 2008. *Sense and Sensitivity: How Focus Determines Meaning*. John Wiley & Sons.
- Beck, Sigrid. 2016. Temporal noch/still and further-to readings of German noch. In *Proceedings of Sinn und Bedeutung 20*: 4–25. Universität Tübingen.
- Beck, Sigrid. 2020a. Readings of scalar particles: *noch/still*. *Linguistics and Philosophy*, 43: 1-67.
- Beck, Sigrid. 2020b. Indeterminate pronouns in Old English: a compositional semantic analysis. *The Journal of Comparative Germanic Linguistics* 23: 203-269.
- Beck, Sigrid & Remus Gergel. 2015. The diachronic semantic of English *again*. *Natural Language Semantics* 23: 157-203.
- Beck, Sigrid, Oda, Toshiko, & Sugisaki, Koji. 2004. Parametric variation in the semantics of comparison: Japanese vs. English. *Journal of East Asian Linguistics*, 13(4): 289-344.

- Beck, Sigrid, Sveta Krasikova, Daniel Fleischer, Remus Gergel, Stefan Hofstetter, Christiane Savelsberg, John Vanderelst & Elisabeth Villalta. 2009. Cross-linguistic variation in comparison constructions. *The Linguistic Variation Yearbook* 9: 1-66.
- Chierchia, Gennaro. 1998. Reference to kinds across language. *Natural Language Semantics* 64: 339-405.
- Chomsky, Noam & Howard Lasnik. 1993. "The theory of principles and parameters. " *Syntax: An international handbook of contemporary research*, ed. by J. Jacobs et al, 506-569. Vol. 1. Berlin/New York: Walter de Gruyter.
- Coniglio, Marco. 2012. *Die Syntax der deutschen Modalpartikeln*. Berlin: Akademie Verlag.
- Deo, Ashwini 2009. Unifying the imperfective and the progressive: partitions as quantificational domains. *Linguistics and Philosophy*, 32: 475-521.
- Deo, Ashwini. 2015. Diachronic semantics. *The Annual Review of Linguistics* 1: 179- 197.
- Detges, Ulrich, and Richard Waltereit. 2009. Diachronic pathways and pragmatic strategies: Different types of pragmatic particles from a diachronic point of view. In *Current Trends in Diachronic Semantics and Pragmatics*, Björn Hansen, Maj-Britt Mosegaard, and Jacqueline Visconti (eds.), 43-61. Bingley: Emerald.
- Diewald, Gabriele 2011. Pragmaticalization (defined) as grammaticalization of discourse functions. *Linguistics* 49: 365-390.
- Dowty, David. 1979. *Word Meaning and Montague Grammar*. Dordrecht: Reidel.
- Eckardt, Regine. 2006. *Meaning Change in Grammaticalization. An Enquiry into Semantic Reanalysis*. Oxford University Press.
- Eckardt, Regine 2012. Grammaticalization and Semantic Reanalysis. In *Semantics – An International Handbook of Natural Language Meaning* [Handbücher zur Sprach- und Kommunikationswissenschaft / Handbooks of Linguistics and Communication Science (HSK) 33/3], Klaus von Stechow, Claudia Maienborn & Paul Portner (eds), 2675-2702. Berlin, De Gruyter Mouton.
- Eckardt, Regine & Augustin Speyer. 2014. Information structure and language change. In *The Oxford Handbook of Information Structure*, C. Féry and S. Ishihara (eds), 503–519. Oxford University Press.
- Ferraresi, Gisella. 2014. *Grammatikalisierung*. Heidelberg: Winter. von Stechow, Kai & Lisa Matthewson. 2008. Semantic universals. *The Linguistic Review* 25: 139–201.
- Fischer, Kerstin. 2007. Grounding and Common Ground: Modal Particles and Their Translation Equivalents. In *Lexical Markers of Common Grounds*, Alexandra Fetzer & Kerstin Fischer (eds), 47-66 Amsterdam: Elsevier.

- Gelderen Elly van. 2001. The syntax of mood particles in the history of English. *Folia Linguistica Historica* XXII: 301-330.
- Gergel, Remus. 2011. Structure-sensitivity in actuality: Notes from a class of preference expressions. *University of Pennsylvania Working Papers in Linguistics* 17: 115-124.
- Gergel, Remus. 2020. *Sich ausgehen*: Actuality entailments and further notes from the perspective of an Austrian German motion verb construction. In *Proceedings of the Linguistic Society of America*, Martin Fuchs & Joshua Phillips (eds). New Orleans: LSA Publications 5: 5-15.
- Gergel, Remus and Sigrid Beck. 2015. Early Modern English *again*: a corpus study and semantic analysis. *English Language and Linguistics* 19: 27-47.
- Gergel, Remus & Martin Kopf-Giammanco. 2021. 'Sich ausgehen': On modalizing *go* constructions in Austrian German. *Canadian Journal of Linguistics* 66: 141 – 190.
- Gergel, Remus, Martin Kopf-Giammanco & Maïke Puhl. 2021. Simulating semantic change: a methodological note. In *Proceedings of Experiments in Linguistic Meaning (ELM) 1*, Andrea Beltrama, Florian Schwarz & Anna Papafragou (eds.). 184-196. University of Pennsylvania: LSA Publications.
- Grice, Paul. 1975. Logic and conversation. In: *Syntax and Semantics, Vol. 3: Speech Acts*. Peter Cole & Jerry Morgan (eds). New York: Academic Press, 41-58.
- Gutzmann, Daniel. 2015. *Use-conditional Meaning: Studies in multidimensional semantics*. Oxford: Oxford University Press.
- Gutzmann, Daniel. 2019. *The Grammar of Expressivity*. Oxford: Oxford University Press.
- Gutzmann, Daniel & Katharina Turgay. 2015. Expressive intensifiers and external degree modification. *The Journal of Comparative Germanic Linguistics* 17: 185-228.
- Haselow, Alexander. 2012. Subjectivity, intersubjectivity and the negotiation of common ground in spoken discourse: final particles in English. *Language & Communication* 32(3): 182- 204.
- Hentschel, Elke. 1986. *Funktion und Geschichte deutscher Partikeln. Ja, doch, halt und eben*. Tübingen: Niemeyer.
- Ippolito, Michela. 2007. On the meaning of some focus-sensitive particles. *Natural Language Semantics* 15: 1–34.
- Kaplan, David. 2004. The meaning of ouch and oops. Howison Lecture in Philosophy delivered at UC Berkeley, transcribed by Elizabeth Coppock. Ms., UC Berkeley.

- Kaufmann, Magdalena & Kaufmann, Stefan. 2016. Modality and mood in formal semantics. In Jan Nuyts & Johan van der Auwera (eds.): *The Oxford Handbook of Modality and Mood*. Oxford: Oxford University Press.
- Kennedy, Christopher. 2007. Modes of comparison. *Chicago Linguistic Society* 43.
- König, Ekkehard & Volker Gast. 2012. *Understanding English-German Contrasts*. (revised). Berlin: Erich Schmidt.
- Kopf-Giammanco, Martin. 2020. German noch under reanalysis. In Remus Gergel & Jonathan Watkins (eds.), *Quantification and Scales in Change* 161–198. Berlin: Language Science Press.
- Kratzer, Angelika. 1991. Modality. In *Semantik: ein internationales Handbuch der zeitgenössischen Forschung*, Arnim von Stechow & Dieter Wunderlich (eds), page numbers? Berlin: de Gruyter.
- Kratzer, Angelika. 1999. Beyond ouch and oops: How descriptive and expressive meaning interact. In Cornell conference on theories of context dependency (Vol. 26). Ithaca, NY: Cornell University.
- Kratzer, Angelika. 2012. *Modals and conditionals: New and Revised Perspectives*. Oxford University Press.
- Krifka, Manfred. 2008. Basic notions of information structure. *Acta Linguistica Hungarica* 55: 243–276.
- Lenker, Ursula. 2010. *Argument & Rhetoric. Adverbial Connectors in the History of English*. Berlin: Mouton de Gruyter.
- Matthewson, Lisa 2001. Quantification and the nature of cross-linguistic variation. *Natural Language Semantics* 9:145-189.
- Matthewson, Lisa 2006. Presuppositions and cross-linguistic variation. *Proceedings of the North Eastern Conference in Linguistics* 26: 63-76.
- McCready, Elin. 2012. *Formal Approaches to Particle Meaning. Language and Linguistics Compass* 6(12): 777-795.
- Molnár, Anna. 2002. *Die Grammatikalisierung deutscher Modalpartikeln*. Frankfurt etc.: Lang.
- Meibauer, Jörg. 1994. *Modaler Kontrast und konzeptionelle Verschiebung: Studien zur Syntax und Semantik deutscher Modalpartikeln*. Tübingen: Niemeyer.
- Müller, Sonja. 2018. *Distribution und Interpretation von Modalpartikel-Kombinationen*. Berlin: Language Science Press.
- Nevalainen 1991. But, only, just. *Focusing adverbial change in Modern English, 1500-1700*. Memoires de la Societe Neophilologique de Helsinki.

- Ormelius-Sandblom, Elisabeth. 1997. *Die Modalpartikeln ja, doch und schon. Zu ihrer Syntax, Semantik und Pragmatik*. Stockholm: Almqvist & Wiksell.
- Pedersen, Walter. 2015. A scalar analysis of again-ambiguities. *Journal of Semantics* 32: 373-424.
- Papafragou, Anna 2002. Modality and theory of mind. Perspectives from language development and autism. In: Sjeff Barbiers, F. Beukema & Wim van der Wurff (eds.) *Modality and its Interaction with the Verbal System*. Amsterdam: John Benjamins. 185-204.
- Portner, Paul. 2009. *Modality*. Oxford University Press.
- Potts, Christopher. 2005. *The Logic of Conventional Implicatures*. Oxford: Oxford University Press.
- Potts, Christopher. 2007. The expressive dimension. *Theoretical linguistics* 33: 165-198.
- Reich, Ingo. 2002. Question/Answer Congruence and the semantics of wh-phrases. *Theoretical Linguistics* 28: 73-94.
- Repp, Sophie. 2013. Common Ground Management: Modal particles, Illocutionary Negation and VERUM. In *Beyond Expressives*, Daniel Gutzmann & Hans-Martin Gärtner, (eds), 231-274. Leiden, Boston: Emerald.
- Roberts, Craige. 1996. Information structure in discourse: towards an integrated formal theory of pragmatics. In *Ohio State University Working Papers in Linguistics*, J. H. Yoon and A. Kathol (eds), 49: 91-136.
- Rooth, Mats 1985. Association with Focus (Montague Grammar, Semantics, Only, Even). Doctoral dissertation, University of Massachusetts Amherst.
- Rooth, Mats 1992. A theory of focus interpretation. *Natural Language Semantics* 1: 75-116.
- Schmerse, Daniel, Elena Lieven & Michael Tomasello. 2014. Discourse Particles and Belief Reasoning: The Case of German *doch*. *Journal of Semantics* 31: 115–133.
- Smirniova, Elena. 2012. On some problematic aspects of subjectification. *Language Dynamics and Change* 2: 34-58.
- Stalnaker, Robert. 2002. Common ground. *Linguistics and Philosophy* 25: 701-721.
- Von Stechow, Arnim 1996. The different readings of wieder ‘again’: A structural account. *Journal of Semantics* 13: 87–138.
- Thurmair, Maria. 1989. *Modalpartikeln und ihre Kombinationen*. Tübingen: Niemeyer.
- Traugott, Elizabeth Closs. 2006. The semantic development of scalar focus modifiers. In *The Handbook of the History of English Handbooks in Linguistics*, Ans van Kemenade & Bettelou Los (eds.), 335–359. Malden et al.: Blackwell.

- Traugott, Elizabeth Closs. 2019. Whither historical pragmatics? A cognitively-oriented perspective. *Journal of Pragmatics* 145: 25-30.
- Traugott, Elizabeth Closs & Richard B. Dasher. 2002. *Regularity in Semantic Change*. Cambridge: Cambridge University Press.
- Yu, Jianrong. 2020. Repetitive and Restitutive Presuppositions and the Semantics of English Verbal Roots. Doctoral dissertation, University of Arizona, Tucson, USA.
- Weydt, Harald. 1986. Betonungsdubletten bei deutschen Partikeln. In *Kontroversen, alte und neue, Vol. 3: Textlinguistik contra Stilistik?*, Walter Weiss, Herbert Ernst Wiegand & Marga Reis (eds), 393-403. Tübingen: Niemeyer.
- Zeevat, Henk & Elena Karagjosova. 2009. History and grammaticalisation of “doch”/”toch”. In *Papers on Pragmasemantics ZASPiL 51*, Benz, Anton & Reinhard Blutner (eds), 135-152. , Berlin, ZAS.
- Zimmermann, Malte. 2004. Zum „Wohl“: Diskurspartikeln als Satztypmodifikatoren. *Linguistische Berichte* 199: 253-286.
- Zimmermann, Malte. 2008. Discourse Particles in the Left Periphery. In *Dislocated Elements in Discourse*, Philippa Cook, Werner Frey, Claudia Maienborn & Benjamin Shaer (eds), 200-231. Oxford: Routledge.
- Zimmermann, Malte. 2011. Discourse Particles. In *Semantics HSK 33.2*, Claudia Maienborn, Klaus v. Heusinger & Paul Portner (eds), 2012-2038. Berlin: de Gruyter.
- Zimmermann, Malte. 2018. Wird schon stimmen. A degree operator analysis of *schon*. *Journal of Semantics* 35: 687–739.
- Zwarts, Joost. 2019. From ‘back’ to ‘again’ in Dutch: the structure of the ‘re’ domain. *Journal of Semantics* 36: 211-240.