

HUMAN  
COGNITIVE  
PROCESSING 57

# How Grammar Links Concepts

Friedrich Ungerer

John Benjamins Publishing Company

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# How Grammar Links Concepts

# *Human Cognitive Processing (HCP)*

## *Cognitive Foundations of Language Structure and Use*

ISSN 1387-6724

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### **Volume 57**

How Grammar Links Concepts.  
Verb-mediated constructions, attribution, perspectivizing  
by Friedrich Ungerer

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Verb-mediated constructions, attribution,  
perspectivizing

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Amsterdam/Philadelphia





The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

DOI 10.1075/hcp.57

**Cataloging-in-Publication Data available from Library of Congress:  
LCCN 2017003489 (PRINT) / 2017030901 (E-BOOK)**

ISBN 978 90 272 4673 8 (HB)

ISBN 978 90 272 6578 4 (E-BOOK)

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# Introduction

As we experience the world in terms of concepts denoting organisms, objects, actions, relations, and properties of scenes and as we use combinations of these concepts in communication, it is only natural for a linguist to ask how they are linked in utterances. These mechanisms of concept linking have traditionally been addressed by syntactic analysis and theorizing.

## 1.1 The present situation

Since the advent of structuralism in the first half of the 20th century, syntactic analysis has meant a uniform explanation epitomized by the immediate-constituent analysis of linguistic forms (Gleason 1961). The priority of a formal systematicity over semantic aspects of linking was taken up by Chomsky (1965) in his original NP-VP paradigm and upheld in subsequent generative grammars. Case and valency grammars, with their analysis in terms of predicators and semantic roles (Fillmore 1968, Allerton 1982, Herbst et al. 2004), have paved the way for the growing awareness that all grammatical mechanisms are “pairings of form and semantic or discourse function” (Goldberg 2003: 219)<sup>1</sup> – a view that has found its strongest expression in the notion of meaning-carrying constructions in Construction Grammars and is shared by many cognitive linguists.

What has not been abandoned in any of these grammars is the uniformity claim, the claim that all types of concept linking are best described and evaluated within a single system or network of constructions, which is centered on verb-argument constructions and extended to include other syntactic patterns down to simple modifier-head combinations. This view is not only reflected in Goldberg’s (2006: 18) dictum “It’s constructions all the way down”, but also in more recent handbooks (Hoffmann and Trousdale 2013: 3)<sup>2</sup> and proposals for cognitive-functional grammars for specific discourse types and varieties (Iwasaki 2015); it is also apparent in

- 
1. In the following the well-known formula ‘form/meaning pairing’ is used.
  2. Compare, in particular, Goldberg’s (2013) overview, the contributions on Berkeley Construction Grammar (= CG) and other feature-structured CGs (Fillmore 2013; Michaelis 2013), on Radical CG (Croft 2013) and the updates of Langacker’s Cognitive G. (Broccias 2013) and Goldberg’s Cognitive CG (Boas 2013).

the modeling of young children's grammatical knowledge from item-based to more highly schematized grammars (Bannard et al. 2009).

While such a network may be well suited to indicate degrees of similarity between constructions, i.e. to clarify their paradigmatic relationship, it does not sufficiently explain how constructions function as concept-linking devices. Are all constructions in the network created by an agent-driven syntactic mechanism that supports the prototypical verb-argument construction? Or are there other linking mechanisms involved to explain, for instance, the function of more marginal members of the construction network, such as copula and modifier-head structures?

Another problem for cognitive linguistics arises from the fact that its strongly voiced claim for constructions as form/meaning pairings has not really been applied to the full diversity of grammatical phenomena which are widely used in communication and prominent in grammatical handbooks. To name just two examples, little attention has been paid to the question whether adverbs differ in meaning and function from adverbial prepositional phrases or whether infinitive constructions show a different constructional meaning from parallel finite clauses.

Confronted with this situation, the book will make a fresh attempt to provide an adequate description of concept linking by tapping the following additional sources and combining their effects: some revived insights of traditional functionalism, the contribution of image schemas and the role of perspectives in concept linking.

## 1.2 Revived insights of traditional functionalism

If one goes back beyond structuralism, one inevitably gets in touch with the rich mix of formal and semantic observations assembled in pre-structuralist grammars, even though their terminology may appear somewhat quaint from a present-day stance. A case in point is Jespersen's distinction of "junction" and "nexus" (Jespersen 1924: 108–116; 1933: 91–96). "Nexus" applies to the category "adnex", which includes what is now called verb-argument constructions, their non-finite variants and verb-based nominalizations. Yet apart from nexus Jespersen suggests "junction" as a second type of linking; it connects "adjuncts" and "primaries" (i.e. modifiers and heads like *large city*), but also covers nominal appositions and "unattached participles" (Jespersen 1933: 95).<sup>3</sup>

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3. Jespersen's (1933: 92–95) description of the nexus/junction contrast is somewhat erratic, but what is clear is that it combines semantic with formal criteria. This aspect is neglected in Chomsky's interpretation of nexus/junction as a generalized formal contrast between specifier-head and head-complement relationship (Radford 1988: 216; 251–52), but is recognized by cognitive grammarians like Taylor (2002: 234–235).

What Jespersen's distinction highlights is that there are two basic syntactic mechanisms at work, a duality that invites a new kind of classification of concept-linking processes. If this distinction has not played a more important role in traditional functional grammar, the main reason is that "nexus" and "junction" (or – to use more up-to-date terminology – 'verb-mediated constructions' or 'VMCs'<sup>4</sup> and 'attribution') are seen as an unequal pair because verb-mediated constructions seem to constitute clauses while attributive constructions do not. In addition, attribution has been too rigidly restricted to *modifying processes*, especially modifying in adjective-noun combinations (as in the example above). Yet attribution gains in importance and flexibility when it is seen as not only subsuming modifying, but also the *mechanism of circumstancing*, which involves for instance adverbials of place, time and manner. As a result, attribution is to be regarded as a serious candidate for a concept-linking mechanism in its own right. Applied to a simple example, the utterance *Peter is reading his latest emails in bed* would not just be analyzed as an AGENT-PREDICATOR-PATIENT construction with the phrasal extension of *his emails* into *his latest emails* and the adverbial addition *in bed*. Instead both *latest emails* and *in bed* would be regarded as representing the independent concept-linking mechanism of attribution.

### 1.3 The contribution of image schemas

When one considers an example like *He walked into the kitchen* (Dodge and Lakoff 2005: 5), it will quite intuitively be understood as describing motion along a path. This is in full agreement with the cognitive-linguistic interpretation that motion events reflect a basic senso-motoric everyday experience – an experience for which Johnson (1987) introduced the term image schema (see Section 2.7 for details). Yet when the above example was subjected to a closer image-schematic analysis by Dodge and Lakoff (2005: 5), they found that the SOURCE-PATH-GOAL schema (mainly represented by the predicator *walked* and indicating motion towards the kitchen) was not the only image schema involved. In addition, the example represents a CONTAINER image schema, signaled by the preposition *into*, which suggests the entry into the kitchen as a bounded space. If one extends Dodge and Lakoff's example into *He walked into the tiny kitchen*, the combination *tiny kitchen* can be interpreted as reflecting still another image schema, i.e. a PART-WHOLE schema.

---

4. The abbreviation VMC is employed for participant-predicator (-participant) constructions while the term 'construction' is used to denote any concept-linking structure, indicating that all grammatical links are seen as form/function pairings.

Combining these findings with Jespersen's functional distinction, VMCs (verb-mediated constructions) are found to cover the SOURCE-PATH-GOAL schema (henceforth simply PATH schema) while attribution can be related to the PART-WHOLE and CONTAINER schemas. In fact it is this connection with image schemas that justifies a cognitive-semantic characterization of VMCs and attribution: Supported by the PATH image schema (and the linking potential emanating from verbal concepts), VMCs are ideally suited to render agent-driven goal-oriented actions. By contrast, attribution can be understood as the conceptual-semantic attraction between non-verbal adjacent parts and wholes or between container and contained elements respectively, a relationship that is essentially holistic and therefore permits a range of semantic interpretations beyond VMCs.<sup>5</sup> This means that the distinction between VMCs and attribution as independent concept-linking mechanism has both a functional and a cognitive-semantic footing.

#### 1.4 The role of perspectives

Continuing the search for concept-linking mechanisms, another important aspect of Jespersen's grammars (as reflected in his *Essentials* of 1933) is the way in which the phenomena of tense, modality, negation and sentence modes are grouped together in neighboring chapters. This 'grammatical neighborhood' is made more explicit in Fillmore's (1968) "modality constituent", which includes negation, tense, mood and aspect;<sup>6</sup> the contiguity is also reflected in Halliday's (1994: 71–78) proposal to assign tense, mood, sentence modes and even some adverbs to the "interpersonal function", which he distinguishes from the "ideational" and the "textual" language functions.<sup>7</sup>

Cognitive support for the 'neighborhood view' is most powerfully provided by Langacker's notion of "perspective" (or "viewing arrangement"; Langacker 1987: 122–32; 1991: 498–503). His idea of perspective covers the relationship between an onstage event and the speaker's ground, i.e. all the variables of a speech

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5. For other motivational factors beyond the PATH, PART-WHOLE, and CONTAINER image schemas see Radden and Panther (2004: 24).

6. "In the basic structure of sentences, then, we find what might be called the 'proposition', a tenseless set of relationships involving verbs and nouns [...], separated from what might be called the 'modality' constituent. This latter will include such modalities on the sentence-as-a-whole as negation, tense, mood, and aspect" (Fillmore 1968: 44–45).

7. As for Halliday's other functions, the ideational function covers VMCs, but also includes instances of attribution, while the textual function addresses topic/comment, focus and GIVEN/NEW and reaches deep into the domain of pragmatics.

situation (tense, aspect, modality) plus the speaker's speech intentions and the way he/she handles other pragmatic aspects like felicity conditions and conversational maxims. This comprehensive but also somewhat vague program is reduced in a wholesome way when juxtaposed with the down-to-earth approach of the earlier proposals. The result is a format of manageable *grammatical signals of perspectivizing* (word order constellations, auxiliaries, verbal inflection, adverbs). These signals indicate tense, aspect, modality, agreement and a range of adverbial perspectives; their impact or *scope* extends over the predicator and often over the remaining parts of the clause. Compare the example *Older people often can't cope with junk mail*, in which the auxiliary *can't* signals a tense+modality+negation scope over what follows while the item *often* adds a specific adverbial scope.

What distinguishes the proposed view of scope-based perspectivizing from other approaches to scope phenomena is that the scope of tense, aspect, modality and adverbs is not just regarded as a semantic-pragmatic relationship of entailments and implicatures, as in many grammars, but as a syntactic link which is understood as a form/meaning pairing – and this puts perspectivizing on a par with VMCs and attribution as grammatical linking mechanisms.<sup>8</sup>

## 1.5 A first summary of concept-linking mechanisms

The selective revival of pre-structuralist grammar, in particular of some of Jespersen's key observations, combined with findings of later functional grammars and accepted cognitive-linguistic insights about image schemas and perspective (or viewing arrangement) yields a triad of grammaticalized linking mechanisms, of which each should be regarded as a genuine form/meaning combination (for a visualization and a set of examples see Figure 1 in Chapter 2).

- *Verb-mediated constructions (VMCs)*, which are strictly limited to S-V-O and S-V patterns and are – from a cognitive angle – assumed to reflect the PATH image schema, which prototypically links AGENTS, GOALS/PATIENTS and also RECIPIENTS;<sup>9</sup>

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8. For semantic interpretations of scope compare Quirk et al. (1985: Section 2.55), henceforth quoted as (Qu), Huddleston and Pullum (2002: Chapter 9), henceforth quoted as (H and P), and Radden and Dirven (2007: 238). See Ungerer (1988: 14) for an earlier interpretation of scope as a grammaticalized phenomenon.

9. Seen from the angle of event schemas (Talmy 2000: vol. I; Radden and Dirven 2007: 269–299), VMCs cover action schemas, as well as spatial, motion, and also occurrence schemas (here regarded as interfaces; see Chapter 8).



- *Attribution*, a predominantly non-verbal phenomenon based on a holistic conceptual attraction of adjacent elements (and not on a predicate-argument relationship!); cognitively suggested by the PART-WHOLE and CONTAINER image schemas; seen at work in noun+noun compounds, in modifier-head phrases, between adverbial circumstances and VMC-containing clauses as well as interclausally;
- *Perspectivizing*, cognitively motivated by Langacker’s notion of viewing arrangement in which the selected scenes are approached as onstage events from the speaker’s ground; reduced to the grammatical explanation of sentence modes, tense, aspect, modality, agreement, negation and also adverbial perspectives; based on grammaticalized scope which is understood as a genuine form/meaning mechanism, not only as a semantic-pragmatic relationship.

## 1.6 The role of interfaces

Though conceived as independent concept-linking mechanisms and not as part of a single syntactic network, it is fairly evident that VMCs, attribution and perspectivizing do not function in isolation, but interact in communication. Indeed, the three mechanisms are often merged in linguistic interfaces, i.e. processes in which the concept-linking mechanisms *meet* and *affect each other* and create new and unique form/meaning pairings (see Chapter 7 for more details). The two most fundamental interfaces, so basic that they may easily be overlooked, concern nominal and verbal concepts, or better, ‘elements’: Nominal elements may function as participants in VMCs (verb-mediated constructions) and simultaneously as heads (and sometimes as modifiers) in the linking mechanisms of attribution; verbal elements act as predicators in VMCs (‘main verb’ function) and also as perspectivizers in terms of TAM (tense, aspect and modality) and agreement, for instance by virtue of their inflection.

Yet this is not what makes the notion of interfaces between linking mechanisms really attractive. Rather, as the discussion will show, this notion promises a fresh approach to many linguistic problem areas: to copula constructions and adjective complements (*Peter is boring / It is vital to read on*), to ‘semi-obligatory’ adverbials and prepositional objects (*Susan lives in Kendal / Peter asks for advice*); to suffixless adjectival adverbs (*Peter talks fast*); to the use of gerunds, infinitives and participles (*Susan hates writing emails / Peter is waiting for Susan to reply / The baby stopped crying*); last but not least, to syntactically complex, but mono-propositional statements and questions (*I think she is really ill / What do you think I’ve got?*). For each of these phenomena the grammatical explanation is based on an interface that establishes a specific form/meaning combination that is different from the constructional meaning of the linking mechanisms combined in the interface.

## 1.7 Concept linking and language acquisition

The proposed grammar is not only suitable for the analysis of adult language; it also promises to supply a more adequate framework for the description of early child language. The main reason is that the triad of VMCs, attribution and perspectivizing provides three separate yardsticks against which language acquisition can be measured and described in a more differentiated way.

For example, the first two-word expressions in language learning can be seen as early attempts to establish an essentially holistic link between two concepts ‘that belong together’ and should be understood as instantiations of the concept-linking mechanism of *attribution* (e.g. pairs like *Lara fork, go shop*). These attributed word pairs not only prepare the way for the non-verbal modifying and circumstancing schemas of adult language; they also supply the roots for the small number of crucial item-based VMCs (“verb islands” with *do, go, put* and *want*; Tomasello 2000: 66–67) on which later constructional schematization relies. If demonstrative items are involved in attributive pairs, they soon develop into the ubiquitous copula/modifier interfaces (e.g. *this is/there is* + noun/adjective), later complemented by nominal element+*be*+noun/adjective (e.g. *Daddy is cheeky, tree is brown*).

Finally, approaching child language from the angle of perspectivizing helps to understand why young children achieve communicative success even when their utterances are still palpably ‘incorrect’ and fragmentary from an adult stance. If, for instance, one assumes that among children’s first concerns is their wish to express negation, questions or the modality of intention, it is understandable that they are satisfied with ‘partial achievement’ of perspectivizing in one of these perspectives (as in expressions like *no go, where daddy go?, baby want wee-wee*); full achievement of perspectivizing including tense and agreement between verb and subject participant will be reached later.

## 1.8 The structure of the book

The line of argument reflects the three-step approach just sketched: PART I (‘Basics’) supplies a first and necessarily very selective overview of the three concept-linking mechanisms in present-day English, restricting the discussion to a limited number of prototypes encountered in adult grammar. To avoid reproducing common knowledge, VMCs are discussed in a rather cursory way with the emphasis laid on the distinction between prototypical agent-driven constructions and less prototypical variants with EXPERIENCER and THEME subjects. More room is given to the ‘novel’ (though actually well-known) linking mechanisms of attribution and perspectivizing and their application at different levels from compounds and two-word expressions to the level of complex sentences. The three-mechanism approach can

also throw new light on such aspects as semantic restrictions on concept-linking processes, the use of linking tools like word order, affixes and function words, and on major aspects of intonation in oral communication. Finally, it can help to better understand the overarching function of topic and comment and to disentangle the major focusing effects in utterances.<sup>10</sup>

The reasons why the interplay between the three concept-linking mechanisms works so well will emerge in Part II; its sections deal in some detail with the interfaces between verb-mediated constructions, attribution and perspectivizing, discussing phenomena such as copula constructions, adverbials, adverbs, non-finite constructions and mono-propositional sentences, as already suggested above.

PART III addresses the role played by the three linking mechanisms in early stages of the language acquisition process, starting out from the initial dominance of attribution, then monitoring the development of *put-* and *want* - VMCs and of copula/modifier interfaces (e.g. *that's daddy jumper*). Next follows the acquisition of *not*-negation, of *wh-* and *yes/no*-questions and of modality perspectivizers including the semi-modals *go*, *have*, *get* and *want (to)*. Finally it will be shown how – used as a perspectivizer – *I want to* opens up a ‘backdoor entry’ to sentences with non-finite complements, while finite complement clauses are accessed in a similar way through the viewpoint perspectivizer *I think*.

### 1.9 The status of the examples

It may appear surprising in an age of corpus-based linguistic analysis that the description of adult grammar in PART I and PART II relies on invented examples, based on the author's intuition. In fact there are two reasons for this decision: First the findings available in the corpus analysis of constructions are impressive, but still limited to certain areas of grammar, especially to complement constructions, which are not the central concern of this study. More importantly, the discussion of corpus findings is naturally couched in accepted descriptive systems, e.g. in structuralist, generative or constructionist descriptions. Concept-linking analysis, however, is conceived as a new approach that must be understood and accepted as such before it will qualify as a framework for corpus-based verification and experimental tests

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10. Although in the following the focus is on English, other languages are referred to where the analysis of English can benefit (e.g. with regard to attribution and copula constructions in Section 8.1.1). General aspects of cross-language transfer are discussed in Chapter 16.

(Gries 2013). In this phase examples primarily fulfill an illustrative function in supporting the explanations of the running text.<sup>11</sup>

Yet as the adult author's intuition is not capable of supplying material for the child language phenomena dealt with in PART III, examples for these sections are drawn from a pilot corpus of 47,000 turns, among them around 7,300 two-word-plus child turns, which has been selected from corpora accessible in the CHILDES database. This pilot corpus also permits the formulation of quantitative tendencies for the use of attributions and VMCs, of verbal elements in VMCs and of modal auxiliaries and semi-modals in perspectivizing.

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11. To fulfill the illustrative function for grammatical explanation in an optimal way an attempt has been made to reduce distraction by contextual loose ends in the examples to a minimum. For this purpose neighboring examples have been taken from a shared thematic frame where possible, a method suggested in Ungerer (1980) and practiced in grammatical handbooks like Ungerer et al. (1980) and Ungerer (2000). See Figure 1 and Section 2.1.2 (Examples 1–8) for first sets of examples.



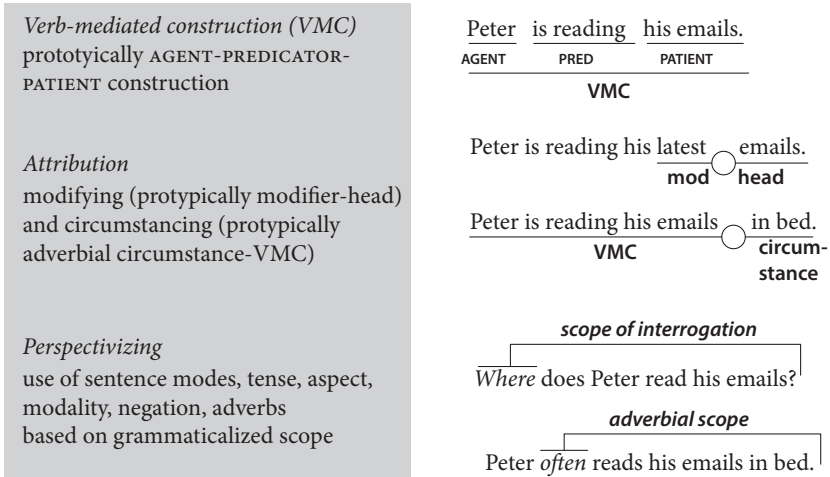
PART I

# Basics



## Mechanisms of concept linking

The grammar of concept linking consists of three major linking mechanisms, as depicted in Figure 1, which takes up examples from Chapter 1 in annotated form to illustrate the notational conventions used in this book.<sup>1</sup>



**Figure 1.** Concept-linking mechanisms, examples, notational conventions

The first of the linking mechanisms, verb-mediated construction (VMC), has always been regarded as the hard core of linguistic analysis and has been extensively discussed; it receives only a concise treatment. The other two linking mechanisms, attribution and perspectivizing, have also played a role in the structural and semantic description of certain linguistic phenomena, but deserve a more exhaustive discussion than they have received so far, especially with regard to their linking and focusing potential.

1. Notational conventions used: VMCs: elements and VMC as a whole underlined; attribution: underlinings linked by circle; perspectivizing: scope signal marked by italics and underline; scope indicated by horizontal bracket. Terminology (semantic roles, modifier, head, types of scope) is only selectively applied to examples.



## 2.1 Verb-mediated constructions (VMCs)

If the term ‘verb-mediated construction’ (VMC) has been chosen in preference to the more general term ‘construction’, this is to stress a basically restrictive view of this mechanism, which assigns VMCs a crucial, but not an all-encompassing role within concept linking. The strength of the verb-mediating function of the verbal element is most obvious in agent-driven constructions, from which the discussion starts out.

### 2.1.1 Agent-driven VMCs

If one takes an array of concepts such as *SUSAN + WRITE + EMAIL* and considers their linguistic realization within an utterance, one is confronted with a wealth of linguistic explanations: This configuration not only suggests the S-V-O pattern of traditional grammar;<sup>2</sup> it also lends itself to the semantic interpretation in terms of participants and predicator, i.e. *AGENT-PREDICATOR-PATIENT*,<sup>3</sup> as supplied by valency or case grammars (Herbst et al. 2004, Herbst and Schüller 2008). This analysis is also integrated into many functional grammars, for instance Halliday’s approach, which would claim a *MATERIAL PROCESS* for *Susan is writing emails* (1994: 109–112). Going beyond functional grammars, cognitive approaches call up variants of the *PATH* schema (Evans and Green 2006: 185). In Langacker’s *Cognitive Grammar*, for example, *Susan is writing emails* is interpreted as reflecting an action chain involving the transmission of energy from a participant at the head of the chain (*Susan* as *AGENT*) through the predicator to a participant at the tail of the chain (*emails* as *GOAL* or *PATIENT*; Langacker 1991: 282–286).<sup>4</sup>

To sum up these introductory observations from the angle of concept linking, verb-mediated constructions (VMCs) prototypically combine a verbal element with a preverbal and a postverbal element and reflect the *PATH* image schema (see Section 2.7). Prototypical VMCs are agent-driven in the sense that an *AGENT*

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2. Although the terms ‘participant’ and ‘predicator’ (abbreviated as *PART* and *PRED* in some examples) are favored to describe constructions, ‘subject’, ‘verb’ and ‘object’ are also used occasionally for ease of reading.

3. The terminology of participant or semantic roles used in the following is largely taken from Qu (10.18–10.21) although *PATIENT* is preferred to *AFFECTED* (Qu: 10.19); further deviations from Quirk et al. are self-explanatory or are discussed as they occur. In the running text *AGENT*, *PATIENT* etc. are capitalized where their status as semantic role is to be stressed, but not where they only serve as descriptive labels (e.g. ‘agent-driven’, ‘by-agent’).

4. Compare Radden and Dirven (2007: 284–5), who suggest the sequence ‘energy source – energy transmitter – energy sink’ as a force-dynamic metaphor.

participant is depicted as initiating a verbal action; at the same time, verb mediation is aimed at a GOAL, the affected PATIENT, as in (1).

This AGENT and PATIENT dependence is also strongly felt in passive VMCs like (2) where the PATIENT element fills the preverbal subject slot and the AGENT is either explicitly present and stressed as *by-agent* or is an implicit condition for understanding the utterance. Finally, seen as a construction, the *inherent constructional meaning* of an AGENT achieving a certain GOAL is so strong that it carries over to examples in which the verb does not specifically express this meaning if taken by itself, as in (3).

- (1) Susan is writing emails.
- (2) Emails were written (by Susan).
- (3) Susan is yawning replies to her business mails.

In example (3) *yawn* does not at all have the conceptual meaning of producing something; yet the construction of (3) may be interpreted as '*constructional coercion*' in the sense of someone reluctantly producing replies.<sup>5</sup>

What has been said about AGENT-PREDICATOR-PATIENT patterns can also be extended to VMCs with two postverbal participants (PATIENT and RECIPIENT); here, too, both the active and passive versions of the sentence show strong AGENT dependence (implicit in passives without *by-agent*) (4). The strength of the inherent constructional meaning 'transfer of goods to a recipient' is again visible in examples like (5), where it combines with the conceptual meaning of juggling in constructional coercion.

- (4) Peter handed the cake to Grandma / The cake was handed to Grandma (by Peter).
- (5) Peter juggled the cake to his grandmother.

### 2.1.2 Other types of VMCs

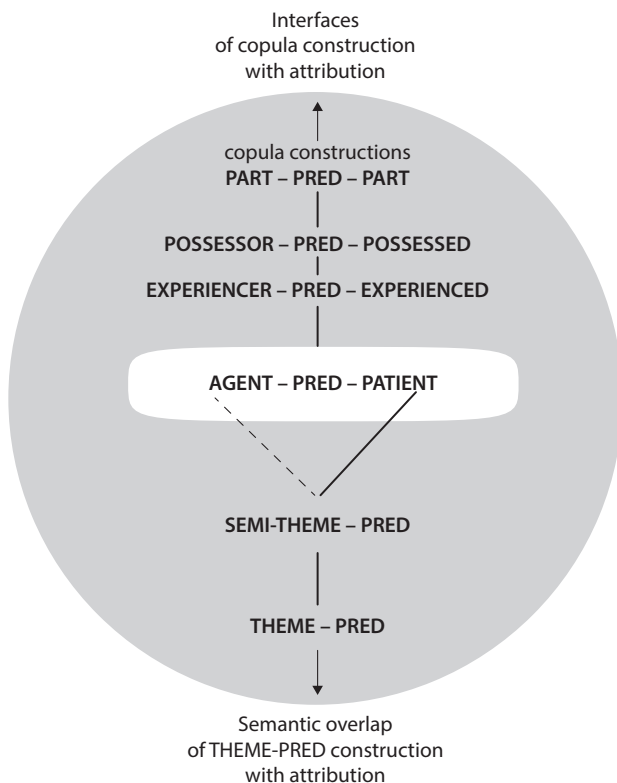
As already suggested, both the traditional and the various other analyses mentioned have been taken far beyond this handful of constructions featuring AGENT and PATIENT (and possibly RECIPIENT) participants and have been applied to the

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5. On the notion of constructional meaning see Goldberg (1995: 152); on experiments supporting this notion see Bencini and Goldberg (2000). On constructional coercion see Michaelis (2003). Goldberg's well-known examples *Frank kissed her unconscious* and *Frank sneezed the tissue off the table* are discussed in Section 8.1.3 and 8.2.3 because they are regarded as interfaces of VMC and attribution.

full range of clause structures, which – from the angle of concept linking – are best understood as prototype-centered. Compare Figure 2.<sup>6</sup>

Starting from the prototypical VMC in the middle of the circle in Figure 2 and moving upwards, there is first of all the huge group of what Halliday (1994: 112–119) labels mental processes, as shown in examples (6–8). Here the subject does not really have the quality of an agent, but a meaning Halliday captures with his term *SENSOR* (Halliday 1994: 117–118), while Langacker (1991: 285), more in line with the tradition of Fillmore’s Case Grammar, prefers the term *EXPERIENCER*.



**Figure 2.** Verb-mediated constructions (VMCs): prototype, major variants

6. A first look at Figure 2 already shows that both the prototype and the marginal constructions listed are highly schematic. The prototype/periphery cline is not intended to reflect the distinction between ‘prototypical’ schematic constructions on the one hand and ‘peripheral’ idiomatic items, as for instance in Fillmore and Kay’s Berkeley Construction Grammar (Fillmore et al. 1988, Fillmore 2013)

- (6) Susan could hear the waves from the beach.
- (7) Susan likes sunbathing.
- (8) She admired the scenery.

Close to these examples in terms of their semantic impact are VMCs expressing possession in which the POSSESSOR still has certain agentive qualities, as in constructions with *own* and sometimes *have* (9–10). However, POSSESSION can also be seen as further removed from the agentive prototype in VMCs expressing relationships such as BELONGING, COMPOSITION and CONTENT (*have*, *comprise*, *contain* (11–13), in which the first participant tends to refer to an object – and is characterized by Halliday (1994: 120) by the role of CARRIER.

- (9) Our friends own a spacious chalet.
- (10) They have a motorhome and motorcycles.
- (11) Their house has large windows and a magnificent balcony.
- (12) The estate comprises a villa, a swimming pool and a tennis court.
- (13) This booklet contains all the information about the new resort.

The top and at the same time most marginal position in the circle is represented by *copula constructions*; they are marginal in the sense that the typical verb *be* does not express a noticeable degree of agentivity, but tends to render a fairly unspecified relationship with two participants.<sup>7</sup> Its simplest function in communication is to identify a person or object, in particular if the first participant is a ‘deictic placeholder’, i.e. a demonstrative pronoun or ‘impersonal’ *it* used in response to a query (14–15). Also frequent are the presentative use, including the ‘*there* construction’ (16–17), as well as the characterizing use, which is primarily realized in combinations with (predicative) adjectives and adverbials as postverbal participants (18–19). These structures are indicated at the top of Figure 2 as interfaces of copula constructions and attribution and are discussed in detail in Section 8.1.<sup>8</sup> Finally, copula constructions occur as part of specific focusing strategies (cleft sentences; compare (20) and Section 6.4.3).

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7. The notation PARTICIPANT-PREDICATOR-PARTICIPANT has been chosen in preference to Quirk et al.’s notation amounting to AFFECTED-PREDICATOR-ATTRIBUTE because their description of the participant roles does not leave room for the contribution made by the modifying mechanism in copula interfaces; see Section 8.1.1. The copula construction is also used with an epistemic meaning with *seem*, *appear*, etc. and with a resultative meaning with *become*, *grow*, *turn*, etc.

8. On the special role of copula constructions in language acquisition see Section 14.4.

- (14) Who's *this*? This is Dad./It's Dad.
- (15) *What's this*? This/It's our new car.
- (16) This is my little brother./This is our new car.
- (17) There's Mum.
- (18) Look, his new car is pink.
- (19) My car is in the garage.
- (20) It was Peter who ruined the car.

Yet in spite of the decreasing role of agentivity, what all the constructions in the upper half of Figure 2 have in common is the three-element pattern reflected in the semantic relationship PARTICIPANT-PREDICATOR-PARTICIPANT, which is based on the PATH schema, held together by the mediating force of the verb and also equipped with a noticeable end-focus (see Section 6.3).

The lower half of Figure 2 is devoted to what is traditionally distinguished from transitive as intransitive structures (or two-element constructions in the concept-linking approach), which are characterized in the diagram as *THEME-PREDICATOR* VMC and – to mark a transitional stage – as *SEMI-THEME-PREDICATOR* VMC. How are the roles of *THEME* and *SEMI-THEME* to be interpreted and how are individual constructions assigned to these types?

What is evident (and indicated by the broken line connecting the *SEMI-THEME* with the *AGENT* of the prototype) is that two-element constructions show a reduced degree of agentivity (if any) depending on the verbal concept involved. While agentivity is still relatively strong with intention-backed activities or movements such as working or running (21–22), constructions based on vegetative actions like breathing or waking up (23–24) already show a much lower degree.

- (21) He is working (in his study).
- (22) He ran (all the way to the bus stop).
- (23) The person was still breathing.
- (24) Look, she is just waking up.

Still, all these examples should probably be assigned to the transitional *SEMI-THEME* construction (with its agentive residue) in order to mark them off from examples like (25–30), which lack an inherent agentivity potential because the participant does not refer to a person, but to an object.<sup>9</sup>

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9. Some agentivity is, however, at work in mediopassive constructions like *This book reads easily* or *Kiwis sell (well)*. See Hundt (2007) and Section 4.1 for details.

- (25) The sun was shining.
- (26) The snow melted.
- (27) The door opened.
- (28) The glass broke.
- (29) The boat sailed.
- (30) The bomb exploded.

If the role of *THEME* is claimed for the nominal participant in this set of examples, one might be eager to identify it with the *PATIENT* contained in the prototype VMCs (and this is supported by the bold inheritance line in the diagram). This limitation is, however, unsatisfactory: Although the role of *PATIENT* is included in the notion of *THEME*, the conceptual range of *THEME* goes beyond the core meaning of a ‘suffering’ organism or an affected object rendered by the *PATIENT* role.

To cope with this problem, Halliday (1994) takes up the view of ‘ergative syntax’ (Hundt 2007: 11), suggesting that the subject in these constructions could be regarded as ‘*MEDIUM*’, an element involved in a process that “is brought about from within” (Halliday 1994: 162). The nominal concept is conceptualized as an integral and constitutive part of the verbal process, which is not seen as dependent on an external instigator. Langacker, who prefers the term *THEME* to *MEDIUM*, claims that this *THEME* represents the “conceptually autonomous core of a structure” (Langacker 2001: 383).

This view has important consequences for the concept-linking interpretation: The *THEME-PREDICATOR* VMC is not fully rooted in the embodied experience represented by the *PATH* image schema, as prototypical *AGENT-PREDICATOR-PATIENT* VMCs are. Since the nominal concept is understood as an integral part of the process denoted by the verb, it also reflects a *PART-WHOLE* image schema – the reverse view of regarding the verbal concept as part of a nominal ‘whole’ leads to the same conclusion (see Section 2.7 on image schemas). The closeness of the *THEME-PREDICATOR* construction to the linking mechanism of attribution is indicated as ‘semantic overlap’ at the bottom of Figure 2 and further discussed below.<sup>10</sup> Together with the content of the verbal concept this image-schematic background is responsible for the meaning of the construction.

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10. The close relationship between the *THEME-PREDICATOR* construction and attribution is due to the influence exerted by the *PART-WHOLE* image schema on this construction. This contrasts with the interfaces of copula constructions with attribution (indicated at the top of Figure 2), where the copula construction is *PATH*-based, but combined with, for instance, modifier-head attribution.

The marginal position of the THEME-PREDICATOR construction within the VMC domain and its neighborhood to the concept-linking mechanism of attribution also explain why this construction is not limited to the clause level, but is equally noticeable in compounds containing a verbal element, such as *sailing boat*, *swimming pool*, *bloodshed*, *earthquake* and *sunshine*: These compounds should not be understood as a mere reflection of paraphrases couched in agent-driven VMCs (*someone sails a boat*, *someone swims in a pool*, *someone sheds blood*, etc.), but as instances of a more holistic conceptualization of the relationship between BOAT and SAIL, POOL and SWIM, BLOOD and SHED, etc.. In each case the goal is to render the nominal concept as an integral part of the verbal process (or the other way round). This is again due to the fact that THEME-PREDICATOR VMCs not only reflect the PATH image schema, but are, to a certain extent, also influenced by the PART-WHOLE schema.

## 2.2 Attribution

When thinking of attribution, what first comes to mind are combinations of adjectival modifier and nominal head such as *large house* or *hot dish*. These phrasal configurations have traditionally been regarded as syntactic structures, probably because they can be paraphrased by or even analyzed as copula constructions (*the house is large*, *the dish is hot*). Yet taken by themselves and disregarding copula paraphrases, the link between modifier and head is not verb-mediated and not supported by the PATH image schema; instead, it relies on a *non-verbal semantic attraction* between the concepts that should be understood as ultimately rooted in the PART-WHOLE image schema (see Section 2.7).

This cognitive conception of attribution gains in explanatory power if attribution is seen as comprising not only *modifying*, but also various kinds of *adverbial circumstancing*, including many links involving prepositional phrases. While these variants of adult language use are discussed in the following sections, the more basic function claimed for attribution in the early stages of language acquisition is dealt with in Chapter 13.

### 2.2.1 Attribution as modifying

As just mentioned, attribution is prototypically represented on the phrasal level by the modifier-head relationship between adjectival and nominal concepts. This relationship is particularly strong when an elementary adjectival concept expressing a dimension or physical property such as quantity, length, breadth, height, size,

weight, temperature, or value is involved. In traditional semantic analysis these adjectives are classified as ‘inherent’ (Qu: 7.43) – see (31–32);<sup>11</sup> in terms of image schemas this inherence can be related to the PART-WHOLE schema (as a direct or a metaphorical application of the schema) – in the following indicated by the linking circle in the notation.

(31) tall○boy    large○garden

(32) heavy○suitcase    hot○dish    cheap○meal    (not) much○money

The PART-WHOLE image schema is also reflected in a host of combinations between ‘non-inherent’ adjectives and nominal heads, even though in a more marginal manner (33). The link of modification is indicated in many languages by the agreement of adjectival morphology with nominal morphology, as in Latin *dominus severus*, *domina severa*; in English, however, word order is often the only grammatical clue available (see Section 5.1.3). Needless to say that the image-schematic effect is also at work in figurative uses of the adjective-noun pairs (34).

(33) old○friend    distant○relative    foreign○policy

(34) long○journey    broad○overview    hot○argument    rich○experience

On the level of complex lexemes, attribution is particularly relevant for partonymic (or meronymic) compounds, where the ‘part’ element is either rendered by a component of the ‘whole’, such as LACE in *shoelace*, LEG in *chair leg*, TOP in *mountain top*, or – in a more abstract sense – by a qualifying property characterizing the ‘whole’ element, as in compounds with the integrated modifier denoting color or size (*blackbird*, *small-talk*, *greenhouse*, etc.).

Where the attribution of concepts is not conceived as a mere affinity, but is intended to render a greater degree of specificity, this is achieved by the use of case morphology or prepositions. The notions of POSSESSION and BELONGING can be marked by the genitive case (35) or a by the preposition *of* (36).<sup>12</sup> Here the modifier is ‘accessed’ through the relational meaning of the genitive case or preposition, which means that the linking process between modifier and its head element

11. If quantity is listed as an ‘adjectival’ concept, this interpretation can be claimed for *much* and *little*, both originally adjectives, though today normally regarded as quantitative determiners like *all*, *none*, *some*, *any*, *enough*, etc. (more details in Section 9.3.3). In contrast, expressing definiteness and indefiniteness by way of articles is not seen as a matter of attribution, but as part of the conceptualization process, which provides the raw material for concept linking.

12. The preposition *of* is also used with a large variety of modifiers, among them expressions of quantity (*a number of*, *a large amount of*, *a lot/great deal of*, etc.).



is ‘guided’, i.e. specified by non-verbal means (genitive case or preposition). This is why the notions of POSSESSION or BELONGING are quite reliably conveyed in communication, yet without the constructional effort that goes with the use of possessive VMCs involving verbal concepts like *own*, *belong*, *consist* (Section 2.1.2).

(35) I like Peter’s T-shirt.

(36) The roof of the house has just been repaired.

By indicating a prototypical PART-WHOLE relationship, the preposition *of* is a fairly special case. Most other prepositions (e.g. *in*, *on*, *from*, *to*) express a spatial meaning and are used to access a circumstance; their use is discussed in the next section.

### 2.2.2 Attribution as circumstancing

As suggested by the basic meaning of the term, circumstances – or adverbials, as they are traditionally called – have a background function in the clause compared with VMCs.<sup>13</sup> Circumstances refer to a context or frame or denote a facet of the frame in which the event or state rendered by the VMC is positioned. Their semantic range is huge, stretching from *LOCATION* and *TIME* (which first come to mind) to *MANNER*, *INSTRUMENT*, *CAUSE* and *CONCESSION* (37–43).<sup>14</sup> Morphologically, circumstances tend to have the shape of prepositional phrases, sometimes of noun phrases, but they also include proforms like *here*, *there*, *now*, *then* and compound adverbs like *inside*, *upstairs*, *yesterday*, *tomorrow*.<sup>15</sup>

(37) We were enjoying our holiday *at the lakeside campground*.

(38) We had arrived *the night before*.

(39) Our neighbors went swimming *every morning*.

(40) Some people hired boats *in spite of the poor weather*.

(41) The boats had to return *because of strong winds*.

(42) The boats were fastened *with ropes*.

(43) The big steamer crossed the lake *without any problems*.

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13. Compare Halliday’s (1994:149–161) use of the term ‘circumstance’.

14. Adverbial semantic roles are indicated by italicized capitals to distinguish them from the participant roles of AGENT, PATIENT, RECIPIENT, and THEME. In the running text they are only capitalized where their status of semantic roles is to be highlighted, but not where they simply serve as descriptive labels (‘frequency adverb’, ‘manner adverb’, etc.).

15. In concept-linking grammar, however, perspectivizing adverbs (e.g. most *ly*-adverbs) are not regarded as adverbials; see Section 2.3.4.

From the cognitive angle, the decisive point is that prototypical circumstances are not tied to the verb (as suggested by the traditional label ‘adverbial’);<sup>16</sup> instead they form part of the clause because they show a certain semantic attraction to the conceptual content of the VMC as a whole. Just as in the case of modifying, this is a non-verbal relationship. The underlying image schema of what will be called the *circumstancing mechanism* is the CONTAINER image schema, which can, however, be understood as a variant of the PART-WHOLE schema (or vice versa – see Section 2.7). Both linking mechanisms are therefore regarded as instances of attribution as defined above and indicated by the notation in (37’–38’).

(37’) We were spending our holiday ○ at a lakeside campground.

(38’) We had arrived ○ the night before.

Like modifiers, and even more so, circumstances can be semantically specified by prepositions, which are mostly based on spatial (or orientational) image schemas (see postscript in Section 2.7) like IN-OUT, UP-DOWN, FRONT-BACK, or on combinations of these schemas (for details see Section 5.2).<sup>17</sup> Compare (44–45), where the prepositional meaning of *in* provides access to the circumstance (*the conservatory*, or more figuratively, *the summer heat*) by indicating that the conceptual content of the VMC (*having breakfast, using the conservatory*) is somehow embedded or ‘contained’ in the circumstance; this means that the preposition is guiding and strengthening the non-verbal semantic attraction between circumstance and VMC. A directional specification is provided by the prepositions *to* in (46) and *up* in (47). Even if *preposition-guided circumstancing*, as this use of prepositional phrases will be called in the following, is to be regarded as prototypical, other relational meanings are also utilized, e.g. the meanings of the adjectives *last* and *every* in (48), and this makes many temporal noun phrases eligible for the circumstancing process.

(44) We often have breakfast *in the conservatory*.

(45) We do not use our terrace *in the summer heat*.

(46) Mum and the children have gone *to the swimming pool*.

(47) He climbed *up the tree*.

(48) We had a barbecue *in the garden last night*;  
in fact, we have one *every weekend*.

---

16. The distinction between obligatory, semi-obligatory, and optional adverbial participants and similar distinctions, such as between predicate modifiers and sentence modifiers, are discussed in Section 8.2.

17. In more highly inflected languages like Latin, circumstances are indicated by cases like the ablative. This shows that inflection paradigms are not necessarily homogeneous systems, but may combine the representation of VMCs and circumstancing. See also Chapter 16.

Moreover, circumstancing is not restricted to adverbials on the clause level; it can also be observed within phrases (where it may, in fact, blend with modifier-head attribution). Compared with clause-level circumstancing, this kind of attribution permits a more precise referential affiliation of the circumstance, as illustrated in (49–50), where *PLACE* and *TIME WHEN* circumstances are attributed to different nominal participants (*people, Oktoberfest, meeting*).<sup>18</sup>

(49) People ○ all over Germany have heard of the Oktoberfest ○ in Munich.

(50) The meeting ○ tomorrow will start at eight like the meeting ○ today.

While this type of attribution is freely available for *PLACE* and *TIME WHEN* circumstances, it is more restricted for circumstances from other semantic domains (e.g. *DIRECTION, TIME DURATION, FREQUENCY, INSTRUMENT*). Here the nominal head to which the circumstance is attributed must express a suitable feature. For *DIRECTION* attributes this feature is ‘directed motion’, as it is rendered by abstract nouns like *journey* (51), *voyage, passage, development* and also by concrete nouns denoting traffic and communication, e.g. *bus* (52), *train, plane, letter, phone call, email, SMS*.

(51) The journey ○ across the Lake District was very pleasant.

(52) The bus ○ from Windermere is always late.

Circumstances of *TIME DURATION* require eventive nouns (53), *TIME FREQUENCY* circumstances fit items denoting recurring events such as meals (54); finally *INSTRUMENT* attributes rely on action nominals suggesting the use of a tool (55).

(53) His performance ○ up to now has been disappointing.

(54) A good breakfast ○ every morning is what you need.

(55) A blow ○ with a hammer finished the job.

While these examples all document the standard case of placing the attributed circumstance after the head, some circumstances also permit the position before the head like adjectival modifiers (compare 56–57 with 56'–57'). This may be a problem for a traditional analysis that tries to keep adjectives and adverbs apart, but it is easily handled within the framework of attribution, which accommodates both modifying and circumstancing as grammatical realizations of semantic attraction.

---

18. However, in some cases there is little difference between postposed attributes and peripheral circumstancing and sometimes they cannot be distinguished at all. Compare: *Most people have heard of the Oktoberfest in Munich*.

- (56) The road ○ downhill is very bumpy.
- (56') The downhill ○ road is very bumpy.
- (57) A report ○ monthly is all you can expect.
- (57') The monthly ○ report will be out soon.

Finally – just as modifying attribution – circumstancing is also at work on the level of complex lexemes, e.g. noun+noun compounds (*seaside resort*, *windmill*, *straw hat*, etc.). Unlike adverbial phrases, these compounds normally do not comprise a relational element (preposition, relational adjectival concept, quantifier). Consequently, they do not explicitly express the relationship between the constituents by means of a linguistic element – a feature that has tantalized linguists, who have tried to clarify the circumstancing relationship by suggesting suitable underlying structures or case configurations in terms of VMCs, as in (58–61).

- (58) *seaside resort*: the resort is situated at the seaside / PATIENT-PRED-LOCATION
- (59) *evening meal*: the meal is/takes place in the evening / PATIENT-PRED-TIME
- (60) *windmill*: the mill is powered by wind / PATIENT-PRED-FORCE
- (61) *straw hat*: the hat is made of straw / PATIENT-PRED-MATERIAL

However, language users normally have no problems in recognizing the meaning of conventionalized compounds and understanding how the selected contextual facet is linked to the base concept (e.g. how SEASIDE is linked to RESORT, MEAL to EVENING, WIND to MILL, STRAW to HAT). The reason is probably that language users do not expect compounds to express the unambiguous semantic relationship between the concepts, as offered by related VMC paraphrases, and, in particular, by agent-driven VMCs. Instead they tolerate (and even enjoy) the experience that the constituents of the compound belong together just as parts and wholes do, in other words that the link between them is conceptualized rather holistically. If this means that, to some extent at least, inherent ambiguities of linking remain unresolved, this is not to be seen as a disadvantage, as some linguists might suspect, but as an intended influence of the holistic CONTAINER image schema.

### 2.2.3 Attribution in complex sentences

Going back to the clause level and even beyond, one finds that both circumstancing and modifying attribution are also important in complex sentences. As for circumstancing, it applies to sentences comprising a VMC and at least one other clause functioning as circumstance. Although both the circumstantial (i.e. adverbial) clause and the matrix clause are internally structured as VMCs, the connection between

the two clauses is not due to verb-mediation, but a matter of non-verbal semantic attraction. As is discussed in more detail in Section 3.2.2, the construction of the adverbial clause as a whole is attached to the construction of the main clause as a whole by way of circumstancing (just as phrasal adverbials are linked to the VMC); this process is prototypically guided by the semantic content of the conjunction (62–63).

(62) The letter hasn't yet arrived ○ although we posted it a couple of days ago.

(63) When I write again, ○ I'll send a registered letter.

As for modifying, it occurs on the sentence level in sentences with relative clauses. While internally, relative clauses also rely on the linking potential of VMCs, the 'external' link is not established with the VMC of the main clause as a whole (as with circumstancing clauses), but with a specific participant of this VMC, traditionally called the referent of the relative clause. Normally this kind of attribution is guided by a choice of relative pronouns (64–65) although in some of the most frequent types of relative clauses this guidance is absent, e.g. in contact clauses (66) and participle constructions (67) (further discussed in Chapter 10).

(64) The mail ○ which contains the information has just arrived.

(65) We are still waiting for our guest of honour ○ who will be a little late.

(66) The mail ○ I have been waiting for has not yet arrived.

(67) The mail ○ containing the information has just arrived.

Summing up this first sketch of attribution, it is obvious that its non-verbal semantic attraction – both in the guise of modifying and circumstancing – can be applied to a variety of different phenomena, adding an alternative linking capacity to the strong linking potential of VMCs.

## 2.3 Perspectivizing and scope phenomena

### 2.3.1 Sentence modes as grammaticalized perspectives

In spite of their linking power neither verb-mediated constructions (VMCs) nor attribution can explain certain linguistic phenomena that are rightly regarded as essential for successful communication. One case in point is what is traditionally known as sentence modes. Between them, the *declarative*, *interrogative* and *imperative modes* provide a grammaticalized perspective from which the concepts assembled in an utterance can be viewed (the exclamatory mode is neglected in the following).

The standard case is obviously a perspectivization that extends over a VMC plus accompanying circumstances. This structural configuration is traditionally called

‘clause’, its perspectivization in the declarative, interrogative or imperative mode is labeled ‘simple sentence’ (68). Sentence modes may also be extended to include several VMCs (plus circumstances) – the traditional term is ‘complex sentence’ (69).

- clause
- 
- interrogative perspective*
- (68) Are you afraid of burglars at night?
- VMC ○ circumstance
- 
- clause
- declarative perspective*
- (68') Many people have installed burglar alarms in their houses.
- VMC ○ circumstance
- 
- clause
- imperative perspective*
- (68'') Pay attention.
- VMC
- 
- complex sentence
- interrogative perspective*
- (69) Are you afraid of burglars when you are alone in the house?
- VMC VMC ○ circumstance

### 2.3.2 Deixis, agreement, and TAM perspectives

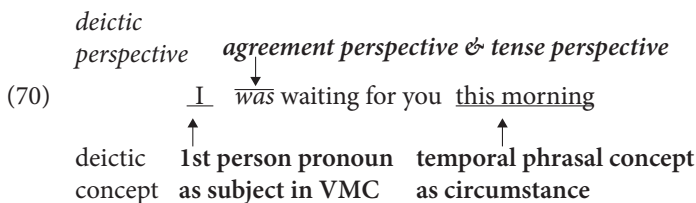
Sentence modes are not the only perspective relevant for communication. Sentence modes can only function if the message conveyed is conceptually grounded, i.e. anchored in a deictic center in terms of personal, spatial and temporal deixis (Lyons 1977 II: 636–703).

One might perhaps think that these deictic aspects are sufficiently rendered by their linguistic elements – in personal pronouns (like *I/we* and *me/us*), in demonstrative pronouns and determiners of nominal concepts (*this (topic)*, *this (morning)*, etc., finally in deictic spatial and temporal adverbs like *here*, *there*, *now*, *then*. These are elements that can function as participants in VMCs (personal pronouns, nominal phrases), but also as modifiers (e.g. determiner-noun combinations) or circumstances (spatial and temporal adverbs, prepositional phrases) in attribution.<sup>19</sup>

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19. These elements are also used to express referential grounding of nominal elements, a function especially fulfilled by realizations of or combinations with demonstrative elements (*This is stupid/ These books are reduced*).

However, both person deixis and temporal deixis (though obviously not spatial deixis) are also reflected in linguistic phenomena that cannot be satisfactorily explained by these two concept-linking mechanisms. This is true of verb and auxiliary morphology indicating *person* and *number agreement* (or concord) with the subject; it also applies to verb affixes and auxiliary forms expressing *tense*. An explanation is that – just like sentence modes – agreement and tense provide a perspective from which the VMC, in particular its verbal concept, is presented. Compare (70), where the realization of person deixis and temporal deixis as concepts (first person pronoun, temporal circumstance) is contrasted with the agreement and tense perspectives signaled by the auxiliary *was*, which functions as *perspectivizer* (indicated by italics and overline).



Conceptually closely related to the tense perspective, though not deictic in the narrow sense of the word, are the perspectives of *aspect* (both perfective and progressive aspect)<sup>20</sup> as well as the *modal perspectives* (epistemic, deontic, volitional modality), which are both signaled by verb morphology, the latter also by auxiliaries and semi-modals like *going to*, *have to* or *want to*. These three perspectives are often assembled under the umbrella acronym of TAM (Tense-Aspect-Modality) and can be regarded as complex perspectivizers, as discussed in more detail in Section 3.3.1 and 6.5.6.

### 2.3.3 Negation, perspective, and the grammaticalization of scope

Characterizing sentence modes, agreement and TAM as ‘perspectives’ may look like a case of merely re-labeling well-known phenomena, but such a view underestimates how powerful the notion of perspectivizing is for concept linking in a natural language like English. This becomes clearer when one looks at the most striking example, the *perspective of negation*, starting with its prototypical realization as *not*-negation.<sup>21</sup> Here it is common to stress the structural parallels between

20. Also aspects of ‘action stage’ or *Aktionsart*, e.g. inceptive, terminative aspect as in *start doing sth.*, *stop doing sth.* Compare Comrie (1976: 6).

21. Apart from *not*, the particle *no* is used to express the perspective of negation, in particular in early child language (see Section 15.2). *No* is also frequently used anaphorically, mostly as a reaction to previous statements of interlocutors.

negation and the interrogative sentence mode (both require the support of an auxiliary in finite clauses), raising negation to clause-level status.

This view also seems to be supported by the analysis of negation in propositional logic, where negation is above all regarded as an operator defined by truth conditions and interacting with other sentence connectives.<sup>22</sup> It is within this context that the term ‘*scope of negation*’ was introduced, based on the definition that scope denotes the parts of an expression affected by an operator. In the case of negation the whole proposition is claimed to be affected by the *not*-operator (just as it is by other logical sentence connectives like ‘and’, ‘but’, ‘or’ and ‘if’). In other words: the scope of negation encompasses the whole proposition as reflected in the standard paraphrase ‘*It is not the case that ...*’, exemplified in (71).

- (71) Babies don’t read books.  
*Paraphrase in the analysis of propositional logic:*  
 ‘It is not the case that babies read books.’

Unfortunately, the transfer of the proposition-based logical view to the grammatical description of natural languages was accompanied by a disregard for the differing objectives pursued by the two disciplines. This means that when the notion ‘scope of negation’ was taken up by grammatical handbooks, such as Quirk et al. 1985 (= Qu) and Huddleston and Pullum 2002 (= H and P), it was regarded as “semantic influence” (Qu: 2.55) or a “semantic concept” (H and P: Chapter 9; 1.3.2) and not as a phenomenon that also fulfills the requirements of a natural language like English.<sup>23</sup>

What has not been sufficiently investigated is to what extent the scope of negation is grammaticalized in its own right, i.e. beyond its being treated as an additional semantic aspect of verb-argument constructions. Within the framework of concept linking, however, this question is essential. While a few negative expressions can be integrated as participants in VMCs (*nobody*, *nothing*) or as circumstances in attribution (*nowhere*), the use of the *not*-element cannot be satisfactorily explained by either of these linking mechanisms. This is why *not*-negation should be seen in a

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22. Though the major concern of logical analysis has been the description of propositions and their truth conditions, an ever-growing range of so-called ‘metalinguistic’ types of negation have been investigated as well, suggesting a “built-in duality of use” (Horn 1989: 370).

23. While Qu (2.55) restrict the use of the term ‘scope’ to negation (and also interrogation), H and P apply it to a wider range of phenomena, among them time, frequency and viewpoint adverbs, person-oriented adverbs and adverbial clauses of reason (H and P: 668; 790–94). Radden and Dirven (2007: 238) relate the distinction between wide and narrow scope to the aspect of hearer inclusion; some linguists use ‘scope of negation’ without a clear definition (e.g. Dixon 2005: 432). For other uses of the term ‘scope’ see Langacker (1987: 118–19) and Croft and Cruse (2004: 23, 50).



different light, i.e. as a way of perspectivizing utterances in communication, as it is also achieved by sentence modes and TAM phenomena. This means that the scope of negation is understood as the *linearization of the not-perspective* and thus as a grammaticalized form/meaning pairing; this linear scope covers certain elements of the utterance and is signaled by the *not*-element as perspectivizer. Compare the re-analysis of example (71) above in (72) below. Here the grammaticalized scope is indicated by the horizontal bracket, which starts with the scope signal *not* (overlined) and covers the remaining part of the utterance except the subject.

*scope of negation*

(72) Babies do *n't* read books.

The distance towards the ‘sentence operator’ view of negation taken by propositional logic becomes even more obvious when – apart from “clause negation” (Qu: 10.55) – “subclausal” (H and P: 60) or ‘local’ *not*-negation (Qu: 10.66) are considered, in which the *not*-scope does not cover the whole VMC, but is restricted to a phrasal modifier (73) or an adverb (74).<sup>24</sup>

*scope of negation*

(73) a *not* too positive evaluation

*scope of negation*

(74) *Not* unexpectedly he lost his job.

Returning to clause-level examples like (72), one finds that while the beginning of the scope is fairly easily identified in most cases, its end point is often more difficult to pinpoint. As far as agent-driven VMCs are concerned, the postverbal PATIENT participant is normally included (72) and so is an additional RECIPIENT participant (75), which means that the scope covers the verbal concept plus the whole post-verbal complementation.

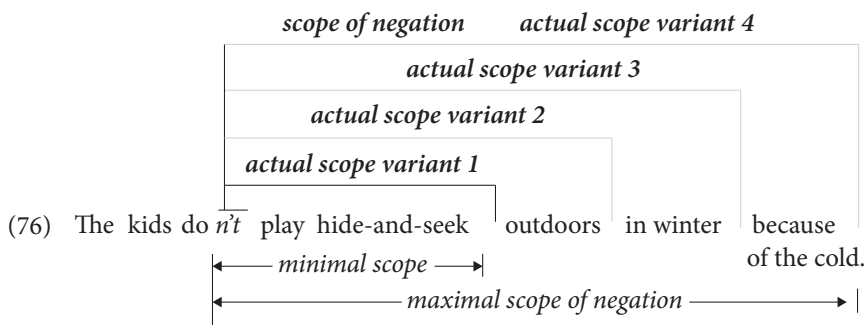
*scope of negation*

(75) Peter did *n't* show the smartphone to his younger brother.

Yet what happens if the VMC of the clause is accompanied by circumstances? If one extends the above examples into (76) by introducing circumstances of *PLACE*, *TIME* and *REASON*, there seems to be a choice of including one or several of the circumstances within the scope of negation, as indicated by the weak lines of variants 2, 3, and 4.

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24. This distance to the sentence operator view is reduced when metalinguistic negation is taken into account. See fn 22.



Between them these variants represent the range of possibilities between the *minimal scope*, i.e. a scope that is here restricted to the predicator and the PATIENT participant, and the *maximal scope*, which encompasses the whole clause with all its circumstances.

The decision which scope is chosen as *actual scope* in a certain utterance depends on “what the context requires”. This is not only a rather vague explanation (but see Section 6.5 for details based on focusing effects); it also shows that, just like attribution, perspectivizing and scope are capable of reflecting inherent ambiguities that are resolved in communication only to a certain point.

What is also remarkable is that (as illustrated in (76)) the subject participant is not included within the scope of negation. This means that the subject participant is not directly negated, as predicator, postverbal participants and some clause-final circumstances are. However, the referent of the subject may be indirectly affected by the negation because it is part of the situation to which the negated meanings of predicator and postverbal participants contribute.<sup>25</sup>

Returning to the perspectives of TAM and agreement, one finds that the grammaticalized status of scope can also be claimed for them and so can the distinction between minimal, maximal and actual scope. Here the minimal scope always includes the verbal concept (plus PATIENT participant if present); the scope-indicating TAM perspectivizers are either attached to the verb (tense and aspect affixes) or placed just in front of the verb (auxiliaries). The maximal scope may include further postverbal participants and also circumstances. The subject participant, however, is excluded from the TAM scope for reasons as just discussed for negation above.

As far as the actual TAM scope is concerned, its extension, in particular the inclusion of circumstances, is often difficult to decide: As shown for the past tense perspective in (7–10) below, it depends on the conceptual content of the circumstance, on the verbal concept and on the specific context in which they are used. If the circumstance is a straightforward past time reference (*last night*), the past tense

25. For an explanation in terms of topic and comment compare Section 6.2.1.



*interrogative scope*                      ?                      ?

(81) Could you tell me when my guests have arrived?

*imperative scope*                      ?                      ?

(82) Please Ø give me a ring when your guests have arrived.

### 2.3.4 Perspectivizing use of adverbs

A further advantage of the notion of perspectivizing is that it promises to accommodate a linguistic phenomenon that is notorious for being intractable: the phenomenon of adverbs, or more precisely, those adverbs for which the status of circumstances cannot be safely claimed (see Section 2.2.2). Semantically their range cuts right across the spectrum of the semantic roles proposed for adverbs and adverbials in traditional grammars: Adverbial perspectivizing covers the domains of *VIEWPOINT*, *TIME* (time when and time frequency), *MANNER* (process- and person-oriented), *EMPHASIS* (uptoning and downtoning), *DEGREE* and *FOCUSING* (restriction and addition).<sup>26</sup>

Considering this functional-semantic range, it is not surprising that the various attempts to assign all adverbs to a few categories (e.g. the categories of sentence and predicate modifiers) have yielded only unsatisfactory results. This has led Quirk et al. – after years of intensive investigation of adverbial syntax (Greenbaum 1969, Quirk et al. 1972: Chapter 8) – to the conclusion that their earlier classification of adverbs into adjuncts, disjuncts and conjuncts was insufficient and should be complemented by the category of subjuncts (which comprises most of the adverbs that are suggested for the perspectivizing mechanism in this study; Qu: 8.88). Due to their commitment to a uniform syntactic hierarchy, Quirk et al. regard subjuncts as subordinated to the clause construction or to a clause element. This is acceptable for adverbs with a ‘narrow orientation’ (e.g. time, manner, emphaser, focusing adverbs), but – as admitted to some extent by the authors themselves – it is problematic for subjuncts of ‘wide orientation’ (mainly viewpoint adverbs), which suggest structural superordination rather than subordination.

A more radical departure from the traditional analysis of adverbs is proposed by Halliday (1994), who distributes adverbials and adverbs across the three metafunctions on which he claims communication through language is based: the ideational, interpersonal and textual functions.<sup>27</sup> While most adverbials fill

26. For the combination of perspectivizing and anaphoric reference, as it occurs in connective (or linking) adverbs, see Section 6.5.4.

27. The ideational function is largely covered by VMCs, to some extent by attribution, while the textual function addresses topic/comment, focus and GIVEN/ NEW. See also ch.1, fn. 8.

circumstantial roles in the ideational function and while connective adverbs<sup>28</sup> are part of the textual function, adverbs of indefinite time, frequency and degree, em-phasizers and also viewpoint adverbs<sup>29</sup> are assigned to the interpersonal language function together with the TAM phenomena of tense and modality, polarity and sentence modes.

The perspectivizing approach to adverbs pursued in this study benefits from both Quirk et al.'s and Halliday's proposals. Like the semantic scope applied to negation by Quirk et al. (see Section 2.3.3 above), their remarks on the wide or narrow orientation of subjuncts support the idea of a concept-linking mechanism based on perspective and scope. That this type of concept linking is not an isolated phenomenon, but part of a wider range of perspectivizers is endorsed by Halliday, who places certain adverb classes in the wider context of the interpersonal language function and thus in the neighborhood of linguistic phenomena like TAM, whose status as perspectivizers has already been established.

The following sketch of adverbial perspectivizing will again be restricted to a few prototypical instances, but is sufficient to show that this approach is not only relevant for the subjuncts of Quirk et al.'s classification, but also for disjuncts and conjuncts. Moreover, adverbial perspectivizing has to be seen in conjunction with the circumstancing attribution of adverbials; a fuller picture of the use of adverbs (and adverbials) emerges when the interfaces between adverbial perspectivizing and circumstancing are discussed in Section 8.2.<sup>30</sup>

To start the overview, the class of adverbs for which the perspectivizing effect is most obvious are *adverbs of viewpoint*<sup>31</sup> because here perspectivizing is explicitly supported by the lexical meaning. Semantically, this class can be subdivided into adverbs of subject-matter viewpoint (e.g. *geographically*), of presentation (e.g. *briefly*), of attitude (e.g. *unfortunately*) and of probability (e.g. *probably*, *possibly*). In terms of position and scope, these adverbs show many parallels with sentence modes: As illustrated in (83–86) below, the adverbs, which function as perspectivizers and scope signals, tend to be placed clause-initially. Minimally, the scope of viewpoint adverbs covers the message expressed by the VMC and also the circumstances of

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28. Disjuncts in Qu: 8.121; conjunctive adjuncts in Halliday (1994: 83–84).

29. Time, usuality, probability, degree, comment adjuncts according to Halliday (1994: 81–83).

30. This overview also neglects the fact that the perspectivizing interpretation can be profitably applied to the historical development of adverb use. See Lenker (2011, 2014) on connective (or linking) adverbs and Ungerer (1988: 247–257) on the development of manner adverbs such as *electronically* and *philosophically*.

31. Compare Quirk et al.'s statement: "Disjuncts seem to have a scope that extends over the sentence as a whole" (Qu: 8.121).

a simple sentence. From this minimal scope, the actual scope can be extended to include additional VMCs (either in additional matrix clauses or subordinate clauses – compare (85–86)). As with sentence modes, this raises the question whether the adverbial perspective is more relevant for the first clause than for the following clauses, an uncertainty indicated by the weak lines.

- scope of subject-matter viewpoint adverb*
- (83) Geographically, Latin America is part of the Southern hemisphere.
- scope of presentation viewpoint adverb*
- (84) Briefly, your talk was the best held at this conference so far.
- scope of probability viewpoint adverb*
- (85) Apparently the car was involved in an accident and has been sloppily repaired.
- scope of attitudinal viewpoint adverb*
- (86) Unfortunately, he broke his leg when he slipped on the pavement.

Other types of adverbs, e.g. time and manner adverbs, also lend themselves to a perspective and scope interpretation, but their scope is somewhat more variable, which means they follow the model of *not*-negation, or more precisely of *not*-negation with larger scope ('sentence negation' in traditional terminology). *Time adverbs* like *already*, *still* and *frequency adverbs* like *often*, *frequently* and *normally* prototypically appear as scope signals next to the finite verb element (87). Their minimal scope always covers the verbal element (plus PATIENT participant), but their actual scope may be extended to include a RECIPIENT participant and adverbial circumstances (indicated by weak lines in (88)). As for *emphasizer adverbs* such as *definitely*, *completely* and *simply* (89–91), they are typically placed in the same positions as time and frequency adverbs and show similar scope behavior (though they differ regarding their focusing effect – see Section 6.5.3).

- scope of indefinite time adverb*
- (87) Christmas shopping has already started in the big malls.
- scope of frequency adverb*
- (88) They often sell fish and chips to tourists / in seaside resorts.
- scope of emphaser adverb*
- (89) You must definitely try Lena's salmon quiche – it's delicious.
- scope of emphaser adverb*
- (90) I completely forgot to buy the fish.
- scope of emphaser adverb*
- (91) They simply don't know anything about fish.

The term ‘manner adverb’ probably first calls to mind one of its subgroups, i.e. *process-oriented manner adverbs*, such as *automatically* and *quickly*. Prototypical examples may precede the lexical verb form,<sup>32</sup> their minimal scope covers the conceptual content of the main verb (plus the PATIENT participant if present); the maximal scope extension includes subsequent adverbial circumstances, but not the auxiliary or the subject. Compare (92–93).

*scope of process-oriented manner adverb*

(92) The doors are automatically locked after dark.

*scope of process-oriented manner adverb*

(93) My friends had quickly left the house because of the thunderstorm.

Another fairly large group of manner adverbs<sup>33</sup> is often called ‘subject-oriented adverbs’ (Qu: 8.92) – examples are *proudly*, *reluctantly*, *intentionally*, *nervously*. Unlike process-oriented adverbs, their minimal scope is not restricted to the verbal element, but also includes the subject, which from a conceptual angle normally represents a person concept;<sup>34</sup> this is why in a conceptual-semantic analysis the term *person-oriented adverbs* seems preferable. In their prototypical, scope-initial position these adverbs occur in front of the subject. Since in English the subject is normally placed at the beginning of the VMC, this means that person-oriented adverbs may occur at the beginning of a clause just like viewpoint adverbs, though for a different reason. What also distinguishes person-oriented adverbs from viewpoint adverbs is that their actual scope is quite variable and may (but need not) include final circumstancing elements (94–95).

*scope of person-oriented manner adverb*

(94) Proudly the CEO presented his company’s new tablet at the trade fair.

*scope of person-oriented manner adverb*

(95) Intentionally they demolished the remaining furniture with a hammer.

However, there are not only close links between adverbial perspectivizing and large-scope *not*-negation. What has been called ‘local negation’ also has its parallels in the

32. Process-oriented manner adverbs can also occur after the lexical verb form and before prepositional elements (RECIPIENTS or circumstances) as well as at the very end of the clause – see below and Section 9.1.1.

33. Compare the analysis of 594 manner adverbs collected from various sources in Ungerer (1988: 223–226), in which person-oriented adverbs comprise the largest group (270 items, 45% of total).

34. The term ‘person’ here includes animals capable of showing emotional reactions.

use of adverbs, especially in degree adverbs such as *entirely*, *totally*, *greatly*, *slightly* and *barely*, where the adverbial scope may be restricted to a single adjective or adverb (96–97) – or at least to a single noun phrase if a somewhat wider scope is assumed (98) (for details see Section 4.2 and Section 9.3.2).

*scope of degree adv.*

(96) You are *entirely* wrong.

*scope of degree adv.*

(97) Her new dress was *greatly* admired.

*scope of degree adv.*

(98) a *totally* convincing story

Finally there are types of adverbs that compete with and even surpass *not*-negation in scope variability as they are used both with minimal scope and larger scopes. This is particularly true of *focusing adverbs* like *only*, *even*, *also*, *as well* (which are discussed in detail in Sections 6.5.1–3). Compare (99–101), where the usage with minimal scope (called ‘contact position’ of the signaling adverb in traditional terminology) is contrasted with the larger scope created when the adverb is placed before the lexical verb (99’–101’).<sup>35</sup>

*scope of focusing adv.*

(99) He drinks *only* < TEA >.

*scope of focusing adv.*

(99’) He *only* drinks < TEA >.

*scope of focusing adv.*

(100) He drinks *even* < TEA > mixed with coke.

*scope of focusing adv.*

(100’) He *even* drinks < TEA > mixed with coke.

*scope of focusing adv.*

(101) He works *also* for < GREENpeace >.

*scope of focusing adv.*

(101’) He *also* works for < GREENpeace >.

35. For the use of connective adverbs (or linking adverbs or conjuncts) like *therefore*, *however*, *yet* see Section 6.5.4.



The examples presented so far have all had one thing in common: Their lexical meaning coincides with the functional meanings indicated (*SUBJECT-MATTER VIEWPOINT*, *PRESENTATION*, *ATTITUDE*, *TIME*, *MANNER*, finally *EMPHASIS*, *DEGREE* and *FOCUSING*). This means that the scope-initial position in which these adverbs are presented as perspectivizers and scope signals is typical, but not obligatory. Alternatively, they could appear in other positions without much reducing the effect of the adverbial perspective because the prototypical scope would be automatically assumed. This is true of viewpoint and person-oriented manner adverbs appearing after the subject, such as *unfortunately* in (102) and *proudly* in (103).<sup>36</sup>

*scope of (attitudinal) viewpoint adverb*

(102) Peter *unfortunately* slipped on the pavement and broke his leg.

*scope of person-oriented manner adverb*

(103) The CEO *proudly* presented his company's newest smartphone.

However, there are also cases where the desired scope and the related functional meaning are only rendered if the adverb is rigidly positioned in scope-initial position and therefore unambiguously recognizable as a scope signal. The main reason is that the lexical meaning, if taken by itself, does not convey the scope-based functional meaning of the adverbial perspective. Compare (104–108), where the lexical meaning of *clearly* combines with different scope-dependent functional meanings.

*scope of viewpoint adverb*

(104) *Clearly*, a windfarm would be seen from far away.

*scope of viewpoint adverb*

(105) A windfarm *clearly* would be seen from far away.

*scope of process-oriented manner adv.*

(106) A windfarm would be *clearly* seen from far away.

*scope unnecessarily ambiguous*

(107) ?\* A windfarm would *clearly* be seen from far away.

*scope of viewpoint adverb?*

*scope of manner adverb?*

(108) You could *clearly* see a windfarm from far away.

36. For the clause-final position of viewpoint and frequency adverbs see Section 9.1.2.

As illustrated by (104–108), the perspective of viewpoint is rendered by the front position of *clearly* with a clause-encompassing scope (104), alternatively by the position immediately after the subject (105). The process-oriented perspective of manner adverbs is expressed by the prototypical manner position of *clearly* immediately before the lexical verb form (106). In contrast, examples like (107) are avoided because the position of the adverb between two auxiliaries – i.e. further removed from the lexical verb – signals unnecessary ambiguity of perspective and scope between *VIEWPOINT* and *MANNER* interpretations. The position of the adverb in (108) – here it is positioned between the only auxiliary and the verb – is more acceptable, but prone to being interpreted in different ways in communication: On the one hand the adverb seems close enough to the front position of the subject participant to justify a *VIEWPOINT* interpretation, on the other hand it takes the position immediately before the lexical verb form typical of process-oriented *MANNER* scope.

The scope-dependent *VIEWPOINT* and *MANNER* interpretation of *clearly* has a number of parallel cases such as *briefly*, *naturally* and *plainly*. Moreover, there are a large number of manner adverbs capable of expressing both a person-oriented and a process-oriented perspective, which is reflected in their scope-dependent position, as illustrated by the use of *nervously* in (109–110). And as Swan (1982) has shown for *sadly*, some adverbs can even express *VIEWPOINT* as well as person- and process-oriented *MANNER* in spite of their relatively limited lexical meaning.

*scope of person-oriented manner adverb*

(109)  *Nervously* Peter watched the interviewer's face.

*scope of person-oriented manner adverb*

(110) Peter had been  *nervously* fiddling around with his pen.

*scope of process-oriented manner adverb*

(110') Peter had been  fiddling around *nervously* with his pen.

But why does scope-based perspectivizing function as it does? This is discussed in the next section.

## 2.4 The inherent meaning of scope and attribution

Leaving aside the prototypical cases of attitudinal adverbs (*unfortunately*), subject-matter viewpoint adverbs (*geographically*) and process-related manner adverbs (*automatically*), where the adverbial perspective is supported by the lexical meaning of the underlying adjectives, why do adverbs like *clearly* or *naturally* express

different perspectives and acquire different functional meanings? At this point it may be helpful to go back to the constructionist interpretation of the examples in Section 2.1.1, here repeated as (111–112).

(111) Susan is *writing* emails.

(111') Susan is *yawning* replies to her business mails.

(112) Peter *handed* the cake to his grandmother.

(112') Peter *juggled* the cake to his grandmother.

From the fact that the meaning of the VMC – ‘producing something’ in (111), ‘transfer of goods’ in (112) – is only supported by the verbs *write* and *hand* in (111–112), but not by the lexical meaning of the verbs *yawn* and *juggle* in (111'–112'), the conclusion has been drawn that the communicative success of these examples suggests the existence of an inherent constructional meaning, a kind of constructional coercion.

Transferring this approach to concept linking in terms of adverbial perspective and scope, this means that perspective is not only expressed through the lexical meaning of the adverbs used; instead, perspective also manifests itself in the extension of the scope exerted by an adverb placed as perspectivizer in a certain position. In other words, scope, as determined by position, carries the meaning of a specific perspective just as VMCs may express particular meanings like ‘producing something’ or ‘transfer of goods’. This inherent meaning of adverbial scope is the reason why adverbs like *clearly*, whose lexical meaning is ‘neutral’ with regard to adverbial perspectives of *VIEWPOINT* and *PROCESS-ORIENTED MANNER*, can nevertheless be used to render these different perspectives. Compare the pairs *unfortunately/clearly* (113–114) and *quickly/clearly* (115–116).

*scope of (attitudinal) viewpoint adverb*

(113) *Unfortunately*, the return address wasn't mentioned on the envelope.

Lexical viewpoint  
meaning

*scope of viewpoint adverb*

(114) *Clearly*, the return address was written on the envelope.

Neutral lexical  
meaning

*scope of manner adverb*

(115) The return address was *quickly* written on the envelope.

Lexical manner  
meaning

*scope of manner adverb*

(116) The return address was *clearly* written on the envelope.

Neutral lexical  
meaning

Reaching back from perspectivizing to the linking mechanism of attribution, an inherent meaning cannot be claimed for specific forms of attribution, as in the case of VMCs and perspectivizing, where the status of inherent meaning can be claimed for ‘transfer of goods’ or ‘attitudinal viewpoint’ respectively. An inherent meaning of the attribution mechanism can only be found on the more general level of the underlying image schemas, i.e. the PART-WHOLE and CONTAINER schema. As it seems, the image-schematic meaning of local semantic attraction exerts its full impact where it best agrees with the lexical meaning of the linguistic items concerned. For the PART-WHOLE schema this is illustrated by compounds such as *chair leg*, *shoelace* or *mountain top*, where the second constituent (*leg*, *lace*, *top*) denotes the ‘part’, but also by grammatically marked phrases like *the door of the house* and *Peter’s car*. The CONTAINER schema is clearly represented in compounds like *seaside resort*, *mountain cabin* or *bog body*, with the first ‘embedding’ locative constituent denoting the circumstance (container), and also in many locative adverbial phrases (*in the house*, *under the bridge*, *in the mountains*).

If these examples are to be regarded as ‘model cases’ of attribution, there are many more instances where compounds, adjective+noun combinations and prepositional phrases involved in attribution do not directly reflect one of the image schemas in their lexical or phrasal meaning. Consider compounds like *flagpole* and *blackbird* (neither a clear case of PART-WHOLE) or the numerous combinations with adjectival qualifiers (*large house*, *hot meal*, *delicious cake*); add *windmill*, *straw hat* and *windshield* or phrases like *because of the bad weather*, *in spite of the snow* (none a clear case of embedding circumstance, but each highlighting a facet of circumstance like CAUSE, MATERIAL, PURPOSE or CONCESSION). All these examples may benefit from the semantic attraction rooted in the PART-WHOLE and CONTAINER image schemas – but only to a certain point. This is the extent to which semantic attraction can be understood as the ‘inherent meaning’ of attribution – and this means that this notion is less tangible than the inherent meanings of VMCs and adverbial scopes.<sup>37</sup>

## 2.5 Evidence for concept linking in spoken language

It is obvious that although the mechanisms of concept linking have been introduced with examples from written language, they also apply to oral communication. Here, however, intonation comes into play, a linguistic, but non-symbolic tool that is only

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37. This inherent meaning of attribution is, of course, also at work when adverbial and relative clauses are joined with main clauses by means of semantic attraction.

partly reflected in writing in the guise of punctuation. Without going into detail – which would require a major digression and an extensive notation of intonation – one can postulate the following tendencies for English:

- [1] VMCs and attribution on the clause level are reflected in the extension of the intonation unit.  
 [2] Perspective and scope are reflected in the contour of the intonation unit.

As for the extension of the intonation unit (indicated by double slashes below), the traditional view is that it basically corresponds to the extension of the simple sentence and that it can also correspond to a subordinate adverbial clause (117). From the angle of concept linking this means that the primary candidates for intonation units are VMCs. In addition, many circumstancing elements (adverbials) qualify as intonation units (118).

(117) // Since he worked hard, // he fell asleep right away. //  
       *VMC as intonation unit*    *VMC as intonation unit*  
       // although it was noisy. //  
       *VMC as intonation unit*

(118) // In the middle of the night // he woke up // because of the noise. //  
       *circumstance*                    *VMC as*                    *circumstance*  
       *as intonation unit*                    *intonation unit*    *as intonation unit*

However, the correspondences illustrated in (117–118) are not rigorously applicable. Disregarding spontaneous speech, which consists of linguistic chunks that require their own intonation units, intonation breaks are uncommon after short adverbial circumstances (119) or with subordinate clause constructions after short locutive main clauses (120).<sup>38</sup> In contrast, connective and viewpoint adverbs used as perspectivizers are often marked off from their scoped message by intonation breaks and commas (121); see Section 6.5.4.

(119) // Every morning he spends hours over his breakfast. //  
       *circumstance + VMC as a single intonation unit*

(120) // She says she's never really liked her boyfriend. //  
       *VMC + subordinate clause VMC as a single intonation unit*

(121) // Fortunately, // he has given up smoking. //  
       *viewpoint adverb*    *VMC*  
       *as intonation unit*    *as intonation unit*

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38. Compare the discussion of these constructions in Section 11.2.

Finally, there are phenomena where the application and omission of intonation breaks is used as a distinctive feature, as with non-restrictive relative clauses (separated from the subordinate clause by breaks) and restrictive relative clauses (no breaks) – compare (122–123).<sup>39</sup>

(122) // My dad, //            who was a tennis champion once, //  
       VMC 1st part →    non-restrictive relative clause VMC  
       as intonation unit as intonation unit

is still active as a coach. //

← VMC 2nd part

as intonation unit

(123) // The laptop I bought a year ago is no longer available. //  
       VMC + restrictive relative clause VMC as a single intonation unit

The second tendency mentioned above (reflection of perspective and scope in the intonation contour) is most obvious for sentence modes. It is well known that declarative and imperative modes are commonly accompanied by a falling intonation of the nucleus (the stressed element in an intonation unit, indicated by capitals below) while the interrogative mode is indicated by a rising nuclear intonation (124–125).<sup>40</sup> Again there are many deviations from this tendency: *wh*-questions, as opposed to *yes/no*-questions, often show falling nuclear intonation (126), while on the other hand the declarative mode expressed by the subject-finite sequence may be overruled by a rising nuclear intonation, producing the so-called intonation question, which is usually indicated by the question mark in writing (127).

*scope of declarative sentence mode*

(124) // Susan has got the TICKets for the opera. //

*scope of interrogative sentence mode*

(125) // Have you got the TICKets for the opera? //

*scope of interrogative sentence mode*

(126) // Where have you got the TICKets for the opera? //

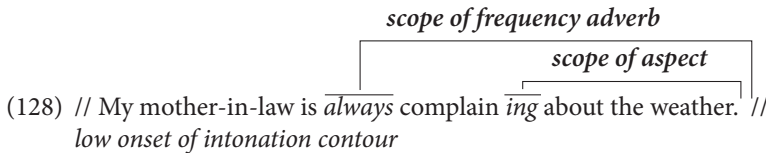
*scope of declarative sentence mode overruled*

(127) // You have got the TICKets for the opera? //

39. It also seems possible to assume an intonation break at the end of the relative clause: //The laptop I bought a year ago // is no longer available. //

40. For a broader discussion of nucleus in connection with focus see Section 6.3.

What is less easily assigned to perspective and scope is the emotional effect of certain pre-nuclear intonation contours. To mention just one example, a low pre-nuclear onset of the intonation contour may express the emotion of anger and by doing so will support the combination of adverbial perspective (frequency) and aspect perspective (progressive form), as in (128).



## 2.6 A first overview of concept-linking mechanisms

Table 1 provides a summary of the concept-linking mechanisms or processes presented so far, yet without their intonational implications. Even more than the introductory text, the overview concentrates on typical aspects, leaving aside many finer distinctions and especially the transitional phenomena, which also play an important part in what goes on in concept linking.

## 2.7 Postscript on concept linking and image schemas

When the image schemas of PATH, PART-WHOLE and CONTAINER were presented as the conceptual basis of VMCs, modifying and circumstancing respectively, they were introduced as cognitive-linguistic tools for the analysis of linguistic constructions. What was not discussed was their relationship to other image schemas, the underlying research on spatial relations, and the claims and speculations about their psychological status (Gibbs 2005, Grady 2005) and neurological background. Far from attempting a full-scale assessment of these issues, this postscript will select a few aspects, which could be interpreted as strengthening the cognitive underpinnings of the concept-linking approach.

### 2.7.1 Relationship of PATH, CONTAINER, and PART-WHOLE to other image schemas

Starting with Johnson (1987), many researchers have provided catalogues of image schemas.<sup>41</sup> What is interesting from the concept-linking viewpoint is that the triad of

41. Among them Hampe (2005:2–3); Croft and Cruse (2004:45); Evans and Green (2006:190).

Table 1. Types of concept linking and their prototypical realization

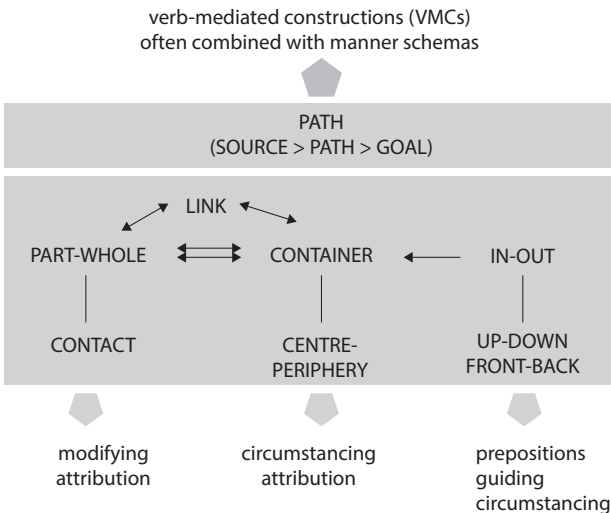
<i>Verb-mediated constructions (VMCs)</i>	<p>Constructions based on linking potential of verbal elements</p> <ul style="list-style-type: none"> <li>– prototypical three-element VMCs based on PATH image schema, equipped with end-focus <ul style="list-style-type: none"> <li>– AGENT-PRED-PATIENT constructions</li> <li>– extended to AGENT-PRED-PATIENT-RECIPIENT constructions</li> </ul> </li> <li>– marginal three-element VMCs also based on PATH image schema, equipped with end-focus <ul style="list-style-type: none"> <li>– EXPERIENCER-PRED-EXPERIENCED constructions</li> <li>– copula constructions</li> </ul> </li> <li>– marginal two-element VMCs based on both the PATH and PART-WHOLE image schemas, end-focus weakened <ul style="list-style-type: none"> <li>– THEME - PRED construction</li> <li>– compounds with verbal element</li> <li>also: &gt; SEMI-THEME – PRED construction (e.g. mediopassives)</li> </ul> </li> </ul>
<i>Attribution</i>	<p>Link based on non-verbal semantic attraction between concepts (partly preposition-guided)</p> <ul style="list-style-type: none"> <li>– <i>modifying</i> <p>based on PART-WHOLE image schema</p> <ul style="list-style-type: none"> <li>– adjective-noun and noun-noun compounds</li> <li>– modifier-head phrases</li> <li>– attributive clauses (relative clauses, also contact clauses)</li> </ul> </li> <li>– <i>circumstancing</i> <p>based on CONTAINER image schema</p> <ul style="list-style-type: none"> <li>– noun+noun compounds</li> <li>– adverbials (prep. phrases and noun phrases) + VMCs</li> <li>– VMCs as adverbial clauses + VMCs</li> </ul> </li> </ul>
<i>Perspectivizing</i>	<p>Link based on deictic or otherwise speaker-related perspective, whose scope is seen as a grammaticalized sphere of influence</p> <ul style="list-style-type: none"> <li>– <i>sentence modes</i> (declarative, interrogative, imperative)</li> <li>– <i>agreement</i> (1st, 2nd, 3rd person, number)</li> <li>– <i>TAM</i> (tense, perfective and progressive aspect, modality)</li> <li>– <i>negation</i></li> <li>– <i>adverbial perspectivizing</i> <ul style="list-style-type: none"> <li>– viewpoint adverbs (subject-matter, presentation, attitude, probability)</li> <li>– time, frequency, emphasizer adverbs</li> <li>– person-oriented and process-oriented manner adverbs</li> <li>– degree adverbs, focusing adverbs</li> </ul> </li> </ul>

PATH, PART-WHOLE and CONTAINER (OR CONTAINMENT) are not only part of Johnson's original inventory, but that they still represent the core of suggested image schemas (Hampe 2005:2). In fact, they seem to fulfill the conditions of image schemas in a more satisfactory way than other candidates, representing prototypes of "embodied preconceptual [...] schematic gestalts which capture the structural contours of sensory-motor experience and [integrate other] modalities" (Hampe 2005:1).



As far as the *PATH* schema is concerned (on which *VMCs* depend), its structure comprises *SOURCE*, *PATH* (in the narrow sense of ‘course’) and *GOAL*. The *PATH* schema it is most apparent in motion events, both in non-agentive *MOTION* schemas and agentive *SELF-MOTION* schemas, and is quite often combined with a *MANNER* schema (Radden and Dirven 2007: 278–292).

If one considers attribution (responsible for syntactic modifying and circumstancing), the two schemas involved, the *PART-WHOLE* and the *CONTAINER* schema, can be seen as parts of an image-schematic arrangement, which integrates other schemas like *CONTACT* (in the case of *PART-WHOLE*), *CENTRE-PERIPHERY* (in the case of *CONTAINER*). The latter schema is also the source of orientational image schemas, the more or less incorporated *IN-OUT* schema as well as the *UP-DOWN* and *FRONT-BACK* schemas, whose linguistic realizations are used as guiding elements of circumstances – compare Figure 3 for a tentative visualization.<sup>42</sup> As shown in Figure 3, the image-schematic background of attribution is dominated by the central connection between the *PART-WHOLE* and the *CONTAINER* image schemas – a relationship that is not only close (as indicated by the double arrows), but also reversible in the sense that either schema can be regarded as a variant of the other. They both support the *LINK* schema, which is important for the earliest stages of language acquisition and pre-linguistic cognitive development (Mandler and Canovas 2014 and Section 13.2). All in all, the role assigned to the *PATH*, *CONTAINER* and *PART-WHOLE* image schemas in concept-linking grammar is in accordance with the central position they hold among image schemas in general.



**Figure 3.** Image schemas underlying VMCs and attribution

42. For alternative (and more detailed) arrangements of image schemas see references in fn. 41.

### 2.7.2 The spatial background of image schemas

That the notions of path and container reflect a spatial approach to the world may be evident. Scientifically this opinion was supported by Talmy's and Langacker's early empirical research,<sup>43</sup> which led to the conclusion that the diversity of spatial expressions can be related to a limited set of universal spatial primitives, among them 'path' and 'bounded regions'. Against this background Lakoff (1987: 283) proposed his spatialization hypothesis, according to which major aspects of conceptualization can be explained as spatial image schemas. Thus categories can be understood in terms of CONTAINER schemas and hierarchical structure in terms of PART-WHOLE schemas. The process of metaphorical mapping of conceptualization aspects onto these schemas can be interpreted in terms of the PATH schema.<sup>44</sup> Considering the importance that is accorded to the spatialized CONTAINER, PART-WHOLE and PATH schemas in conceptualization processes, it should not be surprising to find that the linearized and therefore spatially conceived processes of concept linking also benefit from these image schemas.

### 2.7.3 Neurological claims for image schemas

Since image schemas are not regarded as abstractions from concrete experiences based on rational thinking, but are seen as pre-conceptual phenomena, the temptation is great to link them to other processes taking place in our brains. The basic idea was formulated in Lakoff and Johnson's (1999) theory of neural simulation, according to which imagining and talking about an action makes use of the same brain structures as the execution of the action or, in Rohrer's (2005: 172) words, "we understand an action sentence because we are subconsciously imagining performing the action". Differentiating further, Dodge and Lakoff (2005) pointed out the distinction between primary brain areas, which are assumed to be limited to visual, auditory, tactile or sensory motor operations, and secondary areas which permit the computation of multimodal image schemas that may serve several modalities simultaneously. It is in this latter type of brain area that linguistically relevant image schemas are processed.

Turning to the selection of image schemas that have been primarily investigated for neural grounding, one is again confronted with the three schemas relevant for concept-linking grammar. Deane (1996), for example, starts out from the PART-WHOLE schema (combined with the CENTRE-PERIPHERY and LINK schemas)

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43. Represented in Talmy (1975 and 2000), Langacker (1976 and 1987).

44. Other image schemas which occur in Figure 3, like link, centre-periphery, front- BACK and UP-DOWN, also play a role in Lakoff's spatialization hypothesis.

to explain that they are part of the brain's hard wiring for the spatial relationship of physical objects. These schematic structures are transferred to the processing of linguistic information so that grammatical processing is linked to the processing of spatial information by way of an implicit spatial metaphor.

Dodge and Lakoff (2005: 19–28) not only discuss the CONTAINER schema to illustrate the multimodality of image schemas, but also provide a detailed analysis of the neural basis of PATH and MANNER schemas supporting motion descriptions. By singling out brain areas and processes that are concerned with path-related location and navigational functions as well as manner-related motor control functions (locomotion), they develop an exemplary description of how linguistically relevant PATH and MANNER schemas might be neurally processed.

Between them, the authors of these studies do not deny that at present the connection between neurological structures and processes on the one hand and linguistic grammar and utterances on the other hand is still speculative to a certain extent. Yet if one day it should be possible to support the neurological grounding of pre-linguistic image schemas with additional empirical evidence, the role of key schemas like PATH, CONTAINER and PART-WHOLE might well come to be regarded as neurological proof of the concept-linking approach.

## Hierarchy in concept linking

### 3.1 Introductory remarks on grammatical hierarchies

It is difficult to imagine any scientific concept that does not involve some sort of hierarchy. In linguistic descriptions various kinds of hierarchies are employed, which are based either on taxonomic (type-of) or on meronymic (part-of) relationships.<sup>1</sup> What they have in common is the principle of class inclusion, i.e. the claim that the superordinate category includes the subordinate categories. One of the best-established linguistic hierarchies is the grammatical hierarchy of 'lexeme–phrase–clause–complex sentence', which is characterized by part-of relationships. Compare Figure 4, which shows that the higher-level categories of the hierarchy include several and also different types of subordinate categories (complex sentences include several and also different types of clauses, etc.). The problem is that – simple as this arrangement may appear – it does not solve all the problems of grammatical hierarchy. For instance, relative clauses that occur at the top level of complex sentences are at the same time classified as phrase constituents that are placed two ranks below; TAM markers (both auxiliaries and inflectional affixes), which may be semantically relevant for a large section of the clause, are tied to the verb phrase, and so are all kinds of manner adverbs whether or not their impact goes beyond the verb phrase.

The reason why these violations of grammatical hierarchy are accepted is that in traditional grammar as well as most modern grammars priority is given to clause patterns (NP-VP patterns as in generative grammars, verb-argument patterns as in valency or construction grammars, or mixed patterns as in traditional grammar). In contrast, modifying (as the only recognized form of attribution) is regarded as less important and TAM signals are mostly seen as secondary additions to the verb phrase.<sup>2</sup> Altogether this is an unsatisfactory situation.

Yet within the concept-linking framework a solution seems to be possible because here each of the three linking mechanisms – verb-mediated construction,

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1. Compare Roget 1982 [1852], Introduction, Ungerer (2001:217–18), Radden and Dirven (2005:8–9), Ungerer and Schmid 2006: Section 2.3).

2. An exception is Halliday's concept of three language functions – see Section 1, fn. 7.

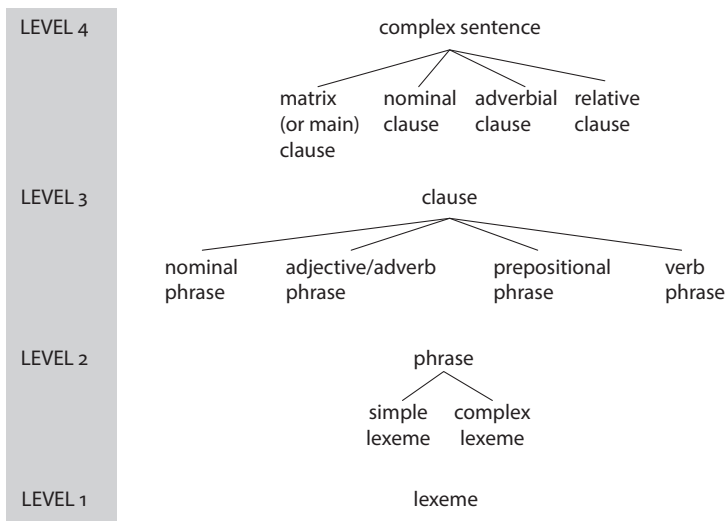


Figure 4. Traditional grammatical hierarchy

attribution and perspectivizing – contributes to the grammatical hierarchy in its own specific way. The goal is not a uniform hierarchy dominated by VMCs, but a concept of interlocking hierarchies that basically support, but also differentiate, the established grammatical hierarchy of ‘lexeme–phrase–clause–complex sentence’.

Starting out from the traditional grammatical hierarchy, this goal is approached in two steps: First the role of VMCs and attribution in hierarchy-building is discussed, then the perspectivizing and scope hierarchy is added as an additional component.

## 3.2 VMC and attribution hierarchies

### 3.2.1 The ‘flatness’ of the VMC hierarchy

For readers used to the traditional multi-level grammatical hierarchy, the ‘flatness’ of the VMC hierarchy (i.e. the fact that it is restricted to two levels) may come as a surprise. Disregarding constructions with non-finite verb forms (which are identified as interfaces and thus as unique form/meaning pairings in Chapter 10), VMCs are first of all tied to the level of the clause, which also makes sense from a concept-linking stance. VMCs tend to render complex messages, and this is best achieved by exploiting the potential of verbal concepts to mediate between nominal concepts in a differentiated way – compare examples 1–2, which illustrate the clause-level use for both three-element and two-element VMCs.

(1) I met my former head teacher at the old windmill.  
 AGENT – PRED – PATIENT  
 \_\_\_\_\_  
 VMC

(2) The snowman was melting in the spring sun.  
 THEME – PRED  
 \_\_\_\_\_  
 VMC

Beyond clauses, VMCs also occur on the level of complex sentences,<sup>3</sup> in which one element of the matrix VMC is replaced by a second VMC ('nominal clause' in traditional terminology) – compare (3–5). As illustrated in (3–4), the verbal concepts of the matrix VMC often express communication and also mental activity, introducing indirect speech or indirect thought; in the latter case the subject participant is interpreted as EXPERIENCER rather than AGENT participant (as in (4)).<sup>4</sup> Additional VMCs replacing the subject participant normally have the semantic qualities of PATIENT participants even where another PATIENT participant occurs postverbally (5).

(3) Peter asked me why I had given my play station away.  
 additional VMC  
 AGENT – PRED – REC – PATIENT  
 \_\_\_\_\_  
 matrix VMC

(4) Susan had hoped that the snow would be melting.  
 additional VMC  
 EXPERIENCER – PRED – EXPERIENCED  
 \_\_\_\_\_  
 matrix VMC

(5) That Peter passed the exam changed everything.  
 additional VMC  
 SUBJECT PARTICIPANT (PATIENT) – PRED – PATIENT  
 \_\_\_\_\_  
 matrix VMC

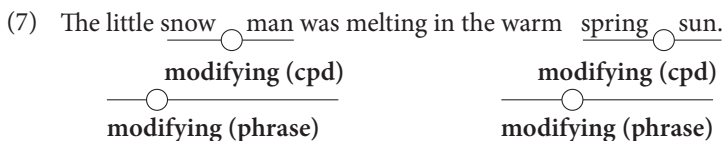
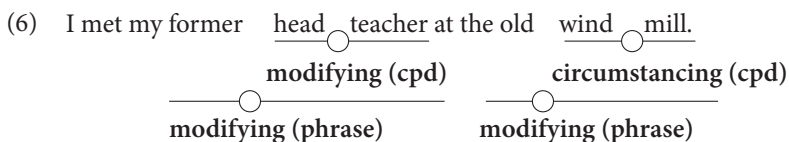
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3. There are, of course, also coordinated sentences with two or more VMCs, which are disregarded here because they do not contribute new aspects to the discussion.

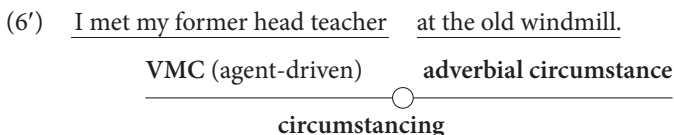
4. If the matrix VMC is reduced to a VMC core like *I think* or *I say* (as it occurs quite often), the analysis as superordinate VMC is less convincing than its interpretation as viewpoint perspectivizer of the second VMC. See Section 11.3.

### 3.2.2 The hierarchical flexibility of attribution

Compared with VMCs, the linking mechanism of attribution – and this applies to modifying and circumstancing attribution alike – functions without verb mediation, relying on the direct semantic attraction between concepts, which is more immediate, but also more holistic. This is why attribution can occur on all hierarchical levels, starting at the bottom with lexemes and phrases that do not contain a verbal element. As already discussed (Section 2.2.1), modifying is used in the formation of compounds like *head teacher*, *snowman* or *spring sun*, and so is circumstancing in *windmill* and similar compounds on the lexeme level. An even more prototypical application of attribution is supplied by adjective-compound combinations such as *former head teacher*, etc. – compare (6–7), which take up examples from the last section.



So far the analysis of attribution has been more or less in agreement with traditional analysis,<sup>5</sup> but it is incomplete from a concept-linking stance. If attribution is not seen as a type of structure that is automatically grammatically subordinated to VMCs, but is regarded as a concept-linking mechanism in its own right based on non-verbal semantic attraction, it should also be applicable to the higher levels of the grammatical hierarchy. This concerns circumstances on the clause level, especially those in which the noun phrase is accessed by a preposition. Compare 6'–7'), where the preposition *at* (*at the old windmill*) and the preposition *in* (*in the warm spring sun*) guide the attribution of the adverbial circumstance to the VMC of the clause.



5. However, traditional analysis would suggest a modifying link for *windmill*.

- (7') The little snowman was melting in the warm spring sun.  
 VMC (theme as subject)      **adverbial circumstance**  
 —————○—————  
**circumstancing**

Switching to complex sentences with *adverbial clauses*, what they share with nominal clauses is their internal construction, which permits them to provide the precise and differentiated information typical of VMCs. Yet the relationship between the adverbial clause and the matrix clause is not based on the replacement of a constituent of the VMC, i.e. the clausal link does not rely on a VMC. Instead, the link is established by the semantic attraction just as between circumstances and VMCs in simple sentences. The quality of the attribution depends on the lexical content of the conjunction used to express the circumstancing function. Compare (8–9), where the meaning of the conjunction (*after*, *although*) is fairly precise, with (10–11), where the conjunction *when* is polysemous expressing a temporal relationship in (10) and concession in (11).

- (8) After Peter had collected his belongings, he left the house.  
 VMC as adverbial clause                      **matrix VMC**  
 —————○—————  
**circumstancing**

- (9) Susan loved him although he had married her best friend.  
**matrix VMC**                      VMC as adverbial clause  
 —————○—————  
**circumstancing**

- (10) When the train finally arrived, people poured into it.  
 VMC as adverbial clause                      **matrix VMC**  
 —————○—————  
**circumstancing**

- (11) Why are you standing when there are plenty of seats  
**matrix VMC**                      VMC as in the next carriage?  
    **adv. clause**  
 —————○—————  
**circumstancing**

As a result, complex sentences with adverbial clauses rely on a combination of concept-linking mechanisms, in which the semantic attraction of attribution between the adverbial clause and the matrix clause is hierarchically superordinate to the internal VMCs of these clauses.

Is this or a similar explanation also feasible for *relative clauses*? Undoubtedly, with regard to their internal structure, relative clauses are VMCs. Yet as with adverbial clauses, the link between the relative clause and the matrix clause is not provided by a VMC, but by the semantic attraction of non-verbal attribution. The



description of relative clauses as modifiers, modeled as it is on phrasal expressions like *lively discussion* or *delicious food*, is common enough in traditional grammatical analysis. It explains how one of the nominal elements of the relative clause (which may represent the semantic roles of AGENT or PATIENT or RECIPIENT) is ‘relativized’, e.g. replaced by a relative pronoun (or its zero variant). The relativized element is then directly attached to a referent participant of the matrix clause, which in traditional parlance means that relative clauses are reduced to a clause constituent on the phrasal level of the grammatical hierarchy.

However, assuming that attribution is a concept-linking mechanism in its own right, this problem of traditional analysis can be solved after the model of adverbial clauses. Just like them, relative clauses are to be seen as VMCs that are involved in a linking process with the VMC of a matrix clause on the level of complex sentences by way of non-verbal semantic attraction. Yet unlike adverbial clauses, the semantic attraction is not effective between the relative clause and the matrix clause as a whole, but between the relative clause and its referent participant within the matrix clause. This semantic attraction is achieved by the relative pronoun, which relativizes one of the semantic roles of the relative clause VMC: the AGENT role, as in (12), the PATIENT role, as in (13), or the RECIPIENT role, as in (14) – a phenomenon that will be called *role attribution*.<sup>6</sup>

- Referent* ← AGENT
- (12) The police arrested the thieves who/that had offered  
 matrix VMC the paintings to a dealer.  
VMC as relative clause
- 
- 
- role attribution
- Referent* ← PATIENT
- (13) The police seized the paintings that/which/∅ the thieves  
 matrix VMC had offered to the dealer.  
VMC as relative clause
- 
- 
- role attribution
- Referent* ← RECIPIENT
- (14) The dealer whom/∅ the thieves had offered the paintings acted for the police.  
 matrix VMC VMC as relative clause matrix VMC ctd
- 
- ←
- role attribution

6. ‘Role attribution’ is preferred to the ambiguous term ‘role modifying’. The fact that the referent unit may have different roles in the superordinate clause – PATIENT in (12–13), AGENT in (14) – is not relevant for the analysis of role attribution.

The so-called *sentence relatives* or free relative clauses (Aarts 2011:200) – here represented by *which*<sup>7</sup> – are a special case. Here the referent unit of the relative pronoun is not a participant of the matrix clause; instead, as with adverbial clauses, the referent is the VMC of the matrix clause as a whole (15), or the VMC plus circumstancing adverbials (16). The semantic attraction induced can therefore be regarded as either modifying or circumstancing.

- (15) Peter gave the waiter a good tip, which I wouldn't have done.  
 matrix VMC VMC as relative clause  
 —————○—————  
 circumstancing / modifying
- (16) Up to the nineties ○ people led lives ○ without mobile phones,  
 circumstance matrix VMC circumstance  
 —————○—————  
 matrix VMC + circumstances (= clause) VMC as relative clause  
 —————○—————  
 circumstancing / modifying

Table 2 provides an overview of how VMC linking and attribution are involved in linguistic hierarchies. In particular it once more shows that verb-mediation, important as it is for precise communication, is restricted to levels 3 and 4; in contrast, circumstancing attribution operates on all and modifying attribution on most levels down to the level of compound lexemes.

### 3.3 Hierarchical aspects of perspectivizing and scope

#### 3.3.1 Hierarchical levels

Since the hierarchical levels used in Figure 4 and Table 2 are the backbone of traditional grammar, it is not surprising that their parameters have also been used in the literature to classify phenomena that are here collected under the umbrella term of perspectivizing and scope phenomena. Sentence modes (declarative, interrogative, imperative) address the whole clause and may even be applied to the level of complex sentences (see Section 3.3.1). Agreement and TAM phenomena (i.e. tense-aspect-modality) as well as most instances of *not*-negation are connected with a major constituent of syntactic constructions, the verb phrase (or predicator phrase) including auxiliaries and semi-auxiliaries; comparisons

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7. Clauses introduced by *what* (*What I find interesting is X*, etc.) are discussed in the context of cleft sentences (Section 6.4.3).

Table 2. VMCs and attribution in the grammatical hierarchy

Hierarchy	Constructions involved	Verb-mediating	Attribution
LEVEL 4 complex sentence	matrix VMC + subordinate VMC (nominal clause) matrix VMC + adverbial VMC matrix VMC + relative cl. VMC	more than one VMC	circumstancing modifying (role attribution)
LEVEL 3 clause	AGENT-PRED-PATIENT (-REC)* THEME-PRED* * + circumstance ( <i>The snow melted in the sun</i> )	VMC	circumstancing
LEVEL 2 phrase	modifier-head phrase ( <i>cheap food</i> )		modifying
LEVEL 1 lexeme	PART-WHOLE compound ( <i>chair leg</i> ) circumstance-object compound ( <i>windmill</i> )		modifying circumstancing

with *more/most* can be assigned to the phrasal level. This classification translates into a hierarchy of perspectives which only requires a small differentiation of the 'classical' levels (lexeme, phrase, clause and complex sentence): the addition of an intermediate level for the phenomena attached to the verb phrase, called level 2+ in Table 3.

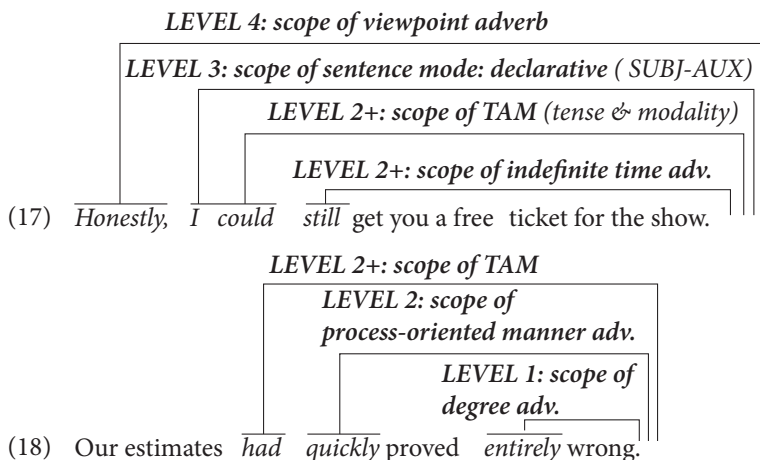
But what is the place of adverbial scopes in this system? Here the traditional distinction between 'sentence modifiers' and 'predicate modifiers' can be taken as a starting point for a differentiation in terms of perspective. While adverbs of viewpoint qualify as sentence modifiers and work on the levels of clause and complex sentence (levels 3 and 4), most of the other types of adverbs have a more restricted scope. More precisely, indefinite time and frequency adverbs, and also emphaziers, which are prototypically placed close to TAM signals, operate on level 2+, while process-oriented manner adverbs belong to level 2 (core verb phrase and other types of phrases) and degree adverbs to level 1. A further differentiation of the hierarchy is required for what has been called person-oriented manner adverbs (*proudly, intentionally, nervously, etc.*) because their scope is more comprehensive than level 2+ scopes; this justifies the introduction of the intermediate level 2++. The result of these considerations is the hierarchy of perspectives illustrated in Table 3.

Table 3. Hierarchy of perspectives in the grammatical hierarchy

Hierarchy level	Non-adverbial perspectivizing	Adverbial perspectivizing
LEVEL 4 complex sentence	– sentence modes: declarative interrogative imperative	– viewpoint adverbs (presentation adverbs, subject-matter adverbs, attitudinal adverbs) – connective adverbs <sup>8</sup>
LEVEL 3 clause		– probability and other truth-related adverbs (e. g. <i>probably</i> , <i>possibly</i> )
LEVEL 2++ VMC		– person-oriented (manner) adverbs (general group, e.g. <i>proudly</i> ; volitional group, e.g. <i>intentionally</i> )
LEVEL 2+ <i>verb phrase including auxiliaries</i>	– TAM tense (pres., past tense) modality (epistemic, deontic, volitional, habitual) aspect (progressive or Ø)	– indefinite time & frequency adverbs – emphazier adverbs
LEVEL 2 phrase (including main verb phrase)	– agreement (1st, 2nd, 3rd person, sing. & plural) – <i>not</i> -negation	– process-oriented (manner) adverbs – focusing adverbs <sup>8</sup>
LEVEL 1 lexeme	– comparison (-er/-est & more, most) – ‘local’ negation	– degree adverbs <sup>8</sup>

Providing further support for the concept-linking framework, this hierarchy makes strong predictions for the scope behavior of perspectivizing mechanisms. Like the traditional hierarchy of ‘lexeme–phrase–clause–complex sentence’, the hierarchy of scopes is based on the principle of inclusion. Just as the complex sentence includes clauses, the clause includes phrases, and the phrase lexemes, the scopes of higher level perspectives include the scopes of lower level perspectives. This means that they limit these scopes, or still more precisely, the *scopes of superordinated perspectives limit the scopes of subordinated perspectives*. For example, the scopes of viewpoint adverbs and sentence modes (all level 3 or 4) include and limit the scopes of TAM and also the adverbial scopes of indefinite time and frequency (all level 2+), as shown for a complex clause in example (17). All scopes of level 2+ perspectives include and limit the scopes of process-oriented manner and of degree adverbs (placed on level 2 and 1 respectively), as illustrated in example (18).

8. For connective, focusing and degree adverbs the assignment to level 4, level 2 and level 1 respectively is only valid for some prototypical examples. For a detailed discussion of connective and focusing adverbs see Sections 6.5.1–4, for degree adverbs see Section 9.3.5.



### 3.3.2 Scope differentiation for viewpoint and person-oriented adverbs

The hierarchy of adverbial scopes sketched so far is still fairly crude. If one looks at the upper levels of Table 3 devoted to adverbs of viewpoint, hard-and-fast rules are difficult to establish. Whether an individual adverb of viewpoint signals a certain actual scope, depends very much on the extent to which it can be used to express the pragmatic strategies of presentation or attitudinal comment respectively. The more presentation-oriented an adverb is, the less restricted its scope: This is reflected by the fact that viewpoint adverbs like *honestly*, *frankly* or *briefly* may dominate complex clauses with any kind of sentence mode (19–21).

(19) *Honestly*, could you still get me a free ticket for the show?

(20) *Honestly*, I would get you a ticket if I could.

(21) *Honestly*, don't forget to get me a ticket for the show.

In contrast, the attitudinal adverbs *obviously*, *oddly* and *sensibly* normally only dominate the declarative sentence mode (22–23), while the domination of other sentence modes is excluded (22'–23') – a restriction further discussed in Section 4.2 below.

(22) *Obviously*, I would get you a ticket if I could.

(22') \**Obviously*, could you get me a ticket if you tried hard?

(23) *Oddly*, there were still a number of tickets available.

(23') \**Oddly*, don't forget to get me one of them.

Turning to level 2++ of the scope hierarchy and to the person-oriented manner adverbs assigned to it, their scope reflects the fact that their lexical meanings tend to denote ‘human propensity’ (Dixon 2005: 85), a feature suitable for characterizing human beings and their actions. Adverbs of the ‘general group’ (Qu: 8.93), such as *proudly*, *resentfully*, *bitterly*, *grudgingly* and *impatiently*, command a scope that includes all level 2+ and level 2 scopes (agreement, TAM and various adverbial scopes) (24). This also explains why the scope of these person-oriented adverbs (which operate on level 2++) cannot be included within the scope of *not*-negation (25).

(24) *Proudly*, he claimed he was getting along quite well without any outside help.

(25) \*He didn’t *proudly* apply for social security benefits.

This is different with regard to the second group of person-oriented adverbs, i.e. volitional adverbs like *intentionally*, *deliberately*, *voluntarily* and *unwillingly*. Since they denote the AGENT’s willpower, which can be denied (as opposed to human propensities like pride or sadness), the scopes of these adverbs can easily include the scope of negation, as illustrated in (26). Yet there might be cases where the adverbial scope is dominated by the scope of negation – or this is at least what a first superficial analysis of sentences like (27) may suggest.<sup>9</sup>

- scope of volitional adverb*
- (26) He intentionally did *n’t* handle the wedding present all too carefully.
- scope of negation*
- ? *scope of negation* ?
- (27) He did *n’t* intentionally drop the wedding present on the kitchen floor.
- ? *scope of volitional adverb* ?
- scope of volitional adverb*
- (28) He unintentionally dropped the wedding present on the kitchen floor.

What is puzzling about (27) and similar examples is that their combined negation and adverbial scopes seem to carry the same or a similar scope meaning as the scopes of adverbs with a negative prefix (*not intentionally* = *unintentionally*; see (28)). This parallel between negative scope and morphological negation is also found with scope phenomena assigned to level 2+, and will be further discussed in the next section.

9. For a similar example compare H and P, who postulate the following rule: “Given a construction containing two scope bearing elements, the one that comes first generally has scope over the one that comes later” (H and P: Chapter 9; 1.3.2: 794).

### 3.3.3 Scope hierarchy vs. scope competition: How time and frequency adverbs, emphasizers and *not*-negation function

Surveying the scope hierarchy, level 2+ is undoubtedly the most densely populated level: The scopes of TAM phenomena, the scope of negation, the adverbial scopes of indefinite time and frequency as well as emphasizer adverbs all encompass the predicate phrase (but not the subject – see Section 2.3.3 above). As long as only the TAM scope is expressed (signaled by auxiliaries, semi-modals like *going to*, *do*-forms or main verb inflectional morphology), the hierarchy is clear enough (29–31).

(29) Unfortunately, I *must* leave before lunchtime.

scope of TAM

(30) After all, we're *going to* agree to your proposal.

scope of TAM

(31) At last they *made* some concessions.

scope of TAM

If the scope of *not*-negation has to be considered as well, this is still unproblematic. The negation scope is subordinated to the TAM scope and the perspectivizer *not* is placed after the TAM signal, which cannot be preceded by *not*. If the TAM signal is a *do*-form, this indicates that the TAM scope cannot be dominated by the scope of negation (32). However, if the TAM signal is a modal auxiliary, this interpretation applies only to the epistemic use (i.e. in the sense of probability) (33) – the details and the scope behavior of deontic modal auxiliaries will be discussed in Section 3.3.4.

(32) You *did n't* work hard enough.

scope of TAM

scope of negation

\*You not did work hard enough.

(33) She *may not* be available for the job.

scope of TAM

scope of negation

\*She not may be available for the job.

Problems in terms of hierarchy arise when TAM, agreement and negative scopes are combined with adverbs. This is the sphere where Quirk et al. (Qu: 10.64) use the term “scope of negation” to distinguish between elements that are inside and outside this “semantic scope”. If one postulates a grammaticalized scope both for

*not*-negation and adverbs, their co-occurrence seems to produce a kind of ‘scope competition’, a competition between two different hierarchical relationships, especially when *not*-negation is combined with adverbs of frequency (34–35) and emphasizer adverbs.

? scope of frequency adverb

? scope of negation

(34) The doctor frequently does n't answer the phone himself.

? scope of negation

? scope of frequency adverb

(35) The doctor does n't frequently answer the phone himself.

As shown in (34–35), a mechanical scope analysis might claim that the scope of negation is either dominated by the scope of the adverb of frequency (34) or that the scope of negation dominates the adverbial scope (35).<sup>10</sup> Yet how does this square with the widely accepted explanation that in (34) the positive expectation of the doctor answering the phone himself is disappointed while (35) simply states the low frequency of his answering the phone? This means that the situation is not simply reversed in the sense that in (35) the scope of negation extends across the whole predicator phrase and includes a frequent action on the doctor’s part. What is negated here is the frequency of the action, not the complete action described in the predicator phrase. To account for this phenomenon, it is helpful to recall that *not*-negation is the prime example of scope flexibility: *Not*-negation need not encompass the whole predicator phrase, it can also take the form of local negation (see Section 2.3.3). If the scope of negation is restricted to a single word or nominal phrase, as in (36), negation is simply used with its minimal scope.

scope of negation

(36) a not too sympathetic report

scope of negation

Not surprisingly, they missed the train.

10. Compare also *The doctor does frequently not answer the phone himself*. The formal variant of the sentence (34) shows that an immediate domination of the scope of negation by the adverbial scope of frequency can be assumed. This is somewhat blurred by the use of the contracted form *doesn't*, which makes it necessary to place the adverb in front of the TAM signal (*does*). This constellation also applies to other frequency and emphasizer adverbs, e.g. *really* in (40).





*scope of complex perspectivizer 'not absolutely'*

*scope of negation*

(41') He did *n't absolutely* like the dessert.

Finally, the minimal scope interpretation also explains the seemingly competing scopes of volitional adverbs assigned to level 2++ in Section 3.3.2 above. Compare the earlier examples with *intentionally*, here taken up as (42–43). As demonstrated in (42), the scope of the volitional adverb is, of course, capable of dominating the scope of negation. Yet in the reverse situation (illustrated in (43)), the scope of *not*-negation should not be understood as dominating the adverbial scope, but as a minimal scope covering the adverb *intentionally*. The result is a complex perspectivizer '*not intentionally*', whose scope behavior is parallel to the adverbial scope of the morphologically negated form *unintentionally* (44).

*scope of volitional adverb*

*scope of negation*

(42) He *intentionally* did *n't* handle the wedding present all too carefully.

*scope of complex perspectivizer 'not intentionally'*

*scope of negation*

(43) He did *n't intentionally* drop the wedding present on the kitchen floor.

*scope of volitional adverb*

(44) He *unintentionally* dropped the wedding present on the kitchen floor.

### 3.3.4 The scope behavior of epistemic and deontic modals

Assuming a widespread use of minimal negative scope also casts fresh light on the case of modal auxiliaries and their relationship to negation. There are two prototypical cases in which the two possible scopes of negation are juxtaposed: the epistemic use of *may* already demonstrated, here taken up as (45), and the contrasting deontic use of *may* in (46).

*scope of modal aux (as part of TAM scope)*

*scope of negation*

(45) She *may not* be available for the job.

*scope of complex perspectivizer 'may not'*

*scope of negation*

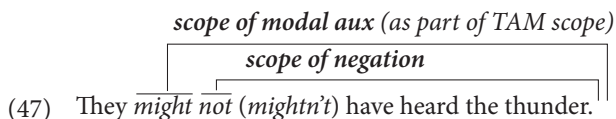
(46) You *may not* leave the room.

Although in both examples the scope of *not*-negation is included in the scope of the modal auxiliary, what is different is the extension of the *not*-scope. When *may* is used epistemically, the *not*-scope covers predicator and postverbal participants (45); when *may* is used deontically, the *not*-scope is restricted to the modal auxiliary, it does not include the predicator and other participants of the construction (46). In addition, this minimal *not*-scope is a kind of ‘backward scope’ because the element used as scope signal is placed after the modal auxiliary,<sup>11</sup> with which it combines to form the complex perspectivizer *may not*.<sup>12</sup>

Basically, this interpretation is in agreement with the traditional distinction between main-verb negation and auxiliary negation (Qu: 10.67–68). Epistemic use favors main verb negation (45), as expressed in the paraphrase ‘It is (more or less) probable that something does not occur’; deontic use is linked to negation of the modal auxiliary (46) and can be rendered by a paraphrase such as ‘You are not permitted to leave the room.’ Yet while for Quirk et al. this is a question of placing the proposition inside or outside a purely ‘semantic’ scope of negation and otherwise regarding main verb and auxiliary negation as rather isolated phenomena, the concept-linking analysis demonstrates that these phenomena occur in the wider context of perspectivizing and grammaticalized scope.

This does not mean that concept linking can offer a simple interpretation of all aspects of the complex relationship between modal auxiliaries and negation. The restrictions on this relationship are mainly due to the divergent lexical meanings involved in expressing modality – for instance necessity, probability, (epistemic) possibility on the one hand and (deontic) obligation/permission/prohibition on the other hand (Radden and Dirven 2007: 258–262).

Admittedly, there are straightforward examples that follow the model of *may not* in expressing epistemic modality (*might, should, ought to*), in the sense that the modal auxiliary scope dominates the scope of negation (‘main verb negation’), as in (47–48).



11. This is a realization of scope that the *not*-element shares with certain focusing and connective adverbs when used as scope signals – see Section 6.5.5.

12. The notion of backward scope is most obvious in combinations of modal auxiliaries with the full form *not*. In contracted forms with the *-n’t* clitic element (e.g. *mighn’t, shouldn’t, can’t*, etc.) the process takes place inside the complex form, but it seems helpful to use the same kind of scope notation in the examples.

- (48) Well, there *shouldn't/ought n't* be a real downpour.
- scope of modal aux*  
*scope of negation*

Likewise there are items that fit the deontic use of *may not* by fusing a minimal negative scope and the scope of the modal auxiliary into a complex perspectivizer ('auxiliary negation', as in 49–51).<sup>13</sup>

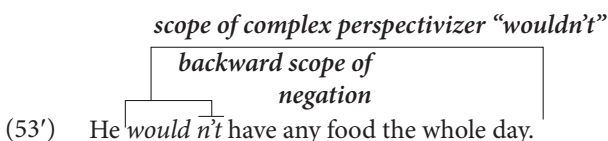
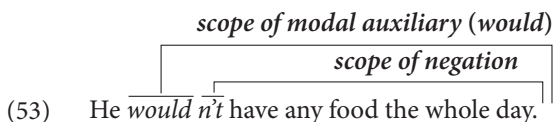
- (49) You *must n't* smoke anywhere in here.
- scope of complex perspectivizer "mustn't"*  
*backward scope of negation*
- (50) You *need n't* wait for me.
- scope of complex perspectivizer "needn't"*  
*backward scope of negation*
- (51) You *should n't (ought n't)* rush to get the newest iphone.
- scope of complex perspectivizer "shouldn't" (oughtn't)*  
*backward scope of negation*

However, an epistemic meaning can also be expressed by 'auxiliary negation', in particular by the complex perspectivizer *can't*, which initiates a scope expressing that the scoped message is regarded as 'not possible' (52). Finally, with volitional modals<sup>14</sup> like *would* and (more rarely) *will*, the difference between encompassing and minimal scope of negation is simply neutralized (53) (Qu: 10.67).

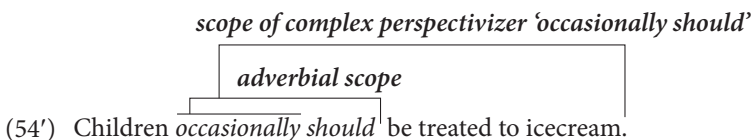
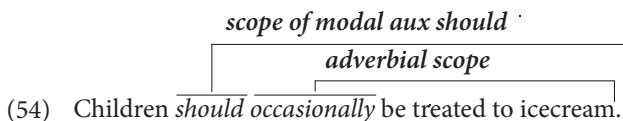
- (52) He *can not (can't)* have finished his essay.
- scope of complex perspectivizer "can't"*  
*backward scope of negation*

13. While *mustn't* and *needn't* are predominantly used deontically in English, *should* and *ought (to)* are capable of rendering both a deontic and an epistemic meaning – just like *may not*. Compare Qu: 10.67–68) for other modals and more examples, Radden and Dirven (2007: Chapter 10) for a differentiated analysis.

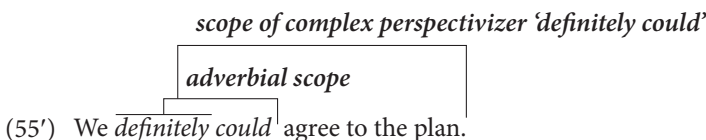
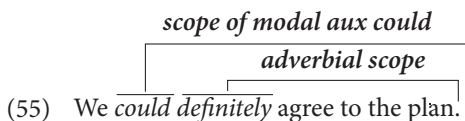
14. Also called dynamic modals (Aarts 2011:277) or (instances of) intrinsic modality (with subclassification; Radden and Dirven 2007:246).



Yet the perspectivizing analysis of the constellation modal+negation has still another consequence: It proves helpful for the understanding of what happens when modal auxiliaries co-occur with certain adverbs of frequency. Here again, the generalizing observation that modal and other TAM scopes are normally superordinated to the scopes of the level 2+ adverbs of indefinite time and frequency only explains utterances with the sequence 'modal auxiliary–adverb' (54). The alternative sequence 'adverb–modal auxiliary' can now be understood as a minimal adverbial scope (i.e. a scope restricted to the modal auxiliary) combined with the scope of the auxiliary to produce a complex perspectivizer; the scope of this adverbial/modal scope signal (e.g. *occasionally should*) covers the verbal element and postverbal participants (54').



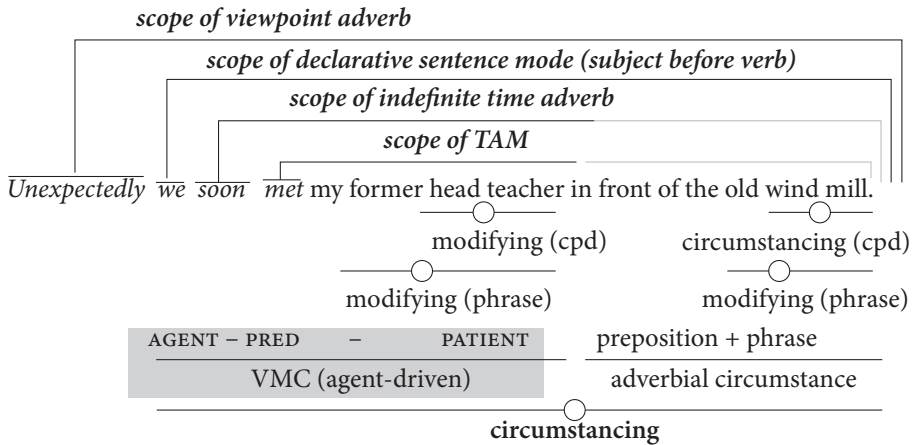
This interpretation also provides a plausible explanation for the use of emphaser adverbs in front of modal auxiliaries (55–55').



### 3.4 Interlocking hierarchies: An example

Although the scope hierarchy has already turned out to be quite intricate even if taken by itself, it only concerns one of the concept-linking mechanisms and has to be seen in conjunction with the VMC and attribution hierarchies. The result are ‘interlocking’ hierarchies with complex, sometimes very complex structures, as illustrated by the analysis in (56), which is based on the first example in Chapter 3. As the example shows, all three linking mechanism are involved in the production (and also in the deciphering) of this sentence: Perspectivizing provides the declarative sentence mode, the TAM perspective of tense and several adverbial perspectives. Attribution is at work on different levels: on the level of compounds, of phrases and also on the clause level, where it is responsible for linking the adverbial circumstance with the VMC. Last, but still most important, there is the verb-mediated construction (*we met my former head teacher*), whose acknowledged importance is emphasized by being placed in the greyed-out area.

(56)



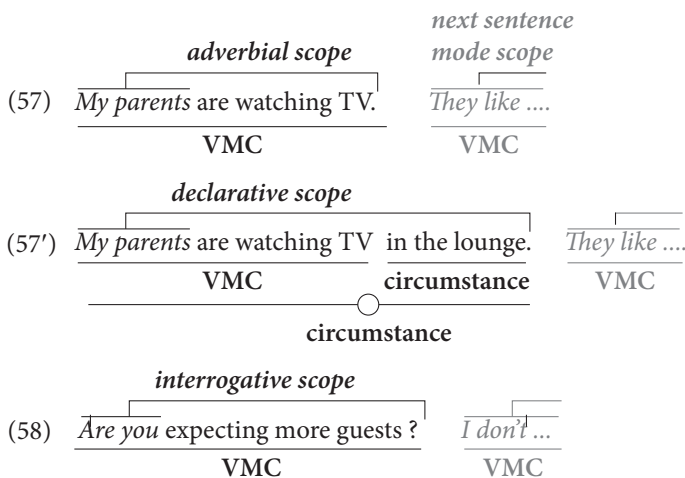
### 3.5 Postscript on the notions of clause and complex sentence

Since the notions of clause and complex sentence have been mentioned in various contexts, especially in this and the preceding chapter, it seems appropriate to assemble these observations and to show in a condensed form how clause and complex sentence can be understood in concept-linking grammar as combining VMCs, attribution and perspectivizing.

### 3.5.1 The notion of clause

A clause comprises a VMC, optionally complemented by one or several instances of attribution. As a perspectivizing tool the clause is defined as the extension of the scope governed by the sentence modes (declarative, interrogative, imperative).

A clause prototypically extends from the initial scope signal ('subject–aux/verb' for the declarative, 'aux/*do*–subject' for the interrogative, '*do*/∅–verb' for the imperative sentence mode) to the next sentence-mode signal unless a clause is the last unit of an utterance.<sup>15</sup> Examples (57–58) illustrate some of these combinations.



### 3.5.2 The notion of complex sentence

A complex sentence comprises at least two VMCs (matrix VMC, additional VMC).<sup>16</sup> The additional VMC can be linked to the matrix VMC by being integrated into the matrix VMC as a participant (applies to nominal clauses) or by means of attribution: circumstancing for adverbial clauses (prototypically guided by conjunctions), role attribution for relative clauses (prototypically guided by relative

15. Normally the next sentence-mode signal is preceded by an intonation break and a suitable punctuation mark (full stop, semicolon). If the next clause is not introduced by a sentence-mode signal, but by a scene-setting circumstance, the first clause extends to the intonation break/punctuation mark preceding this circumstance.

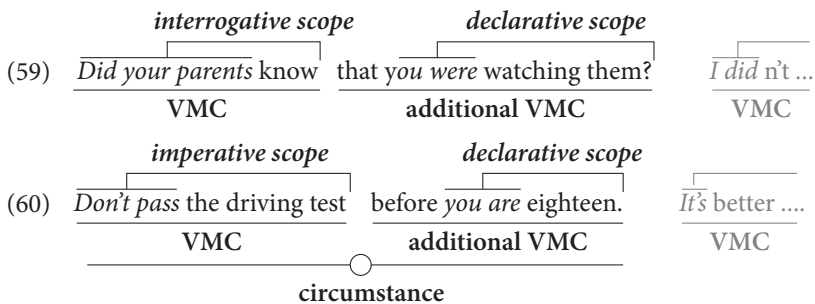
16. The description refers to the sequence 'matrix VMC–additional VMC'; the more frequent type, but also to the sequence 'additional VMC–matrix VMC'.

pronouns). With regard to the perspectivizing of sentence modes, two interpretations are possible:

### *Narrow interpretation*

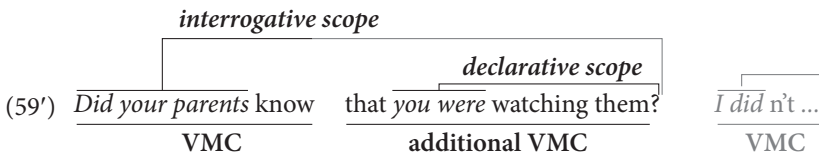
The scope of the sentence mode starts with the initial scope signal of the matrix VMC<sup>17</sup> and extends to the initial scope signal of the additional VMC, which initiates a new scope that extends to the subsequent sentence-mode signal.

On this view the scope of the matrix VMC can be declarative, interrogative or imperative; the scope of the additional VMC is always declarative (illustrated for nominal and adverbial clauses in (59–60)).<sup>18</sup>



### *Wide interpretation*

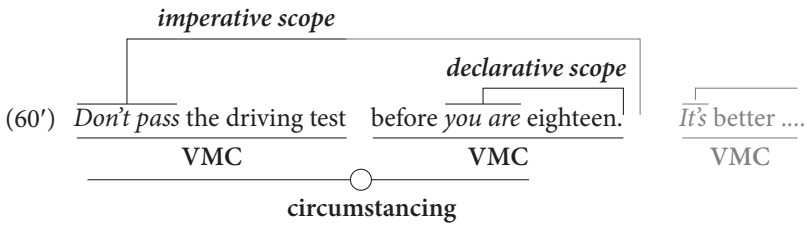
The sentence-mode scope starts with the initial scope signal of the matrix VMC, it includes the additional VMC and extends to the next sentence-mode signal. If the sentence mode is interrogative or imperative, it may be fully effective only for the matrix VMC, but not equally effective for the additional VMC, i.e. the message content of the additional VMC may not be experienced as questionable or as requested by the language user (59'–60').



17. Or with a nominal subject-clause VMC or an adverbial-clause VMC (if it is fronted – see fn. 16).

18. The scope of relative clauses is always declarative as well.





For declarative perspectivizing the difference between narrow and wide interpretation is neutralized because the same sentence mode is applied in both the matrix clause and the additional clause.<sup>19</sup>

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19. For initial nominal subject clauses and adverbial clauses the wide interpretation is excluded if the ensuing matrix VMC has interrogative or imperative scope.

## Restrictions on concept linking

No linguistic process, be it lexical or grammatical, is without its restrictions, a finding that is reflected in all kinds of linguistic descriptions. The purpose of this chapter is to show how the restrictions are distributed across the different concept-linking mechanisms (VMCs, attribution, perspectivizing) and how this distribution may contribute to our understanding of language use.

### 4.1 Restrictions on VMCs and attribution contrasted

As far as clause-level constructions are concerned, grammatical descriptions have always stated – or at least implied – restrictions on the admissibility of lexical items in certain syntactic functions. Traditional grammar has limited access to subject, object and predicator to members of suitable word classes, which are characterized by both formal and semantic qualities (e.g. by nominal inflection and reference to persons or things for subjects). Generative grammars have favored a formal interpretation of candidacy in the subcategorization of nouns and verbs. Case and valency grammars have not only established the predicator as the key element of semantic selection, but also monitored the number of arguments licensed for specific verbs and assigned cases or semantic roles to these arguments; the resulting case frames (configurations of semantic roles) are used to define the range of acceptable lexical items. Construction grammars have basically accepted the case approach, but have stressed the inherent meaning of the constructions involved.

What is most striking from the angle of concept linking is the rigidity with which the grammatical restrictions are enforced in communication: the goal-orientation of the prototypical VMC (backed by the *PATH* image schema); the limitation of the participant slots (two or three in prototypical VMCs, two in the more marginal copula constructions and one in the *THEME-PREDICATOR* constructions); finally the way in which these slots are filled by semantic roles, e.g. the preverbal or subject slot in prototypical VMCs by an *AGENT*, in less prototypical VMCs by an *EXPERIENCER*, occasionally by other semantic roles (*INSTRUMENT*, *LOCATIVE* and *TIME*). In copula constructions the subject slot often attracts deictic placeholders (*this*, *it*, *there*); in *THEME-PREDICATOR* VMCs it is reserved for elements that show

a particular semantic affinity with the verbal concept and endorse the influence of the PART-WHOLE image schema (see the visualization in Section 2.1.2, Figure 2).

Even where an attempt is made to overrule the restrictions in communication, this is not an easy undertaking and shows how powerful the restrictions are. Compare (1–3), where an object concept is metaphorically (1) or metonymically (2) projected onto a person concept to fill the AGENT slot (1–2) or the EXPERIENCER slot (3). Yet the restrictions are only overcome within a special context (fairy tale, restaurant, gardening context); in addition, the sentences probably require more processing effort than the contrastive standard examples in (1'–3').

- (1) The tree tells his story. (fairy tale context)
- (1') Compare: My grandfather told his story.
- (2) Table 10 has asked for the bill. (restaurant context)
- (2') Compare: The guest at Table 10 has asked for the bill.
- (3) Some flowers really hate the sun, they love the shadow. (gardening context)
- (3') Compare: My aunt really hates the sun, she loves the shadow.

Other instances in which restrictions are overruled only with considerable effort concern VMCs governing what will be called locative interfaces in Section 8.2.2; their standard version (4) can be extended to include a postverbal PATIENT participant (4').

- (4) The vase stood on the window sill (and he knocked it down).
- (4') He stood the vase on the window sill, (then knocked it down by mistake).

A well-known deviation from the standard pattern also occurs with THEME-PREDICATOR constructions like (5): In their non-prototypical realizations (6–7) the role of THEME is additionally equipped with an agentive effect and thus functions as a 'SEMI-THEME', suggesting that objects also initiate the actions they are involved in – traditional labels are mediopassives, activo-passives or pseudo-intransitives.<sup>1</sup>

- (5) The snow melted (quickly).
- (6) This book reads well.
- (7) This T-shirt sells always.

---

1. Person concepts rarely function as THEME in mediopassives, unless they are regarded as PATIENT in the corresponding active construction, as in *Peter photographs poorly*. (cf. *Someone photographs Peter*.) See Ungerer (1988: 228–231) and the comprehensive presentation in Hundt 2007.

The reason why VMC restrictions do not turn language into a stringent logical system with few and consistently applied constructions (as some linguists and many computer scientists would have it) is that VMCs share the task of concept-linking with attribution – a linking mechanism that seems to know hardly any semantic restrictions.

For instance, in many non-verbal compounds, nominal and adjectival concepts can be freely combined because the semantic link between them is not harnessed by the precise meaning of a mediating verbal element, but rather takes the form of holistic semantic attraction, based on the PART-WHOLE image schema. Skipping obvious cases of PART-WHOLE relationship (*chair leg, shoelace*, etc.), modifying attribution permits a host of interpretations – compare the paraphrases suggested in the literature for pontoon bridge in (8).

- (8) *pontoon bridge*  
 bridge supported by pontoons  
 bridge floating on pontoons  
 bridge made of pontoons  
 pontoons in the form of a bridge (Jackendoff 2009: 115)

What has to be considered here is that precise paraphrases of this kind are provided by linguists, who make use of fully-fledged VMCs for the purpose. Average language users are satisfied with much vaguer attributive meanings than linguists (combining for instance the first three paraphrases of pontoon bridge in one); yet they still need some guidance to limit the meaning range of semantic attraction for a certain compound (for instance to exclude the fourth interpretation in the case of pontoon bridge). Such guidance is offered by the process of conventionalization, which is both 'local' and also arbitrary, at least to a certain point, but is nevertheless a condition for successful communication.

With some reservation, this analysis of compounds can be transferred to modifying in adjective-noun phrases. Although links between nominal concepts and suitable dimension and color concepts may be understood as benefiting from the PART-WHOLE image schema, as in (9), other adjective-noun collocations have to be decoded on the strength of their conventionalization (10), and this is especially true when metaphorical uses of the concepts are involved (11).<sup>2</sup>

- (9) high mountain, deep hole, green grass, blue sky, bright daylight, dark night  
 (10) heavy rain, strong feeling, total loss  
 (11) big fish, dirty money

---

2. On the background of collocation research see Sinclair (1991).

Turning to circumstancing, and more specifically, to circumstancing adverbial phrases, their interpretations seems to be sufficiently restricted by the lexical meaning of the preposition (12). However, prepositional meanings are not always unambiguous, permitting a range of interpretations, and therefore also heavily rely on local conventionalization (13). The same applies to adverbial clauses, i.e. VMCs attached by way of circumstancing to a matrix clause construction; here the degree of restriction depends on the meaning range of the conjunction – narrow in the case of *although* (14), much wider in the case of *as* (15–18).

- (12) in the house, after breakfast, in spite of the weather, for his career
- (13) on the table, on the wall, on the plane, on foot, on Sunday, on the board
- (14) He was not completely satisfied although he had won the championship.
- (15) As he hadn't won the race, he was very disappointed.
- (16) He showed his disappointment as he went back to the boxes.
- (17) His coach comforted him as he always did.

Summing up, the discussion of restrictions has brought to light several striking differences between the linking mechanisms of VMCs and attribution: While the former are characterized by a set of structural and lexical restrictions that are consistently related with each other, modifying and circumstancing attribution offer a liberal choice of concept combinations. Their interpretation is to a certain degree supported by the lexical meanings of prepositions or conjunctions, but otherwise dependent on item-bound conventionalization.

## 4.2 Restrictions on perspectivizing

Perspectivizing has been introduced as the grammatical mechanism that is used to express the speaker's stance in terms of sentence modes, negation, agreement, tense aspect, modality, comparison and corresponding adverbial perspectives (viewpoint, indefinite time and frequency, manner and degree). Its most important task is perhaps to indicate how the concepts and scenes selected for communication are grounded in the speech situation.

It is in this last function of situational grounding that the restrictions on perspectivizing are most obvious. 'Double marking' by two (or more) perspectivizers is widespread, for instance in the indication of temporal deixis by both tense affixes or auxiliaries and the lexical meaning of adverbial circumstances of time. As illustrated in (18–19), the effect of the tense perspective is strengthened by the presence of a fitting temporal circumstance, while the application of the tense perspective is blocked by a semantically incompatible circumstance (18'–19').

- scope of past tense*
- (18) I talked to Susan yesterday.  
temporal circumstance
- \*scope of past tense blocked* (in BrE)
- (18') \*I talked to Susan until now.  
temporal circumstance

- scope of past tense*
- (19) I met Peter last week.  
temporal circumstance
- \*scope of past tense blocked*
- (19') \*I met Peter next week.  
temporal circumstance

Similarly, double marking and the resulting restrictions occur in person deixis, although only with regard to the third person singular (20–21); other grammatical persons are not affected due to the lack of the respective affixes in English (22).

- scope of agreement*
- (20) The weather / it looks promising.  
thing reference
- \*scope of agreement blocked*
- (20') \*The weather / it look∅ promising.  
thing reference
- scope of agreement*
- (21) I was waiting for the bus.  
person reference
- \*scope of agreement blocked*
- (21') \*I were waiting for the bus.  
person reference
- scope of agreement*
- (22) I/ you/ we/ they love vanilla ice cream.  
person reference

The other restrictions involving perspectivizing are of a different kind. They are not due to explicit double marking, but occur because a perspective is sensitive towards a certain semantic feature of the items included in its scope. Semantic features to which perspectives may be sensitive are the gradability of adjectival concepts (relevant for comparison and degree adverbs), the dynamicity of verbal concepts (relevant for aspect and manner adverbs), the polarity and assertiveness of predicators and their postverbal participants (relevant for modality, *not*-negation,

indefinite time and frequency adverbs as well as emphasizer adverbs), finally the factuality of propositions (relevant for certain sentence modes and factive adverbs).

Even a short glance at this list makes it clear that this is not a haphazard assembly of semantic features and feature-sensitive perspectivizers, but that the features and perspectivizers mentioned are bound up with the scope hierarchy, which in turn is tied to the grammatical hierarchy of 'lexeme–phrase–clause–complex sentence' (see Section 3.1). Compare Table 4, where the semantic features are listed in one of the central columns.

Starting at the bottom of this list, the restrictions imposed by the gradability of adjectival concepts and by the dynamicity of verbal concepts are relatively straightforward. A gradable adjectival concept (which may be rendered by an adjective or adverb) is necessary both for the perspective of comparison and degree adverbs, but also sufficient to justify the establishment of its minimal scope (23–24); in contrast, the scope is blocked by non-gradable concepts (23'–24'). The actual scope can coincide with the minimal scope, but it may be extended to cover the whole comparison or phrase depending on the context (indicated by the weak line in (25)).

**Table 4.** Perspectives and sensitivity

Hierarchy level	Non-adverbial perspectives	Sensitivity-relevant features	Adverbial perspectives
LEVEL 3 AND 4 clause & complex sentence	sentence mode (declarative, interrogative, imperative)	factuality	factive viewpoint adverbs of probability and attitude
LEVEL 2+ verb phrase plus auxiliaries	<i>not</i> -negation, modality (epistemic & deontic)	polarity & assertiveness	indefinite time & frequency, probability & emphasizer adverbs*
LEVEL 2 phrase (here: main verb phrase)	aspect	dynamicity	process-oriented manner adverbs
LEVEL 1 lexeme (here: adjective, adverb)	comparison (-er/-est & more, most)	gradability	degree adverbs

\* also person-oriented adverbs (hierarchical level 2++), e.g. *intentionally*

- scope of comparison*
- (23) Dinosaurs are the biggest. BIG as gradable concept
- \* *scope of comparison blocked*
- (23') \*Dinosaurs are *most* extinct. EXTINCT as non-gradable concept

*adverbial degree scope*

(24) He is totally different. DIFFERENT as gradable concept

*\* adverbial degree scope blocked*

(24') \*He is totally wrong. WRONG as non-gradable concept

*adverbial degree scope*

(25) This isn't a totally convincing story.

The scope of the perspectives of aspect and process-oriented manner adverbs can only be established in connection with a verbal concept expressing dynamic meaning, as defined in Qu: 2.43 and illustrated in (26–27). In contrast, the scope of aspect and manner adverbs is blocked if no dynamic verbal concept is available, but only a concept expressing a state or relation (26'–27').

*scope of progressive form*

(26) I have been waiting for you. WAIT as dynamic process

*scope of progressive form blocked*

(26') \*The mail has been containing bad news. CONTAIN as non-dynamic (state)

*adverbial manner scope*

(27) The bottle has been automatically filled with a pink liquid. FILL as dynamic process

*\* adverbial manner scope blocked*

(27') \* The bottle automatically contains a pink liquid. CONTAIN as non-dynamic (state)

Compared with gradability and dynamicity, the effects of sensitivity towards polarity and assertiveness are less easy to deal with. These semantic features are not tied to individual concepts, they normally characterize 'what is predicated about a subject', i.e. the whole message of a VMC apart from the subject participant (see Section 6.2). As shown in Table 4 above, this means that TAM phenomena, *not*-negation and a range of adverbial perspectives are sensitive to polarity, i.e. whether a predicate is to be regarded as positive or negative, and – more specifically – to assertiveness, i.e. whether or not a concept is positively assumed to exist or be valid (Qu: 2.53–54).

Concentrating on *not*-negation, for which polarity sensitivity is obviously crucial, and skipping 'scope competition' with modal auxiliaries and polarity-sensitive adverbs (see Section 3.3.3), restrictions on use are most noticeable when *not*-negation co-occurs with assertive items. In this case the scope of *not*-negation is restricted in such a way that it excludes the assertive item, no matter whether it features as assertive determiner within a noun phrase (28) or as assertive adverb



(29). If – as in (29') – the assertive adverb is inserted between the *not*-element and the lexical verb form (which is part of the minimal scope of *not*-negation), the negative perspective is blocked. Conversely, non-assertive items are always included within the scope of *not*-negation (30). If the non-assertive item (*yet* in (30')) is placed before the *not*-element (i.e. outside this scope), the perspective of negation is also blocked (30').

- (28) I do *n't* buy birthday presents for **some** colleagues.  
 (i.e. for those I don't like)
- scope of negation*
- (29) Peter **sometimes** does *n't* check his facebook account.  
 assertive concept
- scope of negation*
- \* *scope of negation blocked*
- (29') \*Peter does *n't* **sometimes** check his facebook account.  
 assertive concept
- scope of negation*
- (30) Peter's parents have *n't* **yet** been told about his poor results  
 non-assertive concept in the finals.
- scope of negation blocked*
- (30') \*Peter's parents **yet** have *n't* been told about his poor results  
 non-assertive concept in the finals.

What has been said about *not*-negation also applies to a number of adverbs expressing negative frequency, such as *scarcely*, *hardly* and *rarely*, as in (31–32), where the assertive items *some* or *sometimes* remain outside the adverbial scope while non-assertive *ever* or *yet* are included (33–34).

- scope of frequency adverb*
- (31) You can *hardly* earn a decent living in **some** professions.  
 assertive concept  
 (e.g. as a hairdresser)
- scope of frequency adverb*
- (32) **Sometimes** he *scarcely* had the money for a hot meal.  
 assertive concept
- scope of frequency adverb*
- (33) I *rarely* have **any** money on my bank account.  
 non-assertive concept

*scope of adverb scarcely*

- (34) They can *scarcely* ever afford to go to the movies.  
non-assertive concept

Finally, with the feature of factuality the top of the scope hierarchy (Table 4) is reached. Factuality indicates that the proposition conveyed by a VMC is regarded as a fact; the sensitivity of perspectivizers towards factuality is termed factivity, as expressed by ‘factive’ adverbs like *fortunately*, *surprisingly*, *regrettably*.<sup>3</sup> The consequence for the scope behavior of these adverbs is that their scope may extend over the declarative sentences in which factive propositions are usually presented (35). Interrogative and imperative sentence modes, however, question the factual status of a message and cannot be included within the scope of factive adverbs (36–37).<sup>4</sup> This explains why, conventionally expressed, factive adverbs do not occur in interrogative and imperative sentences.

*scope of factive adverb*

- (35) *Fortunately*, Peter passed his exam.  
factive adverb

*\*scope of factive adverb blocked*

- (36) *\*Fortunately*, did Peter pass his exam?  
factive adverb

*\*scope of factive adverb blocked*

- (37) *\*Fortunately*, pass your exam, Peter.  
factive adverb

To sum up, the scope hierarchy of perspectivizing seems to provide a suitable framework for bringing together phenomena like gradability, dynamicity, polarity assertiveness, and factuality, which in linguistic descriptions are often treated in a rather haphazard and isolated way. Together with personal and temporal deictic grounding, they regulate the perspectivizing mechanism and constitute an important part of concept-linking restrictions.

3. The factivity of these adverbs is comparable to the complementation requirements of factive predicates like *regret*, *be surprised*, *be proud of* etc. (they require a *that*-clause or a gerund construction). See Kiparsky and Kiparsky (1971).

4. If factive adverbs are not used in clause-initial position, but placed after the interrogative signal, this still signals a clause-embracing adverbial scope, which is incompatible with the interrogative sentence mode; compare *\*Did Peter fortunately pass his exam?*



## Signaling concept linking

### Word order, morphology, function words

A grammar based on conceptualization and concepts like the proposed framework is bound to pursue an approach that in more traditional terms would be called onomasiological. Yet if one wants to analyze the grammar of concept linking in terms of linguistic output, it makes sense to choose a semasiological method because it permits a description of how linguistic phenomena are influenced by and at the same time ‘signal’ the different linking mechanisms. The goal is to show that grammatical surface phenomena like word order, inflectional morphology and function words<sup>1</sup> are multifunctional and that this crucial quality can be better explained within the concept-linking framework than by other linguistic approaches.

As the language investigated is English, a language known for its slender morphology and strong reliance on word order, the analysis will bypass existing classifications of nominal, verbal and adjectival inflectional morphology and will concentrate on function words and, in particular, on word order and its widely neglected multifunctionality.

#### 5.1 The role of word order in concept linking

##### 5.1.1 A preliminary classification

At first glance, word order may appear as a fairly simple surface phenomenon by merely suggesting a linear sequence of elements, but from a concept-linking stance this surface hides the multiplicity of functions that contribute to – and compete for – linearization. To explain its multifunctionality, it is worth considering that word order can be basically understood in three different ways, which reflect different linking mechanisms, namely as:

- serialization of linguistic representations of concepts (prototypically represented by the AGENT-PREDICATOR-PATIENT sequence of VMCs);

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1. Function words: also called grammatical or structure words or closed-class items.

- adjacency or neighboring position of concept representations (prototypically represented by the attribution of an adjectival to a nominal concept);
- extension, i.e. how many concepts are included in an ordered sequence of words (prototypically indicated by the position of initial and final scope signals, e.g. for sentence types, TAM phenomena and adverbs).<sup>2</sup>

These three aspects of word order, which are illustrated by the annotated examples in Figure 5, will be discussed in more detail in the following.

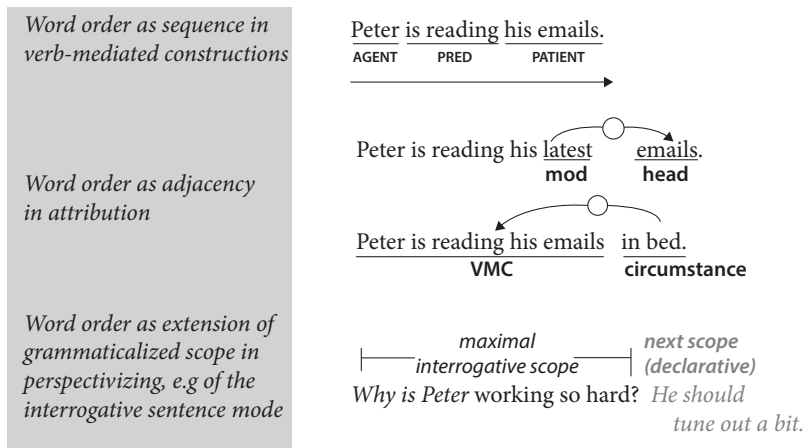


Figure 5. Functions fulfilled by word order in concept linking

### 5.1.2 Word order as serialization of concept representations

What is traditionally called S–V (or S–P) word order is rightly regarded as the backbone of English syntax, as it applies to all types of VMCs. Seen from a concept-linking stance it iconically reflects the principle of sequential order (Radden and Dirven 2005: 53) that underlies the PATH schema. In the THEME- PREDICATOR construction the THEME subject is placed before the verbal element; deviations from this order are uncommon (1).

- (1) Ice melts.      \*Melts ice  
THEME PRED      PRED THEME
- word order as serialization

2. The different types of word order also reflect different types of diagrammatic iconicity (Langendonck 2007); see below for details.

In three-element VMCs the sequence S–V is also observed, but is extended into the S–V–O serialization, which means that both AGENT and PATIENT participants are defined by their position relative to the PREDICATOR (2).<sup>3</sup> This principle applies to the prototypical instances of agent-driven VMCs involving an AGENT subject and a PATIENT object, but also to constructions with an EXPERIENCER subject (3) and to copula constructions (4); it is observed in matrix clauses as well as nominal and adverbial clauses (5–6).

- (2) Susan is eating her breakfast.  
AGENT PRED PATIENT  
→
- (3) Peter knows many people.  
EXPERIENCER PRED PATIENT  
→
- (4) This is the new pupil.  
PARTICIPANT PRED PARTICIPANT  
→
- (5) She even admitted to me that she loves operas.  
matrix VMC additional VMC  
→
- (6) She dropped the key when she opened the door.  
matrix VMC additional VMC (adverbial clause)  
→

Yet there are limits to strict serialization, mostly due to the interference of one of the other linking mechanisms. One example in which the word order represents the adjacency principle of attribution rather than the serialization of VMCs are certain relative clauses: In them a relativized postverbal participant (mostly a PATIENT or RECIPIENT) is fronted in order to be positioned closer to its referent in the matrix clause, i.e. the serialization principle is overruled by the adjacency principle, as indicated by the greyed-out area in 7–8. If the relativized participant is the subject participant, the conditions of attribution (adjacency) and VMC (serialization) are in agreement, and the S–V–O sequence is fully maintained (9).

- (7) The police seized the paintings which the thieves  
Referent PATIENT (OBJ.)  
had offered to the dealer.  
AGENT PRED RECIPIENT  
word order as adjacency ←  
word order as serialization →

3. This is why, from a typological angle, English is regarded as an S–V–O language, as defined by Greenberg (1966). See discussion in Chapter 16.

(8)

*Referent* RECIPIENT (OBJ.)  
 The dealer *whom/Ø* the thieves had offered the paintings acted for the police.  
 AGENT PRED PATIENT  
 word order as serialization

(9)

*Referent* AGENT (SUBJ).  
 The police arrested *the thieves who* had offered the paintings to a dealer.  
 PRED PATIENT RECIPIENT  
 word order as serialization

Another frequent infringement on strict serialization occurs when an utterance is presented in the interrogative perspective, which is indicated by a reversal of the sequence of subject and TAM signal (auxiliary or inflected verb form) (10). The so-called *do*-paraphrase is required if an utterance does not contain an auxiliary to avoid 'full' inversion of subject and lexical verb form (11). The reason is that even where the interrogative perspective interferes with the serialization principle, at least the sequence 'subject–lexical verb–postverbal participant(s)' can be maintained; this testifies to the resilience of the serialization principle in English.

*inversion signalling*  
*interrogative perspective*  
 (10) Can I help you?  
 AUX AGENT lexical verb PATIENT  
 word order as serialization

DO/AUX AGENT  
 (11) Do you like orange juice?  
 lexical verb PATIENT  
 word order as serialization

The final proof of the strength of serialization in English word order are sentences in which the interrogative pronoun is the subject. Here serialization can be maintained without *do* periphrases because the interrogative mode is sufficiently well indicated by the interrogative pronoun (12).

*Who signalling*  
*interrogative perspective*  
 (12) Who won the championship (last year)?  
 AGENT PRED PATIENT  
 word order as serialization

### 5.1.3 Word order as adjacency of concept representations

When ‘word order as adjacency’ was mentioned above in connection with relative clauses, this was one of its more spectacular applications. For the most part, adjacency of word order is a rather unobtrusive process. One of the occasions when it comes to the fore is when examples combining several modifiers are considered, as in (13).<sup>4</sup>

- (13) the famous delicious Italian pepperoni pizza  
 \*the Italian delicious famous pepperoni pizza  
 \*the famous pepperoni delicious Italian pizza  
 \*the pepperoni delicious famous Italian pizza

Examining the different versions of (13), it is obvious that only the first is acceptable while the other three (and all other possible combinations) are not. Only the first phrase fully conforms to the principle of adjacency, which stipulates that the concepts most strongly attracted to each other semantically (i.e. PEPPERONI and PIZZA in (13)) are positioned most closely. Compared with this strong conceptual attachment, the attraction between the concept PIZZA and the concepts ITALIAN, DELICIOUS and FAMOUS is of decreasing intensity, and this is reflected in a more distant position of their linguistic realizations from the nominal head.

What the analysis also shows is that however strong or weak the semantic attraction between two concepts may be and however justified their adjacent position, this relationship is necessarily projected onto a linear sequence in linguistic performance. This is why the role of adjacency tends to be overlooked, especially in pairs consisting of two concepts only (modifier-head combinations like *delicious meal*, *all people*), but also in compounds like *blackbird*, *apple-tree*, not to forget the grammatical phenomena of *s*-genitives and *of* phrases.

While the examples discussed so far have concerned modifying attribution, word order adjacency is also important for circumstancing, especially with regard to the position of adverbial phrases within the clause. The peripheral position of these elements can be seen in terms of both ‘positive’ and ‘negative’ adjacency – positive because it is only in the peripheral position that the circumstance can refer to the VMC as a whole (14), negative because the circumstance is placed at a certain distance from central concepts of the matrix clause. In (14), for instance, the adverbial is relatively distant from the AGENT participant *Peter*, in (14′) from the PATIENT participant *shower*.

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4. Here the concept-linking analysis meets with the interpretation in terms of diagrammatic iconicity, which suggests ‘iconic proximity’ as an explanation. See Radden (1992: 515–516), from which the example is taken); Radden and Dirven (2005: 53); Ungerer and Schmid (2006: ch.7)



(14) Peter takes an extensive shower every morning.  
   VMC  circumstance

(14') Every morning our neighbour Peter takes a shower.  
   circumstance  VMC

The fact that both the front position and the final position in the clause are available for prototypical circumstancing adverbials justifies an explanation in terms of adjacency (as opposed to serialization).<sup>5</sup> However, this interpretation is only relevant for ‘non-obligatory’ clause-related adverbials, not for ‘obligatory’ adverbials as in (15); for these items, which will be described as interfaces between VMC participants and circumstances in Section 8.2, the word order-as-serialization interpretation of VMCs is applicable.

(15) Peter put his laptop into his rucksack.

(15') Into the rucksack Peter put his laptop.

Looking back at the role played by word order with regard to VMCs and attribution the initial claim that word order is to be seen as a multifunctional phenomenon is substantiated, but will gain further support when its role in perspectivizing is considered as well.

#### 5.1.4 Word order as indication of scope extension and the position of scope signals

Scope, defined as the grammaticalized influence exerted by perspectivizing mechanisms over a stretch of utterance, is also a matter of word order and also of grammatical iconicity because the starting point and end point of the scope must be identifiable in the linear arrangement of linguistic elements.

Most importantly, the starting point of a scope must be indicated, if possible by a specific linguistic signal, the initial scope signal. For example, the scope of the interrogative sentence mode is initially signaled by an interrogative pronoun and/or the inversion of subject and auxiliary; the beginnings of TAM and agreement scopes are indicated by an auxiliary or inflected verb form, the scope of negation by the *not*-element (or its contracted form *n't*). Adverbial scopes are introduced by the respective adverb – at least in prototypical cases. Scope-initial marking is also

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5. For informational and scene-setting aspects of circumstances see Section 6.4.2.

the point where maximal scope, minimal scope and actual scope (as introduced in Section 2.3.3) coincide.<sup>6</sup>

In contrast, maximal, minimal, and actual scope differ with regard to the end point of a perspectivizing scope. As for maximal scope, the end point can be relatively easily defined: The maximal scope extends up to where a new scope signal indicates a new scope on the same hierarchical level or on a higher hierarchical level.<sup>7</sup> Compared with the initial scope signal, which is explicitly stated or ‘direct’, the scope-final signal is ‘indirect’ because it is implicit in the next initial scope signal.

With regard to sentence modes, the explanation of scope behavior is important because it substantially contributes to the demarcation of the clause, as in (16–18). The end point of a sentence-mode scope immediately precedes the beginning of the next sentence-mode scope (declarative, interrogative or imperative mode) because they all belong to the same hierarchical level (see Section 3.5 for details).

- (16)  $\overline{\text{maximal interrogative scope}}$  *next interrogative scope*  
*Why do you work so hard? Why don't you ...*
- (17)  $\overline{\text{maximal interrogative scope}}$  *declarative scope*  
*Why do you sleep all the time? You should take a holiday.*
- (18)  $\overline{\text{maximal interrogative scope}}$  *imperative scope*  
*Why don't you ask your neighbours? Don't hesitate to ...*

Moving on to other types of perspectivizing scopes, the end of the maximal scope is sometimes marked by a new scope of the same kind. Compare (19), where a new TAM scope (present perfect) not only introduces a new time reference, but at the same time functions as an indirect scope-final signal for the previous past tense scope. Similarly, in (20–21), the scope of the second adverb (*ironically, quickly*) signals the end point of the first adverbial scope.

- (19)  $\overline{\text{maximal TAM (past tense) scope}}$  *next TAM (present perfect) scope*  
*She discovered the treasure in a dustbin and has made a lot of money.*

6. As already suggested in Section 2.3.4, the scope-signaling perspectiver need not be placed in the prototypical scope-initial position if the scope is deducible from its lexical meaning. Compare *In spite of his problems Peter fortunately didn't succumb to a depression.*

7. Alternatively the scope is terminated when a speaker's utterance is not followed by another utterance (unless the scope is taken up by someone else).

- (20)  $\left| \text{---} \textit{maximal adverbial scope} \text{---} \right|$  *next adverbial scope*  
*Unfortunately* I have lost my wallet, *ironically* in a public toilet.
- (21)  $\left| \text{---} \textit{maximal adverbial scope} \text{---} \right|$  *next adverbial scope*  
 He *stealthily* grasped the money and *quickly* put it into his pocket.

In most cases, however, the maximal scope is terminated by a hierarchically superordinate scope signal, normally by a new sentence mode. Compare examples (22–24).

- (22)  $\left| \text{---} \textit{maximal adverbial scope} \text{---} \right|$  *superordinate sentence-mode scope*  
 I *must* have lost my keys. *Have you perhaps found them?*
- (23)  $\left| \text{---} \textit{maximal scope of negation} \text{---} \right|$  *superordinate sentence-mode scope*  
 They did *n't* use fresh fruit for the dessert. *This was disappointing.*
- (24)  $\left| \text{---} \textit{maximal scope of person-oriented adv.} \text{---} \right|$  *superordinate sentence-mode scope*  
 $\left| \text{---} \textit{maximal TAM scope} \text{---} \right|$   
*Proudly* he *waved* the flag in the wind, *but was anybody impressed?*

As opposed to maximal scopes, the end point of the minimal scope of perspectivizers is not indicated by a subsequent scope signal, but depends on the lexical features of the scoped element(s). For instance, the minimal scope of a degree adverb includes a gradable adjective or adverb, the minimal scope of a manner adverb comprises a dynamic verbal concept. Compare Section 4.2 for a more detailed discussion.

What is most evasive is the extension of the actual scope. While its range is limited by the maximal and minimal scopes, its actual end point is more difficult to identify in a specific communicative event. Compare (25), which picks up an example already mentioned in Section 2.3.3. A preference for one or the other of the four variants offered primarily depends on where the focus is placed (see Section 6.3).

- (25) The kids do *n't* play hide-and-seek outdoors in winter because of the cold.
- scope of negation*      *actual scope variant 4*

To sum up, perspectivizing adds yet another aspect to the complex phenomenon of word order that is not to be neglected, even if it is less tangible than the word-order effects of VMCs and attribution.

## 5.2 The role of morphology and function words in concept linking

Since in English morphology and function words tend to complement each other, it makes sense to discuss them together. In doing so, the discussion will concentrate on phenomena that are specifically relevant for concept linking.<sup>8</sup> English morphology is very much restricted compared with other languages: Nominal case morphology can only muster genitives and the additional case forms of pronouns; verb morphology includes third-person forms of the present tense, past tense and participle forms; adjective morphology comprises comparison suffixes. In contrast, there is a wide range of function words to be considered: personal, interrogative and relative pronouns, various prepositions and conjunctions as well as auxiliaries. The important question within the framework of concept linking is, of course, how these items assist the three major linking mechanisms.

At first sight, the assignment of function words to the three concept-linking mechanisms seems straightforward enough. Personal pronoun forms like *I/me* or *she/her* fill the participant roles of AGENT, PATIENT (OR EXPERIENCED) and RECIPIENT in VMCs (26);<sup>9</sup> so do interrogative pronouns like *who/whom* (27) and also relative pronouns (the latter only in subordinate clauses; see below). Proforms (*here, there, now, then*) and interrogative pronouns (*where, when, why, how*) are also available for circumstances involved in attribution (28–29).

(26) They sent me a birthday present. He doesn't like me.  
AGENT RECIPIENT EXPERIENCER EXPERIENCED

(27) Who runs the business? Whom would you leave your money?  
AGENT PATIENT

(28) Where did you find the keys – on my desk?  
circumstance

(29) I didn't find them there, but in the waste paper basket.  
circumstance

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8. Excluded because less relevant for concept linking than for conceptualization are derivational morphology, singular and plural inflection and function words such as articles and demonstratives. For quantifying determiners used as adverbs of degree see Section 9.3.3.

9. The use of pronouns as postverbal participants is sometimes overruled by word order serialization, for instance if the subject form of the pronoun gives way to the object form in constructions like *It's only me*.

As for prepositions, they are primarily responsible for the non-verbal access to circumstances, facilitating the attribution of circumstances to VMCs. Due to their being rooted in orientational (or spatial) image schemas like IN–OUT, UP–DOWN, FRONT–BACK (see Section 2.7) it is not surprising that spatial prepositions first come to mind, among them items that combine several orientational schemas, such as *onto*, *upon*, *about*, *above*, *along*, *around*, *over*, *across*. In addition, there are prepositions that are specifically geared to accessing temporal circumstances (*since*, *till*) or circumstances of INSTRUMENT, MEANS and CAUSE.<sup>10</sup> Apart from these more specific prepositions, there are three items that have a particularly wide range of application: the prepositions *for*, *with* and *of*, whose use as a tool of attribution is – very selectively – illustrated in (30–32).

- (30) *for*: They set out *for* the mountains. / She'll jump *for* joy. / I won't work *for* you. / Pray *for* peace. *for*: core meaning 'goal/purpose/cause'
- (31) *with*: People eat *with* knife and fork in Europe. / the woman *with* the little boy / They are playing *with* their friends. / They are fighting *with* swords. / We were stiff *with* cold. *with*: core meaning 'instrument/ accompaniment/ accessory'
- (32) *of*: the roof *of* the house / a piece *of* music / in case *of* fire / in front *of* the house / out *of* the house *of*: core meaning 'part of' / general modifying link'

In the case of *for* and *with*, this semantic versatility is also exploited in non-finite interfaces. Compare the discussion of *for*+infinitive and *with*+participle constructions in Sections 10.2.2, 10.3.1, and 10.3.3.

Turning to verbal morphology and function words, i.e. auxiliaries and semi-auxiliaries, they both signal TAM scopes (33), while *ly*-suffixes indicate adverbial scopes (34).

- TAM scope (tense)*
- (33) The landlord *had bought* the house only recently.
- TAM scope (semi-modal, tense)*
- (33') The landlord was going to renovate the house recently.
- adverbial scope*
- (34) The house was *luxuriously* decorated with flowers.

10. There are also complex prepositions that can be understood as combinations of circumstancing and modifying: *by means of*, *with the help of*, *due to*, *by virtue of*.

However, this relatively tidy assignment of morphology and function words to concept-linking mechanisms can be overruled in ‘interfaces’ between these mechanisms, as discussed below in Part II. This is true, for instance, for the so-called prepositional objects (e.g. those involving the preposition *for*, as in (35)) and also for object+infinitive (or Acl) constructions with personal pronouns, such as *him* in (36), which doubles as VMC participant and attributed referent of the infinitive.<sup>11</sup>

(35) We were all waiting *for* Peter.

(36) We wanted *him* to visit Grandma.

With regard to conjunctions and subordinating pronouns (both interrogative and relative), the situation is somewhat different because they involve not only one, but two VMCs and therefore function on the level of complex sentences. The most neutral form of linking VMCs is represented by the conjunctions *and*, *or* and *but*, as they are not restricted to any of the three concept-linking mechanisms or to any kind of subordination and can therefore be characterized as ‘freely coordinating’ devices (37). Of the remaining conjunctions, the ‘nominal’ conjunctions *that* and *whether* indicate the embedding of an additional element in the matrix clause, which takes over the function of AGENT, PATIENT OR EXPERIENCER in this VMC (38–39). Internally, the conjunctions signal the introduction of a new VMC, which means that they are part and parcel of the VMC mechanism.<sup>12</sup>

(37) He achieved a good grade in the exam, *but* in general his results were poor.

(38) Nobody could imagine *that* she would fail the exam.

(39) Nobody dared to ask him *whether* he had passed the exam this time.

A second and also the largest group of conjunctions, the ‘adverbial’ conjunctions (*as*, *after*, *before*, *since*, *because*, *although*, etc.<sup>13</sup>) link two VMCs as well, but this link is established by guided semantic attraction in terms of the circumstances *TIME*, *CAUSE*, *PURPOSE*, *CONDITION*, *CONCESSION*, etc.. This is why – like prepositions – adverbial conjunctions belong to the concept-linking mechanisms of attribution, representing it on the level of complex sentences. Internally, these conjunctions behave like *that* (and *whether*), introducing a new VMC (40–41).

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11. For more information about these advance examples see Sections 8.3.1 and 10.2.3.

12. While *whether* is used to integrate *yes/no*-questions into VMCs, *wh*-questions are tied to VMCs by the interrogative element (*who*, *what*, *where*, *how*, *why*), which due to its status as pronoun also acts as participant or circumstance in the subordinated VMC.

13. *After*, *before*, *since* are also used as prepositions, a fact that is relevant for the description of non-finite constructions (Section 10.3.1).

(40) I can't afford a new laptop *because* I have just been on holiday.

(41) We'll make an excursion *if* the sun shines (tomorrow).

Though not involved in circumstancing, relative pronouns reflect the linking process of attribution because they can be understood as modifiers of participants in the matrix clause (42–43) – the process was described as ‘role attribution’ in Section 2.2.3.

(42) Do you know *who* could give us the information?

(43) Did you obtain the information *that/which* you needed?

Granted that both VMCs and attribution offer a rich inventory of linking tools in the guise of pronouns, prepositions and conjunctions, the question remains whether perspectivizing as the third major concept-linking mechanism also makes its contribution. As the discussion in Section 6.5.4 will show, connective adverbs and additive focusing adverbs provide a complex system of back references and forward scopes, illustrated by the advance example in (44).

The chairman had prepared a long speech.

back  
reference ↑ *scope of additive connective adverb*

(44) He had also made notes for the ensuing discussion.

### 5.3 Word order, morphology and function words: An overview

The discussion is rounded off with Table 5, which once more assembles the signals relevant for concept linking, but like the other overviews in Part I only considers prototypical cases. As already indicated above, word order, morphology and function words also play an important role in and require specific explanations for the interfaces of VMCs and circumstancing (‘obligatory adverbials’) and of attribution and perspectivizing (e.g. for degree adverbs), not to mention the interface between TAM scopes and VMCs populated by infinitive, participle and gerund constructions. These interfaces will be discussed in Chapters 7–11.

**Table 5.** The relevance of word order, morphology and function words in concept linking

	Word order	Morphology	Function words
VMCs	Serialization: – AGENT-PRED –PATIENT (-RECIPIENT) – EXPERIENCER-PRED- EXPERIENCED – THEME-PRED	Nominal morphology: subject and object case of personal pronouns	Pronouns (personal, interrogative) Conjunctions ( <i>that</i> , <i>whether</i> )
<i>Attribution</i>	– Adjacency in modifying (adj- head noun, referent of attributive clause) – (adj-head noun; relative clause – referent) – Adjacency as peripherality in circumstancing	Nominal morphology: <i>s</i> -genitive	Preposition: <i>of</i> (expressing attribution) Relative pronouns Prepositions (selection): – Place & direction: <i>at</i> , <i>to</i> , <i>in</i> , <i>into</i> , <i>out of</i> , <i>on</i> , <i>upon</i> , <i>off</i> , <i>over</i> , <i>above</i> , <i>under</i> , <i>below</i> – Time, instrument, etc.: <i>since</i> , <i>till/until</i> , <i>for</i> , <i>with</i> , <i>by means of</i> Conjunctions: <i>as</i> , <i>after</i> , <i>before</i> , <i>since</i> , <i>because</i> , <i>although</i>
<i>Perspectivizing</i>	Extension of scope indicated by starting point & end point: sentence modes, TAM & agreement, negation, adverbs	Verb morphology: 3rd pers. agreement; <i>ing</i> - and <i>ed</i> -forms & participles Adverb formation: <i>ly</i> - with connective & focusing adverbs	Connective adverbs (non-derived) Auxiliaries: <i>have</i> , <i>do</i> , <i>be</i> Modal auxiliaries: <i>can</i> / <i>could</i> , <i>may/might</i> , <i>must</i> / <i>shall/should</i> , <i>ought to</i> / <i>will/would</i> Semi-modals: <i>have to</i> , <i>going to</i> , <i>get to</i> , <i>wanna</i>





## Concept linking, topic, comment and focusing

### 6.1 Introductory remarks on the influence of conceptual salience and informational prominence

The preceding sections have been used to discuss the three major mechanisms of concept linking employed in English, to explain how these mechanisms are reflected in word order, morphology and function words, and to point out the essential semantic restrictions to which they are exposed. What has not been discussed so far is the ‘weighting’ that automatically accompanies any combination of concepts.

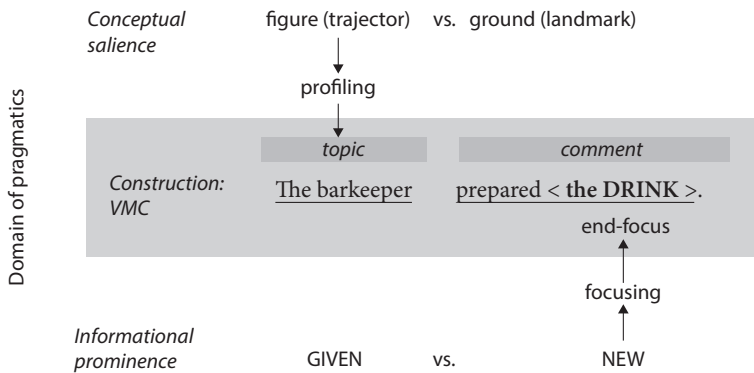
This weighting phenomenon is motivated in two ways, by conceptual salience and informational prominence, both important parts of any pragmatic text analysis. As for *conceptual salience*, it can be captured through the figure/ground (or trajector/landmark) contrast that is dominant in cognitive-linguistic thinking (Langacker 1987/1991, Croft and Cruse 2004: 56–58, Schmid 2007); another starting point are the ostensive-inferential *stimuli* of relevance theory (Sperber and Wilson 1995), which combine ideas from cognitive linguistics and pragmatics (Ungerer and Schmid 2006: Chapter 6). The linguistic effects are normally described in terms of *topic* and *comment*, with topic regarded as the profiled or ostensive element.<sup>1</sup>

Unlike conceptual salience, *informational prominence* is a pragmatic concept that has been tied to the notions of GIVEN and NEW since the beginnings of the Prague School of Functional Sentence Perspective (Daneš 1974, Firbas 1992). Its most noticeable weighting effect is described in terms of *focus*, which is indicated by position and marked by an intonational nucleus in spoken language.

Figure 6 provides a visualization of this situation for VMCs as used in simple sentences, with the domain of concept-linking analysis indicated by the greyed-out area. Topic, comment and focus are included in this area in order to signal that they are part of grammatical structure rather than mere pragmatic add-ons.

---

1. The terms *theme* and *rheme*, which are often related to *topic* and *comment* respectively, are not used here for two reasons. First, following the Anglo-American usage, *theme* is defined as a participant of VMCs (see Section 2.1.2). Secondly, as introduced by the Prague School, *theme* and *rheme* are used to describe pragmatic phenomena of information structure and in this function linked to GIVEN and NEW. See main text.



**Figure 6.** The conceptual and informational background of topic, comment and focus in VMCs

The full potential of such an understanding of topic and comment can be exploited if it is not only applied to VMCs, as shown in Figure 6, but also to the linking mechanisms of attribution and perspectivizing. This will also lead to a more differentiated view of focusing. However, to achieve this goal the claim that all elements of an utterance are part of a uniform GIVEN/NEW structure must be abandoned. The postscript on GIVEN and NEW (Section 6.6), which brings together findings of the preceding sections, will demonstrate the benefit of this decision.

## 6.2 Topic and comment in concept-linking

### 6.2.1 The narrow interpretation challenged: Topic and comment only as subject and predicate?

In agreement with the introductory remarks of Section 6.1, *topic* is regarded as what is conceptually most relevant or salient in an utterance and *comment* as what is communicated about this relevant item. The oldest and probably most powerful application of the topic-comment pair is the distinction between subject and predicate, which has been postulated as the axiom of syntactic clause structures in both traditional grammar and generative grammars.<sup>2</sup> Within the framework of concept linking, this definition of the topic-comment principle applies to all types of VMCs, first of all to agent-driven constructions. In them the topic prototypically refers to an AGENT subject while the comment covers the predicate, here understood

2. In traditional grammar this interpretation, which goes back to Aristotle, is part of a multi-functional notion of subject and predicate (Smith 1995: 55), in generative grammars it is reflected in the distinction between NP and VP (Radford 1988).

in its wider sense as comprising the verbal element plus PATIENT and RECIPIENT participants (1–2).<sup>3</sup>

- |     |                         |                                   |  |
|-----|-------------------------|-----------------------------------|--|
|     | <i>topic as subject</i> | <i>comment as predicate</i>       |  |
| (1) | <u>The barkeeper</u>    | <u>prepared</u> <u>the drink.</u> |  |
|     | AGENT                   | verb element PATIENT              |  |
- 
- |     |                         |  |  |
|-----|-------------------------|--|--|
|     | <i>topic as subject</i> | <i>comment as predicate</i>                      |  |
| (2) | <u>I</u>                | <u>gave</u> <u>him</u> <u>a five pound note.</u> |  |
|     | AGENT                   | verb element RECIPIENT PATIENT                   |  |

The assignment of topic-comment to the subject-predicate sequence is also widely regarded as a justification of passive constructions. In English passivization takes two forms, which permit the use of both the PATIENT (3) and the RECIPIENT (4) participant in the ‘topic as subject’ position. In THEME-PREDICATOR constructions the topic is expressed by the THEME subject, the comment again refers to the predicate, which is standardly restricted to the verbal element (5); the passive alternative is excluded here.

- |     |                         |   |  |
|-----|-------------------------|---|--|
|     | <i>topic as subject</i> | <i>comment as predicate</i>             |  |
| (3) | <u>The drink</u>        | <u>was prepared</u> (by the barkeeper). |  |
|     | PATIENT                 | verb element (by-agent)                 |  |
- 
- |     |                         |   |  |
|-----|-------------------------|---|--|
|     | <i>topic as subject</i> | <i>comment as predicate</i>                   |  |
| (4) | <u>I</u>                | <u>was given the change</u> (by the cashier). |  |
|     | RECIPIENT               | verb element PATIENT (by-agent)               |  |
- 
- |     |                         |                             |  |
|-----|-------------------------|-----------------------------|--|
|     | <i>topic as subject</i> | <i>comment as predicate</i> |  |
| (5) | <u>The sun</u>          | <u>is shining.</u>          |  |
|     | THEME                   | verb element                |  |

This narrow grammatical view of the topic-comment principle as a dichotomy of subject and predicate has been so dominant in the Western linguistic analysis that other possible applications, which call for a wider interpretation of the topic-comment pair, have been largely neglected. A notable exception is the work of Li and Thompson (1976), who claim that for instance in Chinese the topic-comment relationship can be applied to verbless linguistic structures. For example, they assume topic-comment structures for each of the following examples (6) from Mandarin

3. Considering subject as topic and predicate as comment (i.e. what is communicated about the topic) is also relevant for perspectivizing. As negation and certain adverbial perspectives (time, frequency, manner adverbs) are concerned with the comment (i.e. the predicate) rather than the topic (i.e. the subject), their scope normally does not include the subject element of the VMC. See also Section 2.3.3

Chinese instead of postulating a ‘double-subject structure’ as proposed by generative grammarians.

- |  |   |
|--|---|
| <p style="text-align: center;"> <span style="background-color: #cccccc; padding: 2px 5px;">topic</span>                      <span style="background-color: #cccccc; padding: 2px 5px;">comment</span><br/> <span style="background-color: #cccccc; padding: 2px 5px;">topic</span> <span style="background-color: #cccccc; padding: 2px 5px;">comment</span><br/> (6)    Nèi   ke   shù   yèzi   dà                      Xiàng   bízǐ   cháng<br/>           that CL* tree leaves big                      elephant nose long<br/>           ‘That tree (has) big leaves.’                      ‘? Elephants (have) long noses.’<br/>           * CL = classifier                                      Based on Li and Thompson (1976: 468, 486) </p> | <p style="text-align: center;"> <span style="background-color: #cccccc; padding: 2px 5px;">topic</span>                      <span style="background-color: #cccccc; padding: 2px 5px;">comment</span><br/> <span style="background-color: #cccccc; padding: 2px 5px;">topic</span>   <span style="background-color: #cccccc; padding: 2px 5px;">comment</span><br/> </p> |
|--|---|

In line with Li and Thompson, in each example only the lower topic-comment pair is supported by a copula construction (*leaves (are) big, nose (is) long*), assuming that the other topic-comment structure (*tree-leaves, elephant-nose*) does not have a VMC base.<sup>4</sup> And indeed, if one relies on the definition quoted above, there is no reason to restrict the topic-comment analysis to VMCs on the clause level and to exclude other phenomena from its range of application. Consequently, topic and comment can be seen as underlying the non-verbal mechanisms of attribution and perspectivizing as well. In the case of attribution this concerns both modifying and circumstancing, and can be applied on all grammatical levels on which these mechanisms are at work.

### 6.2.2 The wide interpretation: Topic and comment in attribution and perspectivizing

Starting on the level of lexemes, the topic-comment relationship as a conceptual-pragmatic phenomenon can be assumed for the modifying link in paronymic compounds (*chair leg, shoelace* (7)), but also for compounds with qualifying constituents (*blackbird, greenhouse* (8)) and circumstancing compounds (*windmill, seaside resort* (9)); topic and comment can also be applied on the phrase level (10–12). As the examples show, the sequence ‘topic-comment’ is often reversed (8–9, 12), which is easily possible because attribution is characterized by the word-order principle of adjacency rather than serialization (see Section 5.1.3).

- |  |   |
|--|---|
| <p style="text-align: center;"> <span style="background-color: #cccccc; padding: 2px 5px;">topic</span> <span style="background-color: #cccccc; padding: 2px 5px;">comment</span><br/> (7)    chair <u>○</u> leg<br/>           core concept part </p> | <p style="text-align: center;"> <span style="background-color: #cccccc; padding: 2px 5px;">topic</span> <span style="background-color: #cccccc; padding: 2px 5px;">comment</span><br/>           shoe <u>○</u> lace<br/>           core concept part </p> |
|--|---|

4. This is why Li and Thompson (1976) regard Chinese as a “topic-dominated language” as opposed to “subject-dominated languages” like English, for which they do not claim verbless topic-comment links.

- (8) black bird green house  
 quality core concept quality core concept
- (9) wind mill seaside resort  
 cause core concept location core concept
- (10) a breakfast of eggs and bacon  
 core concept part
- (11) a shower in the morning  
 core concept circumstance (time)
- (12) hot meal Peter's bedroom  
 quality core concept quality core concept

Yet topic and comment can also be assumed for attribution on higher grammatical levels if one strictly relies on the definition quoted above (*topic* as the conceptually most relevant item, *comment* as what is communicated about it) and keeps it apart from any notion of GIVENNESS. This is true, for example, for the circumstancing of adverbial phrases on the clause level: On this view VMCs can be understood as topics, with the adverbial phrase functioning as comment, no matter whether it follows (13) or precedes (14) the VMC because its placement is governed by the principle of adjacency and not by serialization. The topic-comment analysis is thus applied twice, i.e. VMC-internal and on the clause level of VMC+adverbial phrase.<sup>5</sup>

- (13) Tourist guides have to undergo special training in most countries.  
 topic comment  
 topic comment  
 VMC circumstance
- (13') In most countries tourist guides have to undergo special training.  
 comment topic  
 topic comment  
 circumstance VMC

5. A similar double application of the topic-comment principle seems possible for 'VMC+adverbial clause' and 'VMC+relative clause', the former constellation permitting the topic-comment sequence and its reversal, the relative clause only the topic-comment sequence.

Whether the topic-comment paradigm can also be extended to perspective and scope phenomena is less certain. If one is prepared to support the wide interpretation of the topic-comment principle, the ‘scoped’ stretch of the utterance can be seen as topic while the perspective from which it is viewed can be interpreted as comment. This view is relatively convincing for viewpoint adverbs (14) and perhaps some manner adverbs (15), where the adverbial perspective adds conceptual content and expands the message.<sup>6</sup>

- (14) Unfortunately, Peter smashed his last bottle of wine.  
 perspectivizing adverb VMC
- Diagram for (14):  
 - A grey box labeled 'comment' is above 'Unfortunately'.  
 - A grey box labeled 'topic' is above the entire sentence.  
 - A grey box labeled 'topic' is above 'Peter' and another grey box labeled 'comment' is above 'smashed his last bottle of wine.'  
 - A horizontal line is under 'Unfortunately'.

- (15) The bottle had been carefully wrapped in several layers of tissue.  
 perspectivizing adv. VMC
- Diagram for (15):  
 - A grey box labeled 'topic' is above 'The bottle' and another grey box labeled 'comment' is above the entire sentence.  
 - A grey box labeled 'comment' is above 'had been carefully' and another grey box labeled 'topic' is above 'wrapped in several layers of tissue.'  
 - A horizontal line is under 'The bottle'.

### 6.3 Introducing focusing

While topic and comment regulate the conceptual-pragmatic relationships underlying communication, the communicative point of the message, or, in other words, what is weighted as most prominent informationally in an utterance or its constituents, is indicated by the *focus*.<sup>7</sup> In spoken language the focus is expressed by stress signals. These signals may take the shape of word stress within polysyllabic words and word-formation items, where they single out the most prominent syllable (16); they may underline the prominence of lexical constituents in phrases (17); or they may indicate the nucleus of a clause-embracing intonation unit (see also Section 2.5) (18).

6. In (14) the lower bar of topic-comment refers to the topic-comment sequence within the VMC, the upper bar to the relationship between perspectivizing viewpoint adverb and scoped message; in (15) the topic-comment effect of the manner adverb and its scoped message is indicated by the lower bar.

7. The distinction made here between topic, comment and focus is not shared by a number of linguists, who contrast topic (theme) and focus, e.g. Qu: 18.9, Lambrecht (1994). On definitions of topic and focus see also Féry and Krifka (2008).

- (16) ‘carriage, com‘pulsory, encyclo‘pedia, ‘book shelf  
 (17) after ‘breakfast, in the ‘meantime, in front of the ‘station  
 (18) We have just seen a great SPEcTacle.

Apart from word stress, which is normally fixed by convention, stress signals can – theoretically – be placed on any lexical items of an utterance. Yet this theoretical freedom is of little communicative effect, at least in written language, if the stress signal is not supported by the informational weighting potential as provided by end-focus, fronting, cleft sentences, focusing adverbs and *not*-negation, to mention the most widely discussed phenomena. What makes focusing so interesting from the stance of concept linking is that it seems possible to assign focusing phenomena to the different linking mechanisms. In pursuing this line of thought a basic distinction will be made between *positional focusing* and *perspectival focusing*.<sup>8</sup>

As in the case of topic and comment, the description of focusing behavior will not provide a full analysis in terms of GIVEN and NEW, but should produce some new ideas of how to tackle it – compare the postscript (Section 6.6).

## 6.4 Positional focusing

### 6.4.1 Positional focusing and the focus potential of VMCs

Since in English VMCs are characterized by a certain word-order sequence (i.e. S–V–O), it comes as no surprise that focusing is position-related. Even if one does not fully support Langacker’s (1991: Chapter 7) metaphor that prototypical VMCs reflect an action chain involving the transmission of energy from the participant at the head of the chain to the participant at its tail, it is difficult to deny that agent-driven VMCs are goal-oriented. This implies that the last element of a construction is particularly important for the success of the communicative act, that it carries the greatest weight and attracts the focus – hence the notion of ‘unmarked’ *end-focus* suggested by Quirk et al. (Qu: 18.9). In other words: The focus on the last element of agent-driven VMCs should be regarded as the *prototype of positional focusing*. This also ties in with the findings of topic-comment analysis suggesting that the focus standardly resides on the comment or on part of the comment.

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8. A similar distinction, though without the necessary supportive background of the concept-linking framework, is proposed by H and P (Chapter 6; 7.3.1) when they contrast ‘scopal focus’ with ‘informational focus’.



Apart from the prototypical three-element VMCs (AGENT-PRED-PATIENT), as illustrated in (19)<sup>9</sup>, the end-focus principle is also valid for four-element VMCs mostly AGENT-PRED-PATIENT-RECIPIENT), where the end-focus is normally assigned to the RECIPIENT (20).

(19) // Peter took < his SMARTphone >. //  
 AGENT - PRED - PATIENT

(20) // Peter gave his smartphone < to little TOM >. //  
 AGENT - PRED - PATIENT - RECIPIENT

(20') // Peter gave little Tom < his SMARTphone >. //  
 AGENT - PRED - RECIPIENT - PATIENT -

Yet what can be done if the focus is not intended to reside on the RECIPIENT, but on one of the other participants of the four-element construction, e.g. on the PATIENT? With regard to examples like (20) and its lexical concept GIVE, the RECIPIENT participant can also be placed before the PATIENT participant, which then receives the end-focus ((20') above).<sup>10</sup> Where this constructional variant is not available, e.g. with the verbal concept ADD (21), the RECIPIENT can be placed before the AGENT subject, especially if it is clearly marked by a preposition and cannot be mistaken for the subject. This not only leaves the crucial S-V sequence of the agent-driven construction intact, it also reserves the final position for the PATIENT, where it enjoys the end-focus (21'). In a similar way the verbal concept of the PREDICATOR can receive the end-focus in three-element constructions with a prepositional element (22) because again the fronted element is easily distinguished from the subject and the S-V sequence is maintained.<sup>11</sup>

*The chairman had compiled a list of topics for the meeting.*

(21) // But the committee added several items < to this aGENda >. //  
 AGENT - PRED - PATIENT - RECIPIENT

*The chairman had compiled a list of topics for the meeting.*

(21') // To this agenda the committee added < several Items >. //  
 RECIPIENT - AGENT - PRED - PATIENT

9. Notation: Focus is indicated by pointed brackets and bold letters, nucleus by capital letters, the extension of the intonation unit by slashes.

10. For a more detailed discussion of the research on dative alternation see e.g. Bresnan and Nikitina (2003), Gries (2003).

11. The placement of the end-focus on the subject participant is restricted to interfaces between VMCs and locative circumstances (*Onto the stage leapt < a HOODEd man >*; see Section 8.2.2) and to copula/modifier interfaces (*Comparable is < the sucCESS > of talent shows*); see Section 8.1).

*The chairman had compiled a list of topics for the meeting.*

- (22) // *To this agenda* they <a**GREED**>. //  
 RECIPIENT – AGENT – PRED

Even if the assignment of the end-focus is the primary communicative intention, the fronting of a postverbal participant (indicated by italics in (21–22)) also deserves attention; in fact, the fronted constituent (called ‘theme’ by Quirk et al. and others) is raised to the status of second most prominent element in the utterance. A frequent reason is that the fronted element creates strong *cohesion* with the preceding text, as in (21–22), where the concept COMMITTEE AGENDA is linked to the preparations of the chairman mentioned in the introductory sentence. Indeed, there are also rare instances where the front position completely takes over from the end-focus position in attracting the nucleus-supported focus. The condition is that the remaining participants of the construction consist of proforms and other items of little conceptual content and that the sequence subject-predicate is maintained (23).

- (23) // < **Wonderful FOOD** > they’ve got here. // (But mind you  
 PATIENT – AGENT – PRED it’s expensive.)

While such examples can be regarded as exceptions among agent-driven VMCs, a deviation from the end-focus principle can be frequently observed with THEME-PREDICATOR VMCs. Compare (24–27), where the focus may also reside on the initial THEME element.

- (24) // < **The PHONE** > is ringing/out of order. //  
 (25) // < **The KETTLE** > is boiling. //  
 (26) // < **The SUN** > is shining. //  
 (27) // < **The DOOR** > opened. // (Examples 24–27 from Qu: 18.13)

For Quirk et al. (Qu: 18.13) the explanation of the focus placement in (24–27) – which they regard as an instance of marked focus as in (23) – is that the nominal subject is more informative while the verb is relatively predictable. Although this points in the right direction, a cognitive interpretation in terms of THEME-PREDICATOR VMCs seems to offer a much simpler explanation because it also covers semantically related examples in which the ‘end-focus’ is maintained (24’–27’).

- (24’) // The phone is < **LOADing** >. //  
 (25’) // The kettle is < **LEAKing** >. //  
 (26’) // Look, the sun is < **SETTing** >. //  
 (27’) // The door is < **STUCK** >. //

Since THEME-PREDICATOR VMCs are not only based on the image schema of PATH, but also partake in the PART-WHOLE schema, they do not exclusively support the focused end position, but leave it open how the relationship of the two participants is to be seen: as an utterance in which a semantically related verb is regarded as part of a nominal ‘whole’ (as in 24–27) or as a nominal concept functioning as a more or less integrated part of the process denoted by the verbal concept (24’–27’). As opposed to agent-driven VMCs, the availability of two focusing positions (THEME or PREDICATOR) practically makes the fronting of the second element as a supportive strategy superfluous (28).

- There was a ring. It wasn't the doorbell.*  
 (28) ??? // Ringing was < **the PHONE** > //  
 (28') // < **The PHONE** > was ringing. //

#### 6.4.2 Positional focusing, scene-setting and circumstancing

So far focusing has only been discussed for intonation units restricted to VMCs. Yet what happens when clauses are extended by circumstancing adverbials? While this may be a serious problem for the traditional understanding of end-focus, the explanation from the angle of concept linking is straightforward enough: In agent-driven constructions the end-focus refers to the focus potential of the VMCs only, as in (29–30). This means that the focus is not automatically shifted to subsequent adverbial clause constituents (e.g. to *at breakfast* in (29)) because they are not part of the VMC. In some cases, however, the focus can be placed on circumstances attached to the VMC by semantic attraction. If circumstancing elements contain a great deal of conceptual substance – as the circumstances *at our recent Sunday brunch, in spite of his dislike for the tropical fruit* in (30–31) – and if these circumstances are regarded as important, this can be rewarded by a separate intonation unit, in which the most important constituent of the phrase receives a separate focus.<sup>12</sup>

- (29) // Peter devoured < three baNAnas > at breakfast. //  
 AGENT – PRED – PATIENT circumstance
- (30) // Peter devoured < three baNAnas > // at our recent  
 AGENT – PRED – PATIENT circumstance  
 < SUNday brunch >. //
- (31) // Peter devoured < three baNAnas > // in spite of his dislike of  
 AGENT – PRED – PATIENT circumstance  
the < tropical FRUIT >. //

12. Compared with focusing effects inside VMCs, this focusing effect is, however, much weaker.

As far as the sequence of elements in the clause is concerned, the circumstances in (29–31) have all been placed after the VMC to which they are related. This position appears quite natural, permitting the subsequent addition of background information to the conceptual content of the VMC. However, fronting the circumstancing element is also an option, yet the effect is a different one. While fronted postverbal participants, e.g. the *RECIPIENT* participant in a previous example repeated here as (32), have a strong cohesive effect, pre-posed circumstances function as *scene-setting devices* for the ensuing VMC, as in (33–34). If the scene is of particular importance, this is again indicated by a separate intonation unit and a separate focus (34).

(32) // To this agenda the committee added < several Items >. //  
*RECIPIENT* – *AGENT* – *PRED* – *PATIENT*

(33) // At breakfast Peter devoured < three baNANas >. //  
*circumstance* *AGENT* – *PRED* – *PATIENT*  
*scene-settingting*

(34) // At our recent < SUNday brunch > // Peter devoured  
*circumstance* < three baNANas >. //  
*scene-settingting* *AGENT* – *PRED* – *PATIENT*

Summing up at this point, the overall impression is that positional focusing is best developed in prototypical agent-driven VMCs, where the expectation of end-focus clearly governs the positioning of the focus as well as the supportive fronting of elements connected with it. In the more marginal *THEME-PREDICATOR* VMCs the placement of the focus is less fixed (i.e. the focus may either reside on the *PREDICATOR* or on the *THEME* subject). Finally, circumstances only attract a separate focus when they are regarded as conceptually substantial, but otherwise remain unfocussed no matter whether they occur after the VMC or in fronted position.

As for fronting in general, it creates a special effect compared with postverbal placement. While fronted constituents of VMCs (e.g. of postverbal *RECIPIENT* participants) strengthen anaphoric cohesion, fronted circumstances primarily fulfill a scene-setting function for the ensuing VMC.

#### 6.4.3 Complex focusing and scene-setting constructions (cleft sentences)

As just recapitulated, the end-focus potential of agent-driven VMCs permits the natural focusing of its last element. The question is if focusing cannot be intensified and also extended to other elements of the construction, e.g. to the subject participant and the *PREDICATOR*, which normally do not occur in end position. In fact, this can be done by spreading the message of an utterance across two VMCs and exploiting the end-focus potential of both constructions – or, in traditional terminology, by using a cleft sentence.

Accepting this premise, there are mainly two ways of accomplishing the duplication of the end-focus-carrying construction. If one wants to maintain the hierarchy of VMCs, one can choose a combination of matrix clause and subordinate nominal clause introduced by *what*, a variant traditionally called *wh-cleft* or *pseudo-cleft sentence* (35).

(35) // What Peter < was LOOKing for > // were < Grandfather's GLASSes >. //

additional VMC

SUBJECT PARTICIPANT

PRED

PATIENT

VMC

(35') Peter was looking for Grandfather's glasses

Compare AGENT – PRED – PATIENT

In example (35) the single agent-driven VMC of the simple sentence (35') is replaced by a combination of two three-element constructions, a nominal *wh*-clause containing an additional agent-driven VMC and a matrix clause with a *be*-form as PREDICATOR. Compared with the verbal action concepts typical of agent-driven VMCs, the meaning of *be* is here reduced to its essential function as a copula, i.e. establishing a relation of identity between the first participant (the nominal-clause VMC) and the second participant (the PATIENT).<sup>13</sup> With regard to their focusing potential, the focus of the *wh*-clause resides on the PREDICATOR (*look for*), while the focus of the second construction (matrix clause) falls on the PATIENT participant (*Grandfather's glasses*). If one tries to assess the weight of the two foci, the second focus seems to command the stronger nucleus because it is supported by the construction of the matrix clause.<sup>14</sup>

Example (36) documents a variant of this focus-enhancing construction: Here the verbal concept LOOK FOR of the comparable simple clause is bleached to the generalized action concept DO in the first construction (*wh*-clause), whose focus probably attracts a weaker nucleus than *look for* does in (35) above. On the other hand, this makes it possible to take up the verbal concept LOOK FOR again in the second construction (matrix clause) and to include it in its focus together with the PATIENT participant. And since the focus of the *wh*-clause is weakened, the matrix clause focus receives an even stronger nucleus.

13. Arranging the conceptualizations of *be* on a scale of agentivity, the (relative) top position should be assigned to the existential meaning of *be* (*I think therefore I am, there's your money*), while the copula uses in cleft sentences, but also in interfaces with (predicative) adjectives (see Section 8.1.1) would mark the bottom of this scale.

14. For the use of the fossilized expression *what I mean is* as perspectivizer see Section 11.3.1, fn. 6 and 7.

(36) // What Peter < DID > // was < look for Grandfather's GLASses > //

<b>additional VMC</b>	<b>non-finite</b>	
<b>SUBJECT PARTICIPANT</b>	<b>PRED</b>	<b>verbal element</b> <b>PATIENT</b>
<b>VMC</b>		

As shown in (37), this combination of VMCs can also be used to assign the major focus to the PREDICATOR; however, it cannot be used to focus the subject participant of the simple sentence (*Peter*).

(37) // What Peter < DID > // was < LAUGH > //

<b>additional VMC</b>	<b>non-finite</b>	
<b>SUBJECT PARTICIPANT</b>	<b>PRED</b>	<b>verbal element</b>
<b>VMC</b>		

As for the second type of focus-enhancing sentence (traditionally called *it-cleft* or just *cleft sentence*), it involves a more radical departure from the prototypical use of agent-driven VMCs: Here the *it*-clause is best seen as a skeleton version of the prototypical AGENT-PREDICATOR-PATIENT sequence.<sup>15</sup> In this *skeleton construction* the first element, the item *it*, is conceptually reduced<sup>16</sup> and the PREDICATOR is again bleached to the relational identifying meaning of the copula *be*; only the final element is conceptually rich and therefore well-suited to attract the end-focus and a strong nucleus (Qu: 18.26). This construction is pre-posed to the remaining part of the assumed simple sentence, which is structurally re-completed by what may be understood as a relative pronoun introducing a relative construction<sup>17</sup> – in fact the pronoun is often omitted.<sup>18</sup> The relative construction is linked to the preceding skeleton construction by role attribution (see Section 3.2.2), as illustrated in (38–40); for comparison the plain VMC has been added in (41).

15. Compare Patten (2012) for a recent overview of alternative approaches (5–7, 27–33, 107–110) and for her own interpretation of *it*-clefts as specificational copular sentences.

16. Regarded as ‘non-referential *it*’ in many traditional descriptions although attempts have been made to establish its referential function (Gundel et. al. 1993).

17. The relative clause analysis seems justified because in the concept-linking framework only cleft sentences focusing VMC participants (AGENT, PATIENT) are considered for it. Counterarguments against this analysis (as suggested e.g. by Qu: 18.28) mostly apply to clefts focusing adverbials and adverbial clauses, for which in concept linking circumstancing is postulated as linking mechanism; see below.

18. As illustrated by (39), the pronoun can be omitted if it does not denote the subject, as with other relative clauses.







of the VMC itself is not affected and provides a separate end-focus for its most prominent participant.<sup>20</sup>

In addition to the scene-setting effect, a certain implicit contrastive effect cannot be excluded with these constructions (e.g. that the nineties or the turn of the century are seen against their chronological background). Yet this cohesive effect is much weaker than in *it*-clefts focusing the subject participant or the postverbal participant of an agent-driven VMC. Where the contrastive effect is perhaps a little more pronounced is in the case of locative or causative adverbials (46–47), but even here the scene-setting effect is still dominant.

(46) // It is < in Africa > // that the population < is exPLODing > . //  
 skeleton construction ◯ VMC  
 \_\_\_\_\_  
 circumstancing attribution

(46') *Compare:* In Africa the population is exploding.  
 circumstance VMC

(47) // It was < because of the bad WEATHER > // that our neighbours cancelled  
 \_\_\_\_\_ ◯ \_\_\_\_\_  
 skeleton construction VMC  
 circumstancing attribution

(47')  
*Compare:* Because of the bad weather our neighbours cancelled their garden party.  
 circumstance VMC

All in all, the discussion of skeleton constructions (or *it*-clefts) shows how helpful the distinction between VMC and non-verbal circumstancing can be:

- Applied to the agent-driven VMC of an assumed simple sentence, the skeleton construction (or *it*-clause) equips the subject (or one of the postverbal participants) with a strong, mostly contrastive focus; the rest of the assumed simple sentence is placed after the skeleton construction and connected to it by way of role attribution.
- Applied to a circumstance accompanying an agent-driven VMC, the skeleton construction takes up and intensifies the scene-setting effect of the circumstance; the VMC is placed after the skeleton construction, which is linked to it by way of circumstancing, just like any phrasal circumstance.

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20. Although information structure is generally not discussed here, it is clear that this interpretation makes it unnecessary to look for reasons why both the circumstance and the VMC may contain new information: It is quite natural to have a new scene-setting circumstance combined with an information-rich VMC, which permits dispensing with the notion of ‘informative pre-supposition’ (Prince 1978).

## 6.5 Perspectival focusing

### 6.5.1 Focusing adverbs, perspectival and positional focusing

Positional focusing, as discussed so far, is not the only type of focusing at work in communication. Obviously, a focusing effect can also be expected from adverbs that are explicitly called ‘focusing adverbs’, such as *only*, *even*, *also*, *too* (Qu: 8.116). This points the way towards an additional focusing strategy, which operates within the concept-linking mechanism of perspectivizing.

How does this type of focusing work as opposed to positional focusing? First, it does not primarily depend on the position assigned to the focused element within the clause. Instead the decisive point is that the focusing adverb is reliably related to the focused element. This can be achieved – but need not be, as shown below – if the adverb as scope signal is placed next to the focused element (i.e. in adjacent or ‘contact’ position), irrespective of whether the focusing adverb precedes (48–49) or follows the focused element (48’–49’).

(48) // Susan had bought *only* < *baNAnas* >. //<sup>21</sup>

(48’) // She had bought < *baNAnas* > *only*. //

(49) // He praised Susan’s burnt cake and *also* < *her lukewarm COFfee* >. //

(49’) // He praised Susan’s burnt cake and < *her lukewarm COFfee* > *as well*. //

Another characteristic feature of this focusing strategy is that it does not produce a ‘neutral’ raising to prominence, but is influenced by the semantic perspective expressed by the lexical meaning of the adverb. It will therefore be called *perspectival focusing* (indicated in the examples by bold italics in pointed brackets).<sup>22</sup> If one relies on a rough classification of focusing adverbs into restrictive (*only*, *even*, *just*) and additive adverbs (*also*, *too*, *as well*), focusing will always include a restrictive or an additive perspective.

Though different in their impact, perspectival and positional focusing interact in communication. The most common constellation is that perspectival focusing supports and adds color to the positional end-focus. This applies to simple sentences, as shown in (48–49) above, but also to positional focusing in cleft sentences, as in (50–51), where the focusing adverb supports the element focused in the copula construction.

21. Compare H and P (2002: Chapter 6; 7.3.1) for their discussion of focusing adverbs. What deserves further clarification is whether Qu (8.116) are right in placing the nucleus on the postposed focusing adverb, suggesting the following notation for (48’): *She had bought* < *bananas* > *ONLY*. Yet according to informants the nucleus may also fall on the stressed syllable of the focused element.

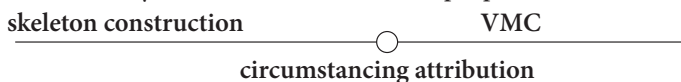
22. Bold italics in pointed brackets are also used where perspectival and positional focus coincide.

(50) // It's *only* < *SOUvenirs* > // that they sell < **at this SHOP** >. //

(51) // It's *just* < *good LUCK* > // that he got back **his PURSE**. //

The combination of a (mostly restrictive) perspectivizing focus and a positional focus seems to be particularly frequent in skeleton constructions focusing an adverbial circumstance, such as *it was only* (52) or *it was not until* (53). Here the skeleton construction has the additional advantage that the language user can avoid subject-auxiliary inversion, which is required if the negative temporal expression is fronted in the simple sentence, a usage anyway restricted to formal registers (52'–53').

(52) // It was only < *in the NINeties* > // that people turned to the < **INternet** >. //



(52') // Only in the nineties **did** people discover the < **INternet** >. //



(53) // It was not < *until SEveral years later* > // that smartphones swept < **the MARKET** >. //



(53') // Not until several years later **did** smartphones sweep < **the MARKET** >. //



A special effect can be observed when the end-focus falls on a complex noun phrase: Here the focusing adverb may encourage a shift of the nucleus from the head of the phrase to a modifying constituent (54–56).

(54) // He found himself an *even* < **BIGger house** > in Belgravia. //

(55) // It is *only* < *ARrogant neighbours* > // that get on his nerves.

(56) // He buys *only* < **the BEST** wines > // he can get.

Finally, perspectival focusing can achieve a real shift of prominence away from the normal end-focus on the last participant to the pre-final participant (e.g. from *his little sister* to *the crumbs* in (57)) or from the end-focus position in the VMC to a circumstancing element, for example to an adverbial of time (from *slimming diet* to *yesterday* in (58)).



## 6.5.2 Perspectival focusing vs. scope

At first sight, perspectival focusing seems to have little to do with scope, the parameter on which the discussion of perspectivizing concentrated in previous chapters. It may indeed make little difference whether the examples in 6.5.1 are explained as illustrating the contact position of focusing adverb and focused element or whether the focusing adverb is assumed to signal an adverbial perspective with minimal scope, as indicated by the notation in (62–64), which take up some of these earlier examples.

- (62) // Susan had bought *only* < *baNAnas* >. //
- scope of focusing adverb*
- (63) // Her boyfriend ate *even* < *a baNAna* >. // (to please her)
- scope of focusing adverb*
- (64) // He praised Susan's burnt cake and *also* < *her lukewarm COFfee* >. //
- scope of focusing adverb*

The notion of scope becomes much more important when the many instances are taken into account where the focusing adverb is placed in 'mid position', i.e. next to the auxiliary (65) or before the tensed form of the lexical verb (66–67).

- (65) Susan had *only* bought bananas.
- (66) Her boyfriend *even* ate a banana.
- (67) He praised Susan's burnt cake ... and he *also* praised her lukewarm coffee.

In this case the contact explanation only applies when the perspectival focus is felt to override the positional end-focus residing on a subsequent participant in favor of the verb element; this presupposes a contrastive context (68).

- The therapist didn't say a word.
- scope of focusing adverb*
- (68) // He *only* < *LIStened* > to her story. //
- perspectival focus on  
verb (overrides end-focus)*

What is much more common and also applicable to examples (65–67) above is that the positional focus remains on the last participant in spite of the non-adjacent position of the focusing adverb and is nevertheless supported by a perspectival focus, as illustrated in (69–71).

- scope of focusing adverb*
- (69) // Susan had *only* bought < *baNAnas* >. //
- scope of focusing adverb*
- (70) // Her boyfriend *even* ate < *a baNAna* > // (to please her).  
He praised Susan's burnt cake .....
- scope of focusing adverb*
- (71) // ... and he *also* praised < *her lukewarm COFfee* >. //

How does this constellation function and how can its widespread use be explained? As indicated by the notation for (69–71), it makes sense to assume an extended scope of the adverbial perspective (restrictive for *only* or additive for *also*). This scope starts with the focusing adverb as scope signal and reaches as far as the (positionally) focused element, which is normally the postverbal participant. Applied to (69–70) this means that it is not merely the bananas that are viewed from a restrictive adverbial perspective, but that this view applies to the whole act of buying (or eating) bananas. Similarly, in (71) the additive perspective is not restricted to *her lukewarm coffee*, but includes the act of praising it as well. Or more generally: the perspective of the focusing adverb includes not only the goal of the action (primarily the PATIENT, occasionally a RECIPIENT), but also the verbal action concept itself.

Seen from the angle of concept linking, the preference for the mid-position of these adverbs may be influenced by the use of other adverbs with similar scopes (see Section 2.3.4), in particular emphaser adverbs like *definitely*, *really*, *certainly* or *simply*, which also command a certain focusing potential. This is illustrated in (72–73), where the focusing effect of the emphasizers *definitely* and *really* is compared with the use of the focusing adverbs *also* and *even*.<sup>23</sup>

- When she decided to bake her first cake ....
- scope of emphaser adverb*
- (72) // Susan had *definitely* made < *the WRONG decision* >. //
- Compare: *scope of focusing adverb*
- (72') // Susan had *also* made < *the WRONG decision* >. //
- Believe it or not .... *scope of emphaser adverb*
- (73) // her boyfriend *really* tasted < *her burnt CAKE* >. //

23. Supported by the context of the two examples, in (72), the perspectival focus achieves a shift of the nucleus from the nominal head of the postverbal participant (*decision*), which standardly attracts the positional focus, to the modifier (*wrong*). In (73) the perspectival focus intensifies the positional focus with the nucleus on *cake* although the shift of the nucleus to the modifier cannot be ruled out either.

Compare: *scope of focusing adverb*

(73') // her boyfriend *even* tasted < *her burnt CAKE* > . //

The parallels become even more obvious if one considers cases in which the scope of emphaser adverbs is restricted to a phrase or even a single word, normally an adjective (74–76). Just as with focusing adverbs that are used with small scope, the focusing effect seems predominant here – with the respective consequences for the intonation structure. As shown in (75), the perspectival focus produced by *really* can be placed on the subject phrase, and this normally merits a separate intonation unit, while the remaining part of the construction forms a second intonation unit with the positional focus placed on its final element. Alternatively, the focus of the emphaser adverb may also be placed before the final element of the VMC in order to intensify the positional end-focus (76); here again the impact of the perspectivizing focus can result in shifting the nucleus from the head of the focused phrase to its modifier, e.g. from *victory* to *impressive*.

*scope of emphaser adverb*

(74) // This dessert is *absolutely* < *deLICious* > . //

*perspectival focus*  
*on adjective*

*scope of emphaser adverb*

(75) // A *really* < *deLICious breakfast* > // is served at < *this tiny B&B* > . //

*perspectival focus* *positional end-focus*

*scope of emphaser adverb*

(76) // The team achieved a *really* < *imPREssive victory* > . //

*perspectival focus*  
(overrides positional focus on 'victory')

Generalizing on these observations one is tempted to postulate a systematic relationship between perspectival focus and scope of perspectivizing based on the following claims:

- Perspectivizing is reflected in communication in two ways: by its scope, which delimits the extension of its influence, and by the perspectival focus, which renders the locus of its influence.
- The scope-creating and the focusing potentials of perspectivizing seem to be inversely proportional, as will be shown in the next section. In fact, the two potentials are best understood as the two poles of a scale on which perspectivizers (adverbs, negation, TAM phenomena, sentence modes) can be placed.

### 6.5.3 Focus dominance vs. scope dominance in perspectivizing

Table 6 is an attempt to provide a very rough overview of where the various perspectivizing phenomena, both adverbial and non-adverbial, are to be placed on the focus/scope scale.

**Table 6.** Focus/scope scale for adverbial and non-adverbial perspectivizers

focus dominant <---		---> scope dominant	
1	2	3	4
focusing adv. (in contact position)	focusing adverbs (in 'mid position'); emphasizer adv.	time & frequency adv.; manner adverbs (person- & process-oriented); degree adv.	viewpoint adv.: causal/resultative and temporal connective adv.
5			
< ---- additive and contrastive connective adverbs ----->			
6			
<----- not-negation ----->			
7			
		TAM phenomena (tense, aspect, modality and agreement)	8
			declarative sentence mode; imperative mode
9			
<----- interrogative sentence mode ----->			
<i>wh-questions</i>		<i>yes/no-questions</i>	

To start the discussion with the top row of Table 6, group 1 and 2 have already been dealt with and will only be summarized here. For *focusing adverbs* in contact position (group 1) the focusing potential is obviously dominant; it may be used to intensify the positional end-focus with a perspectival coloring (restrictive or additive), to shift the nucleus within the focused element, and even to move the focus away from end-focus position, again with a perspectival effect. Scope extension is minimal and only covers the focused element.

Group 2 assembles focusing adverbs used in non-adjacent 'mid-position' as well as *emphasizer adverbs*, for which this is the standard position. Here the focusing effect is also noticeable; it mostly takes the form of intensifying the positional end-focus of the postverbal element. However, the scope extension of the perspective is more important because it includes the elements between the adverb as scope signal and the focused element, mostly the verbal element – compare (69–73) in the previous section.

With group 3, which encompasses *time adverbs* and *frequency adverbs* as well as *manner adverbs*, one moves further in the direction of scope dominance. Used



in mid-position, the scope of these adverbs includes the positional end-focus (and covers intermediate elements between the adverb and the focused element), but it is uncertain (or left to context) whether positional focusing is intensified by a perspectival focusing effect. The relative importance of scope extension is shown by the fact that circumstances may be included within the scope, but need not – this is indicated by a weak line in (77–79). By contrast, for person-oriented manner adverbs the scope is standardly extended to include the AGENT (OR RECIPIENT) subject (79).<sup>24</sup>

- scope of frequency adverb*
- (77) // They often sell < fish and CHIPS > in popular seaside resorts. //  
circumstance
- scope of manner adverb (process-oriented)*
- (78) // The doors are automatically < LOCKed > after dark. //  
circumstance
- scope of manner adverb (person-oriented)*
- (79) // Proudly the CEO presented < the new SMARTphone > at the trade fair. //  
AGENT circumstance  
subject

For *degree adverbs* the assignment to group 3 may look somewhat problematic at first sight because a particularly high or low degree always tends to attract a certain attention, and this might suggest a noticeable focusing potential. But focusing is not the main goal of the degree perspective. As it emerged in Section 4.2, degree perspectivizing is first of all concerned with intensifying a gradable concept, and it is this gradable concept that the degree scope is normally limited to, no matter where the positional focus of the construction resides. Compare (80), where the scope of the degree adverb covers the adjective *proud*, but does not create a perspectival focus capable of influencing the positional end-focus on *children*. This contrasts with (81), where the perspectival focus of *only* clearly intensifies the impact of the end-focus.

- scope of degree adverb*
- (80) // She was tremendously/exceedingly proud of < her CHILDren >. //  
positional focus only

---

24. Semantic restrictions on the use of polarity-sensitive time & frequency adverbs, volitional adverbs as well as dynamicity-sensitive process-oriented manner adverbs are not considered here. See Section 4.2.

- scope of focusing adverb*
- (81) // She was *only* proud of < her **CHILD**ren >. // (not her husband)
- perspectival focus*  
*intensifying positional focus*

Group 4 first of all contains *viewpoint adverbs* (presentation, subject-matter, attitude). Here scope extension is the dominant factor while the perspectival focusing effects can be neglected, at least for prototypical examples.<sup>25</sup> In simple sentences the adverbial scope covers the whole VMC plus circumstances; it includes the positional end-focus and any additional perspectival foci, e.g. on circumstancing elements (82), but does not really intensify these foci. In complex sentences the adverbial scope may be extended to cover several clauses, though the perspective will be most noticeable in the first clause (83–84); see also Section 2.3.4.

- scope of viewpoint adverb (presentation)*
- (82) // *Briefly*, I would recommend < a **V**isit > //
- scope of emphazer adv.*
- in spite of the *really* < **poor ROAD** conditions >. //
- circumstance*

- scope of viewpoint adverb (subject-matter)*
- (83) // *Geographically*, Greenland is close to < **the NORTH**pole > //
- first VMC*
- scope of focusing adverb*
- // and it is *also* not far < **from CAN**ada >. //
- second VMC*

- scope of viewpoint adverb (attitudinal)*
- (84) // *Unfortunately*, Peter broke < **his LEG** > //
- // when he slipped < **on the PAV**ement >. //
- VMC as circumstance*

Group 4 also comprises certain connective adverbs, a rather mixed group in terms of scope and focus, which will be treated separately in the following section.

25. This also applies to (mainly attitudinal) viewpoint adverbs used with a small scope that only extends to a single phrase or word – they behave similarly to *ly*-degree adverbs in showing no pronounced focusing effect, e.g. *a surprisingly low price*.

### 6.5.4 Scope and focus of connective adverbs

As suggested by their name, connective adverbs<sup>26</sup> are distinguished from other types of perspectivizing adverbs because they not only influence the ensuing parts of the utterance, but also establish a backward reference to previous utterances. The semantic quality of this cohesive link and the semantic coloring of the perspective depend on the lexical meanings of the adverbs, which may be divided up into causal/resultative, temporal, additive and contrastive connective adverbs.<sup>27</sup> This classification is also helpful for an understanding of their scope and focusing potential.

As documented in Table 6 above, *causal/resultative adverbs* (e.g. *therefore*, *accordingly*) and *temporal connective adverbs* (e.g. *originally*, *meanwhile*, *afterwards*)<sup>28</sup> roughly behave like viewpoint adverbs and are assigned to group 4: Their (forward) scope covers the message of the VMC plus possible circumstances contained in the clause; these elements are holistically connected with the message of the previous utterance by way of anaphoric or back-reference (85–86). The forward scope can be extended to additional clauses if their content is regarded as related to the back-referenced message (87). Focusing is provided by the positional end-focus of the VMC, not by any perspectival focus produced by the adverb.

- The menu of the place at the corner was disappointing.*
- ↑  
*scope of causal/resultative connective adverb*
- (85) // Therefore we chose < **another REStaurant** > . //
- positional end-focus
- 
- After we had been shown to our table, we first had an appetizer.*
- ↑  
*scope of temporal connective adverb*
- (86) // Meanwhile our neighbours devoured < **a four-course MEAL** > . //
- positional end-focus

26. Alternative terms are ‘conjunct’ (Qu: 8.134–8.144) or ‘linking adverb’ (Carter and McCarthy 2006); ‘connective adjunct’ is used by H and P (Section 8.19: 775–779).

27. Classification based on Halliday and Hasan (1976: 241): Causal/resul(ta)tive = Halliday and Hasan causal, Qu: resultive. Contrastive = Halliday/Hasan adversative. For the subclassification of additive and contrastive adverbs see Qu: (8.137), Ungerer (1988: 360–361).

28. For more classified examples of causal/resultative connective adverbs see Qu: 8.137. Temporal connective adverbs are more difficult to define because there is a fuzzy borderline towards indefinite time adverbs (the latter without any explicit back-reference to a previous text). Compare Qu (19.36) on temporal ordering, where adverbs like *before*, *previously*, *simultaneously*, *then*, *next*, *later* are listed.



The overwhelming majority of connective adverbs is not only used in variant [1], but also in variant [2]. An adverb like *in addition* may rely on a holistic reference as shown in (90), which supplies the perspective for its forward scope. Alternatively, it may also single out an element in the preceding utterance, to which an element in the scoped clause is related and therefore focused. Compare (90'), where the focusing force of the additive connective adverb brings about a nucleus shift from the positional end-focus position (for which the noun *dish* would be eligible) to the modifier *vegetarian*, by which the addition to the roast lamb meal is best characterized.

- variant [1]
- (90) The hostess had cooked a four-course dinner.  
 ↑  
*scope of additive connective adverb*  
 // In addition, she had lavishly decorated < the Dining table >. //  
 positional focus only
- (90')  
 The hostess had cooked  
a dinner of roast lamb and Yorkshire pudding.  
 ↑  
*scope of additive connective adverb*  
 // In addition, she had prepared < a vegeTARian dish >. //  
 positional focus overrides
- variant [2]

Similarly, a contrastive adverb like *nevertheless* may back-reference to the preceding utterance in toto (91) or only to a particular element of this message to which a certain element of the scoped clause (e.g. *local beer*) is related (91').

- variant [1]
- (91) The host made small-talk to his guests.  
 ↑  
*scope of contrastive connective adverb*  
 // Nevertheless, some of them felt < a little negLECTed >. //  
 positional focus only
- variant [2]
- (91') The host warmly recommended his red wine.  
 ↑  
*scope of additive connective adverb*  
 // Nevertheless, most of his guests preferred < the local BEER >. //  
 perspectival focus intensifies  
 positional end-focus

In other words, the additive or contrastive quality of these adverbs often supports a focusing effect that reminds of focusing adverbs. No wonder, there is a close



- The local museum has quite a lot of visitors. variant [1]
- ↑  
*scope of contrastive connective adverb*
- (93') // However, people prefer < the SEAside > // when it is < HOT >. //  
 positional focus                      positional focus
- The local museum has quite a lot of visitors. variant [2]
- ↑  
*scope of contrastive connective adverb*
- (93'') // However, there are < better HIStory museums > //  
*perspectival focus intensifying*  
*positional end-focus*

How close this use of connective adverbs is to the perspectivizing behavior of focusing adverbs is illustrated by the adverb *also*. Though normally assigned to the class of focusing adverbs, this adverb should better be seen as straddling the borderline between focusing and connective adverbs, at least if its (somewhat formal) use in clause-initial position is considered. Compare the range of applications documented in (94).

- Several BBC documentaries were shortlisted for the TV award. variant [1]
- ↑  
*scope of 'also'*
- (94) // Also, many more films were submitted < for the comSpeTition > //  
 positional end-focus only
- Several BBC documentaries were shortlisted for the TV award. variant [2]
- ↑  
*scope of 'also'*
- (94') // They had also been shown in < other FESTivals >. //  
*perspectival focus intensifying*  
*the positional end-focus*
- Several BBC documentaries were shortlisted for the TV award. variant [3]
- ↑  
*double scope of 'also'*
- (94'') // < A GERman production > also attracted < considerable atTENTION >. //  
*perspectival focus*                      positional end-focus

### 6.5.5 Scope and focus of *not*-negation

Proceeding to group 6 (negation) in Table 6, its adjacent position to adverbial perspectives not only reflects the long tradition of regarding *not* as an adverb; it also shows that the use of *not*-negation can be explained by taking recourse to different types of adverbial perspectivizing. Or to put it more precisely: *not*-negation shows a scope and focusing behavior that is either similar to emphasizer and focusing adverbs, similar to frequency adverbs or to degree adverbs.

#### [1] *not*-negation parallels emphasizer and focusing adverbs

When Quirk et al. (Qu: 10.65) introduced the notion ‘focus of negation’, they mostly provided examples embedded in a contrastive context. Starting from this observation (though not following Quirk et al.’s analysis otherwise<sup>30</sup>), adverbial perspectives with a contrastive background are particularly relevant for the explanation of *not*-negation. And indeed, the parallels with the focusing effects of emphasizer and focusing adverbs are remarkable. Just like these adverbial perspectives, *not*-negation is capable of producing different perspectival focusing effects: It can intensify the positional end-focus of a VMC (95); it can shift the nucleus from the head of the focused phrase to its modifier constituent (96); finally, it can override the positional focus in favor of another participant of the VMC or a circumstance (97). See (95’–97’) for parallel examples of emphasizer and focusing adverbs.

*Peter was proud of his girl friend’s cooking.*

- (95) // But he did *n’t* praise < *her burnt CAKE* >. //
- scope of not-negation*
- not-focus intensifies*  
*positional end-focus*

*Compare:*

- (95’) He *even/really* praised her burnt cake.

- (96) // she did *n’t* make < *the RIGHT choice* >. //
- scope of not-negation*
- not-focus shifts nucleus from head*  
*to modifier of focussed element*

30. Apart from denying focus and scope the status of grammatical phenomena, Quirk et al. assume a ‘discontinuous scope’ to justify their interpretation of non-focused elements as ‘positive’ (Qu: 10.65). H and P (1.3.3), who also discuss the topic, provide an analysis based on truth values rather than on communicative aspects.



Compare:

(96') she *really* made the wrong choice.

(97) // He did *n't* buy the birthday present < **in TOWN** >. //  
*scope of not-negation*  
*not-focus shifts focus from*  
*last participant to circumstance*

Compare:

(97') He *only* buys presents online.

### [2] *not-negation parallels frequency adverbs*

As described in Section 6.5.3, the perspective of frequency adverbs (as well as indefinite time and manner adverbs) is primarily a matter of scope; their focusing effect is weak and remains uncertain because it normally does not react to a contrastive context. As a result, the focusing effect of the utterance arises from the force of the positional focus and this is why these adverb classes are placed further to the right in Table 6. This perspectivizing behavior also applies to many instances of *not-negation* (i.e. to those not based on a contextual contrast as discussed above under [1]). This means that in these cases the focusing effect of the *not-negation* is less relevant than its scope behavior, which provides for a negative view not only of the focused participant, but also of the items placed between the *not*-element as scope signal and this participant. Compare examples (98–99), which are contrasted with examples with adverbs of frequency (98'–99').

(98) // Peter does *n't* play < **comPUter games** >. //  
*scope of not-negation*  
*positional end-focus*

Compare:

(98') Peter *never/often* plays computer games.

(99) // Peter does *n't* lend money < **to his FRIENDS** >. //  
*scope of not-negation*  
*positional end-focus*

Compare:

(99') Peter *never/often* lends money to his friends.

### [3] *not-negation parallels degree adverbs*

If scope dominance is also claimed for *not-negation* with a small scope ('local negation' in traditional terminology (Qu: 10.66)), this interpretation relies on the parallels observed with the perspectivizing behavior of *ly*-degree adverbs. Their scope is tied and often restricted to an adjacent gradable concept, which is intensified by the

degree adverb, but not actually focused – the positional focus of the construction remains unaffected and dominant (see Section 4.2). This kind of perspectivizing can also be observed in small-scope negation, which can be divided up into two types.

First, the perspective of *not*-negation can be used with a downtoning effect as a ‘secondary modifier’, i.e. as modifier of a modifier of an adjectival concept (100–101). Here the *not*-scope minimally covers the modifying degree adverb, e.g. *much* in (100) and *quite* in (101), but as indicated by the weak line, the actual scope may encompass the adjectival head concept if gradable (*later* in (100), *original* in (101)).<sup>31</sup> To sum up, *not* is here used to indicate a certain degree and not to achieve a particular perspectival focusing effect.<sup>32</sup>

*scope of not-negation*

(100) // He arrived in class *not* much later < than the TEAcher >. //  
positional end-focus

*scope of not-negation*

(101) // A *not* quite original argument was put forward  
< by the CHAIRman >. //  
positional end-focus

The second type of small-scope negation occurs when the *not*-scope is applied to a morphologically negated adjective or adverb, as in (102–103). Though formally a ‘double negation’, semantically the *not*-perspective does not cancel out the morphological negation of the adjectival or adverb concept, it only weakens the negative effect by lowering the degree of its negativity. In fact, it behaves again like a degree adverb – from a pragmatic angle the result is an understatement (Qu: 10.66). As for scope extension, the minimal scope may be said to be restricted to the prefix *un-* (and its allomorphs), yet the actual scope experienced by the language user will probably take in the whole adjectival element – see the weak line in (102–103). Focusing will be left to the positional end-focus as with degree adverbs. Even where the *not*-negation is part of the element carrying the positional end-focus (102), the additional perspectival focusing effect will be limited – it remains doubtful whether a nucleus shift from the head noun *proposal* to its modifier *unwelcome* can be enforced unless it is supported by a strong contrastive context (see variant [1] above).

31. It is difficult, but not impossible to imagine that the scope of *not*-negation actually covers a whole noun phrase, such as a *quite original argument* in (101).

32. When selecting Examples (100–101), care has been taken to avoid constructions like *This isn't a very good argument* because in these constructions *not* can also be understood as paralleling adverbs of frequency. Compare: *This is never a good argument*.



*scope of past tense (as part of TAM scope)*

- (105) // The burglars enter *ēd* < the HOUSE > last night. //  
 positional end-focus

*scope of epistemic modal aux (as part of TAM scope)*

- (106) // They *may* have known about < the unlocked BACK entrance > //  
 positional end-focus

*scope of progressive aspect (as part of TAM scope)*

- (107) // The family *were* watching < TV upSTAIRS >. //  
 positional end-focus

Sentence modes are more complex with regard to scope and focusing. Scope dominance may be claimed for the declarative and imperative sentence modes (group 8), to which the *yes/no*-questions of the interrogative sentence mode (group 9) may be added. In each case the declarative, imperative or interrogative view encompasses the whole VMC, additional circumstances within the clause and even additional clauses, as already outlined in Section 2.3.1; focusing effects are primarily derived from the positional end-focus. Compare (108–110).

*scope of declarative sentence mode (SUBJ-AUX)*

- (108) // *We have* reserved tickets for < the Salzburg FESTival >. //  
 positional end-focus

*scope of imperative sentence mode (do-verb)*

- (109) // *Don't waste* your money on < JUNK food >. //  
 positional end-focus

*scope of interrogative sentence mode (do-SUBJ)*

- (110) // *Do you* know a lot about < nuTRITION > ? //  
 positional end-focus

Especially the last example is useful as a foil to what can be observed in the analysis of alternative questions and *wh*-questions. If an alternative question consists of two full-blown VMCs (111), each may claim its own intonation unit complete with its own positional end-focus and interrogative scope. Yet if the more common version with reduced second construction is considered, the two-unit solution is less convincing. What seems more adequate is to assume that the final positional focus (probably marked by a nuclear fall) is supplemented by a perspectival interrogative focus (marked by a nuclear rise), which resides on the first of the two alternatives proposed (111').

- (111) // *Do we* stay < at HOME > //  
 1st positional end-focus      *scope of interrogation*  
 // or *do we* go < to the PUB > tonight? //  
 2nd positional end-focus
- (111') // *Do we* stay < at HOME > or go < to the PUB > tonight? //  
 perspectival focus      positional end-focus  
 of interrogation

More important – and also more surprising – is the scope and focusing behavior of simple *wh*-questions. Here the interrogative pronoun does not only function as scope signal for the *wh*-question, it also claims a perspectival focus. On top of this the *wh*-element normally attracts the positional focus, which resides on the final element in other VMCs. This is true of examples with a pronoun in final position (112–113), but also with final nominal elements of little informational weight (114–115).

- There's someone at the door.*  
*scope of wh-question*  
 (112) // < WHO > is he ? //  
 perspectival  
 & positional focus
- I'd like to see your father.*  
*scope of wh-question*  
 (113) // < WHERE > is he ? //  
 perspectival  
 & positional focus
- scope of wh-question*  
 (114) // < WHO > did you talk to on the phone ? //  
 perspectival  
 & positional focus
- scope of wh-question*  
 (115) // < WHEN > do you leave the house in the morning? //  
 perspectival  
 & positional focus

This leaves only a few cases for which a regular positional end-focus of varying strength can be claimed. (116–117)



- *The comment extends the conceptual content of the topic.* This is done by referring to the background (rendered as circumstance) or to more specific details (rendered as modifiers). In both cases the comment conveys information that is not necessarily NEW, but may be understood as part of input from which the topic is conceptualized. Here the topic-comment link is not verb-mediated, but relies on the less precise non-verbal semantic attraction of attribution because the relationship between the additional information (background, detail) and the topic is assumed to be fairly clear. Therefore items of *the comment rarely attract the positional end-focus.*
- *The comment supplies a perspective on the content of the utterance.* The primary goal of perspectivizing (in terms of sentence modes, tense, aspect, modality, negation, adverbial perspectives) is the arrangement or re-arrangement of both GIVEN and NEW information made available by VMCs and attribution. The distinction between GIVEN and NEW is only relevant where a *perspectival focus is introduced*, which indicates that a piece of information is not GIVEN, but NEW. This perspectival focus can support the positional end-focus or compete with it.

All in all, while the notion of topic is safely rooted in GIVEN, for the notion of comment NEW information and positional end-focus are of primary importance in VMCs, but less so in attribution, and they can be neutralized in perspectivizing processes that do not produce a perspectival focus. Compared with the problems that often arise in traditional information analysis of texts, which relies on the systematic and complete assignment of GIVEN and NEW to every individual linguistic item, this more differentiated approach might yield better and more insightful results.

PART II

# Interfaces





## Introductory remarks on interfaces in concept linking

When attribution and perspectivizing were introduced in Part I as major linking mechanisms beside verb-mediated constructions (VMCs), the description primarily relied on prototypical cases. This may be sufficient to establish the explanatory power of these mechanisms as form/meaning combinations, but it does not exhaust the full potential of the new approach in describing the multiplicity of linguistic phenomena in a natural language such as English. To pursue this more demanding goal, the discussion cannot be restricted to the three linking mechanisms, but must include what has already been introduced in Chapter 1 as ‘*interfaces*’.<sup>1</sup>

What the notion of interface means in the concept-linking context will unfold in the following discussion, which starts out from a initial clarification of its relationship to the three grammatical mechanisms and a set of examples (1–7), moves on to an overview of major interfaces (Figure 7) and culminates in a summary of key aspects (relationship to image schemas, syntactic footing, variants and scalarity).

Interfaces can be observed between all three mechanisms postulated in Part I: between VMCs and attribution (or more precisely, between elements that are verb-mediated and modifying or circumstancing), between VMCs and perspectivizing (i.e. between VMC participants and TAM phenomena like modality and aspect) and also between perspectivizing and attribution (i.e. with regard to adverbs). Compare the first set of examples in (1–7), which illustrates the range of grammatical features involving interfaces.

- |     |   |  |
|-----|---|--|
| (1) | The hotel rooms <i>were spacious</i> .  | <i>Copula / modifier interface</i><br>explaining subject complements                 |
| (2) | We stayed <i>at the wedding suite</i> . | <i>Participant / circumstance interface</i><br>explaining semi-obligatory adverbials |

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1. Like other colorful terms, ‘interface’ is used for varying purposes. In linguistics interfaces are part of the modular architecture of grammar advocated by Sadock (2012: ch. 2) within the generative paradigm. In cognitive linguistics the term is also used for connecting links between linguistic phenomena and their embodied simulation; see Bergen & Chang (2013: 171–175).

- |  |  |
|--|--|
| (3) She drives <i>fast</i> ./ He sleeps <i>rough</i> ./<br>The fire is burning <i>bright</i> . | <i>Adjectival adverb interface</i><br>explaining suffixless adjectival adverbs   |
|  | <i>Non-finite interfaces</i>   |
| (4) He expected <i>to get the job</i> .  | – explaining <i>to</i> infinitives as interaction of VMC participant and modal perspectivizing (i.e. as something still to be accomplished)                                    |
| (5) We stood <i>waiting outside the museum</i> .   | – explaining <i>ing</i> -participles as interaction of VMC participant and aspectual perspectivizing   |
| (6) We wanted <i>Peter/him to take a picture</i> .   | <i>PAR interface</i><br>explaining ‘object+ infinitive’ constructions as a combination of VMC Participant and Attributed Referent of non-finite interfaces                     |
| (7) <i>People think</i> that iPhones are the best smartphones.                                 | <i>VMC/viewpoint perspectivizing interface</i> ,<br>i.e. <i>people think</i> is regarded as an interface of VMC core and the formulaic viewpoint perspectivizer <i>I think</i> |

Figure 7 assembles these interfaces illustrating graphically which of the mechanisms are primarily involved.

What is disregarded in the diagram are the two trivial, but nevertheless most basic types of interface, which occur in most utterances: the *verbal interface*, i.e. the interaction of the verb’s mediating function and the verb’s potential for TAM perspectivizing, and the *nominal interface*, i.e. the interaction of nominals functioning as participant in VMCs and as head (or modifier) element in attribution.<sup>2</sup>

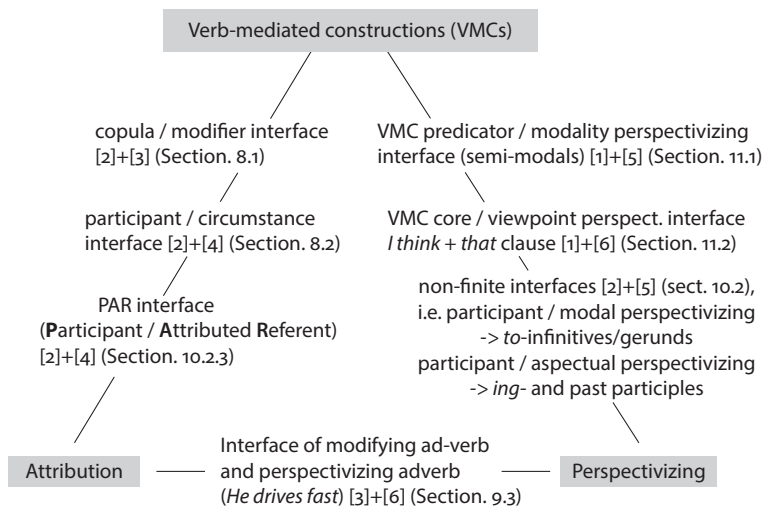
Yet before entering into the discussion of individual interfaces the reader should consider the following key aspects of interfaces in order to arrive at an adequate evaluation of their effects:

- *As interfaces are based on the three linking mechanisms, they rely on their concept-linking potential and also on their cognitive roots.*

This means that interfaces make use of the *PATH* image schema (if VMCs participants are involved), of the *PART-WHOLE* or *CONTAINER* schema (where modifying or circumstancing attribution is concerned) and of the viewing arrangement (where perspectivizing is affected).

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2. The verbal interface is obviously absent in non-verbal combinations, the nominal interface does not occur in combinations with other nominal elements.



**Figure 7.** Major interfaces between concept-linking mechanisms.  
Numbers in brackets refer to the classification of interface footing below

- *Interfaces have their footing in the major realizations of the three concept-linking mechanisms.*

The footings involved are:

- the verbal predicator or verb-subject relationship [1] and the verb-post-verbal participant relationship [2] of VMCs;
- modifying [3] and circumstancing [4] attribution;
- TAM perspectivizing [5] and adverbial perspectivizing [6]

Compare Figure 7, where the numbers in brackets indicate the specific configuration of each interface.

- *The number of interfaces is limited, but each interface may include variants.* The existence of variants is best illustrated on the right-hand side of Figure 7, where the non-finite interface (which involves [2] and [5]) is documented with its well-known variants of infinitive, gerund and participle constructions. Another example is the PAR interface (left-hand side of Figure 7), which should be understood as a variant of the participant/circumstance interface, but is listed separately as a tribute to its importance for the explanation of object+infinitive constructions (Section 10.2.3).<sup>3</sup>

3. Other examples, such as the *participant/patient modifier interface* (= object complement pattern), a variant of the participant/modifier interface, are not mentioned in Figure 7 for ease of reading, but are all contained in the final overview of interfaces at the end of Part II (Chapter 11, Table 19).

- *Interfaces should be understood as scales (or clines, or gradients) because they may be influenced by the underlying concept-linking mechanisms in different degrees.*

This scalar quality will only be discussed where it seems important for the understanding of a specific type of interface.

## Interfaces of verb-mediated constructions and attribution

### 8.1 Interfaces of VMCs and modifying

#### 8.1.1 The copula/modifier interface

To appreciate why the copula construction benefits from an interpretation as interface, it makes sense to recapitulate some earlier observations: In Section 2.1.2 copula constructions with the predicator *be* were introduced as marginal VMCs, yet as constructions that still ensure a verb-mediated linking of two participants and provide the end-focus potential typical of VMCs. In Section 2.2.1 adjectival concepts were discussed, yet only as elements of modifier-head combinations because this is where the non-verbal semantic attraction of modifiers, which is rooted in the PART-WHOLE image schema, emerges most clearly. In English the intensity of this link is reflected in the adjacent position of modifier and head elements (1); in many languages (including German, Latin and the Romance languages) it is also expressed by an agreement of inflection between adjective and noun (2), which has been lost in English.

(1) a *beautiful* house

(2) L: villa magna, Sp: una casa bonita  
F: une grande maison, G: ein großes Haus

Yet what happens when the two mechanisms of copula construction and adjectival attribution are combined? The examples of inflected modifying in other languages already point the way: There the inflectional agreement between the noun and the adjective is carried over into the copula construction, as illustrated for Latin, French and Spanish in (3). In German the inflection of the predicative adjective has been lost just as in English (4). In other words: the two concept-linking mechanisms are fused in an interface of modifying attribution and copula construction (*copula/modifier interface* for short)<sup>1</sup>

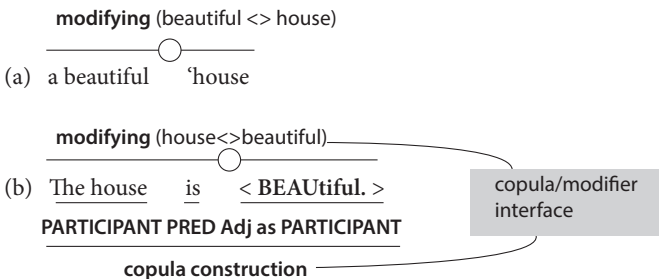
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1. The interface analysis described in the following seems superior to H and P's attempt to explain the construction as a "predicative complement" that "is syntactically a complement, but semantically it characteristically has a predicative function". (H and P: Chapter 4; 1.1:217)

- (3) L: Villa *magna* est. Sp: La casa es *bonita*.  
 F: *La* maison est *grande*.
- (4) E: The house is *beautiful*.  
 G: Das Haus ist *hübsch*.

What are the advantages of postulating a copula/modifier interface? Focusing on the minimal copula construction ‘PARTICIPANT – *be*-PREDICATOR – PARTICIPANT’ for the moment, the copula is capable of conveying a relational meaning while at the same time signaling the TAM perspective (tense, aspect, modality). In addition, the copula construction commands an end-focus that can be utilized for the adjectival concept – which would remain unstressed if used in its prototypical role as pre-head modifier.

As regards the contribution of modifying, its holistic semantic attraction guarantees the conceptual closeness of predicative adjective and head noun, as signaled by parallel inflection in other languages (documented above). Although in English (and also German) this inflectional agreement is no longer expressed, it still makes sense to assume a semantic attraction between the predicatively used adjectival concept and its nominal head concept that relies on the prototypical adjacency of adjectival modifier and nominal head. Taken together, the copula construction and the modifier-head attribution provide the conditions for what Halliday (1994: Section 5.4.2), calls the ‘attributive use’ of *be*. The result is a strong, but flexible link between the adjectival concept and the nominal concept of the subject, both conceptually rich items. Compare Figure 8, where the copula/modifier interface (b) is contrasted with modifier-head attribution (a).



**Figure 8.** Copula/modifier interface contrasted with pure modifying

Starting with Figure 8a, the modifier *beautiful* denotes an unrestricted property of the house, which is linked to the nominal concept by a holistic PART-WHOLE relationship, with the phrasal accent residing on *house*. In Figure 8b the semantic attraction between the adjectival concept and the nominal concept of the subject is maintained, but it is supported by the verbal mediation of the copula construction,

which provides the end-focus on the adjectival concept. Examples (5–6) illustrate that the copula construction is also capable of presenting the adjectival concept under the past and future TAM perspectives, tying it to a certain time span.

- (5) The house *was* beautiful. (before it was redecorated)
- (6) The house *will be* beautiful. (after it has been redecorated)

In (7–10) a second example is introduced, in which the perspectivizing of progressive aspect (8), modality (9) and negation (10) are applied.

- (7) a nice doorman
- (8) Look, the doorman *is being* < NICE >.
- (9) The doorman *can be* < **very ARrogant** >.
- (10) Last time the doorman *wasn't* < **really NICE** >.

The copula/modifier interface does not only occur in constructions where the post-verbal participant is an adjective, it is also used with nouns denoting membership of a class of items, for instance when describing a person's profession (11), or the classifying a substance (12). Here the non-verbal alternative (which is expressed by modifying alone) is sometimes a pre-head modifier (13), more often a postposed apposition (14).<sup>2</sup>

- (11) My dad is a bus driver, my brother is a teacher, my sister is a lawyer.
- (12) The tulip is a Liliacea. Cornflakes are cereals.
- (13) Our taxi driver neighbor always complains about speed limits.
- (14) Our neighbor, a taxi driver, always complains about speed limits.

What all the examples discussed so far have in common is that the first participant is based on a semantically rich concept (henceforth 'rich subject interface'). Yet this is not the case in copula constructions with so-called 'non-referential' (or 'impersonal') *it*, which primarily occur in statements about the weather (15), calendar items (16) or times of the day (17) (Qu: 6.17).

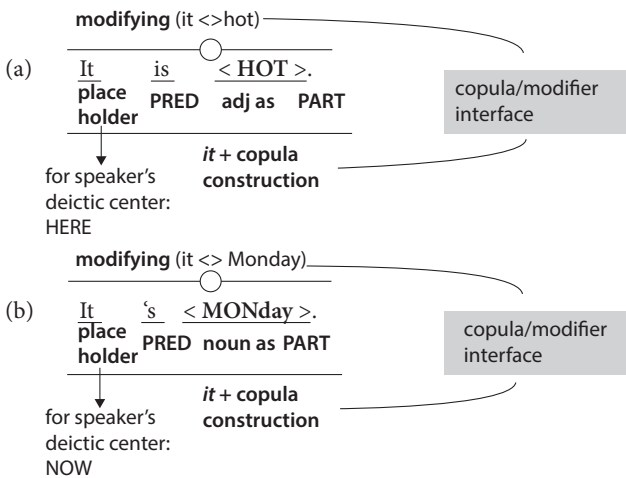
- (15) It's hot. It's cold.
- (16) It's Monday. It's the 5th of March.
- (17) It's four o'clock. It's dinner time.

---

2. Copula/modifier interfaces are not only available for adjectival and nominal concepts, but also for *PLACE* and *TIME WHEN* adverbs (*The bathroom is upstairs./The meeting is tomorrow.*) These examples are close to participant/circumstance interfaces (*We live in a small house./The meeting takes place tonight*). See Section 8.2.2.



Taken by themselves, these utterances are based on a ‘skeleton’ version of the copula construction, as it is also encountered in *it*-clefts (Section 6.4.3). This means that the introductory item *it* is conceptually reduced to its minimum and combined with relational *be* as PREDICATOR; only the final adjectival element is conceptually rich and attracts the end-focus. The question is whether the semantic attraction of modifying can also be claimed for the relationship between the adjective and the introductory *it*-element in these examples. This is possible if the *it*-element is not regarded as semantically empty,<sup>3</sup> but as equipped with a functional meaning *as a placeholder for the speaker’s deictic stance*.<sup>4</sup> Understood in this way the utterance *It is cold* means something like ‘here is cold’, the utterance *It’s Monday* conveys ‘now is Monday’. Based on the semantic attraction between the adjectival (or nominal) concept and the deictic center, one might claim the status of *skeleton copula/modifier interface* for these examples, as visualized in Figure 9a and 9b.

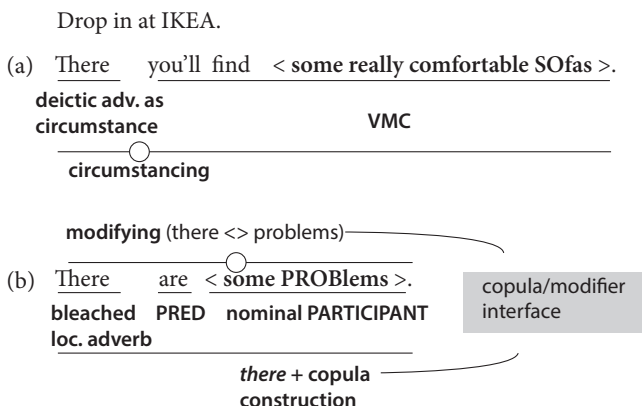


**Figure 9.** *It*-constructions as ‘skeleton’ copula/modifier interfaces

Another type of construction for which the copula/modifier interface may be claimed in a similar way to *it*-constructions is the so-called *there*-construction, or more precisely, the existential construction introduced by *there*, which is to be

3. A widely advocated interpretation: see H and P (1481–82), also Qu (8.17) on ‘prop it’.

4. If these minimal constructions are combined with locative or temporal circumstances (as they often are), the orientation towards the deictic center is overruled by the locative or temporal content of the circumstances, e.g. *It’s hot on the terrace (not here)*. *It’s cold on the mountain (not here)*.



**Figure 10.** The adverb *there* and the *there*-construction as copula/modifier interface

distinguished from the use of *there* as a deictic locative adverb (Lakoff 1987: 468)<sup>5</sup>. Compare Figure 10, where these two uses are contrasted in an annotated version.

Figure 10a represents the prototypical combination of VMC and adverbial circumstance, here expressed by the deictic locative adverb, which refers to a certain deictic goal. As shown in the diagram, the link between the adverb and the VMC relies on circumstancing attribution and this is why the adverb can be placed in front of the VMC (as in Figure 10a), but also after the VMC.

In contrast, the *there*-item in Figure 10b does not identify a deictic goal, nor is it related to a VMC as a whole by attribution, and its locative meaning is semantically 'bleached'. Yet this type of *there*-item is also involved in a relationship of attribution, this time via a modifying link with the postverbal element of the construction (*some problems* in Figure 10b). Though not pointing out a specific location (as the deictic adverb *there* does), its bleached locative meaning is still capable of expressing that the postverbal element is 'located', and in this way can be regarded as 'existing' (Qu: 18.46). Since this attribution-based existential meaning is combined with the copula construction and the end-focus potential that comes with it, it is well suited for the task of introducing a new topic. In other words: The interface of copula construction and attribution turns the *there*-construction into an ideal presentational discourse strategy.

5. Compared with Lakoff's (1987) extensive discussion of the *there*-constructions, this account is strictly limited to the question how this construction fits into the concept of the copula/modifier interface.

### 8.1.2 Extended copula/modifier interfaces and adjective complements

The two types of copula/modifier interface (rich subject and skeleton interface) also prove helpful when it comes to analyzing what has traditionally been called ‘adjective complements’ or ‘complementation/complements in adjective phrases’ (Qu: 16.68; Aarts 2011: 134). Compare (18–20), which illustrate the major types of complements used with the respective adjectives: noun phrase (18), infinitive (19), and gerund (20).

- (18) Are you fond of your little sister?  
 (19) We are happy to accept your offer.  
 (20) I am ashamed of spending so little time with my children.

The problem for traditional syntactic analysis is that adjective complements can be neither properly classified as participants in syntactic constructions nor as modifiers of nominal heads. This is why some applied grammars (e.g. Ungerer et al. 1981, Ungerer 2000) and language learning materials regard structures consisting of *be+adj* as *verbal complexes* or *verbal expressions* assuming that they provide the same options of complementation as semantically related lexical verbs – compare (21–22) with (21’–22’).

- (21) Susan is prepared to work as a volunteer.  
 (21’) Compare: Susan wants to work as a volunteer.  
 (22) Her sister is enthusiastic about inline skating.  
 (22’) Compare: Her sister loves inline skating.

This practical approach is taken up and put on a more theoretical linguistic footing by the interface analysis of concept linking. If examples like (18–22) are understood as instances of the copula/modifier interface with a rich subject concept, this means that they not only make use of the copula construction, but also exploit the non-verbal modifying relationship between the adjective and the nominal head, e.g. between *prepared* and *Susan* in (21), or *enthusiastic* and *her sister* in (22). Although this semantic attraction is basically a holistic PART-WHOLE relationship, it is capable of ascribing a property or quality (willingness, preference) to the subject participant in the copula construction. The ascribed property is close to the quality of an EXPERIENCER participant as it occurs in VMCs with lexical verbal concepts like WANT or LIKE/LOVE<sup>6</sup>, which also bind a postverbal participant (*to work as a*

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6. The affinity of the attribution process and the EXPERIENCER role in VMCs also explains that the interface does not support agent-driven VMCs, which seem to be reserved for constructions based on lexical verbs, e.g. verbs expressing advice, exhortation, causing and allowing (*advise, recommend, persuade, tell, order, permit*).

*volunteer* in (21'), *inline skating* in (22')). The subjects in (21) and (22) are therefore to be regarded as 'EXPERIENCER-like'.<sup>7</sup>

Based on this analogy, one can assume that copula/modifier interfaces with suitable adjectival elements can be 'extended' to include an additional participant, resulting in an *extended copula/modifier interface*, as illustrated in Figure 11. Depending on the adjective involved the post-predicator element is realized as prepositional phrase, gerund or infinitive complement.<sup>8</sup> Of the three options, the last one – the infinitival adjective complement – deserves special attention because these complements are notorious for being intractable. Compare Qu (16.75), where seven types of infinitival adjective complements are distinguished, but only sparsely described with regard to their structural features.

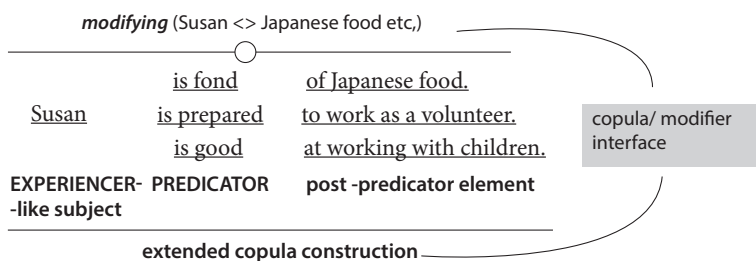


Figure 11. Extended copula/modifier interface with rich subject concept

When this problem area is approached from the stance of the concept linking, and more specifically, with the copula/modifier interface in mind, this yields the following explanations for interfaces with adjective complements:

- [1] Adjectives expressing volition or emotional attitude/reaction towards the content of the infinitive construction support the copula/modifier interface with EXPERIENCER-like subject, as illustrated in Figure 11. Examples are *will-ing*, *eager*, *keen* for volition and *glad*, *happy*, *thankful*, *ashamed* for emotional attitude.<sup>9</sup>

7. Compare H and P Chapter 4; Section 5:252), who maintain that adjective complements are complements syntactically, "but semantically they are comparable to verbs in predicator function" (H and P).

8. The status of the infinitive and gerund constructions as non-finite interfaces will be discussed in Section 10.2.

9. Comparing the explanations with Quirk et al.'s typology (Qu: 16.75), their type I is covered by [1] and [3], type III and IV are explained by [1], type V and VI by [2] (V also by [3]) and type VII by [3]. Only type II (e.g. *Bob is slow to react*) defies the concept-linking analysis – so far.

- [2] Adjectives evaluating the object discussed, especially in terms of difficulty or availability, can be explained as representing the ‘passive’ variant of this interface. Examples are *hard*, *difficult*, *easy*; *ready*, *available*, *fit*, *sufficient*.
- [3] Constructions with adjective+complement introduced by *it* should be understood as skeleton variants of the extended copula/modifier interface; prototypical examples are evaluative adjectives such as *necessary*, *vital*, *crucial*, *unimportant*.

Of these three explanations, the first has already been sufficiently discussed and illustrated (see Figure 11). As for [2], it describes constructions that are not only structurally identical with [1], but also show semantic parallels by requiring a rich subject concept, especially when ‘minimal’ syntactic pairs are considered, such as the famous Chomskyan example *John is eager to please/John is easy to please*, which is analyzed in Figure 12.

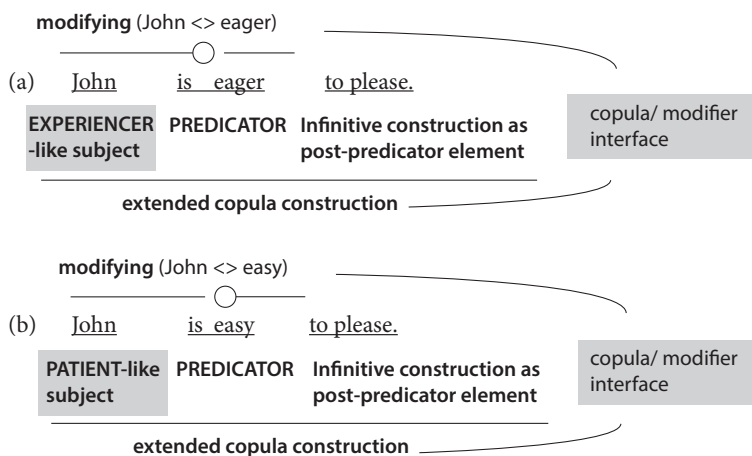


Figure 12. Contrasting *John is eager to please/John is easy to please*

Unlike the copula construction in Figure 12a, which takes up the annotation of Figure 10 in suggesting an EXPERIENCER-like subject with a volitional component (variant [1]), the subject element in 12b is to be seen as the goal of the pleasing, as a volitionless entity affected by it (variant [2]). This PATIENT-like function is even more obvious when the person concept JOHN is replaced by a non-person concept, as in (23–24).

- (23) A scholarship is hard to get.
- (24) The food is ready to eat. (Qu: 16.81)

As a result, the relationship of the *be*+adj-PREDICATOR and the subject resembles the ‘subject – PREDICATOR’ link in passive rather than active VMCs even though the active infinitive form might suggest otherwise. One important reason why

utterances like (23–24) are possible seems to be that they are not only based on the copula construction, but also rely on the attributive link between the adjective concept and the PATIENT-like subject concept. In other words, the success of these constructions depends on what will be labeled *passive copula/modifier interface*.

Yet for a number of adjectives eligible for this passive variant of the copula/modifier interface – among them *easy* – this is not the only way of attaching the infinitive construction. Compare (25–26), which illustrate the alternative of using a copula construction introduced by *it*.<sup>10</sup> This is also the only option for the evaluative adjectives like *vital*, *necessary*, *unimportant* listed as prototypical under [3] above and illustrated here by (27–28).

- (25) It is easy to please John.  
 (26) It is hard to get a scholarship.  
 (27) It is important to learn swimming.  
 (28) It is vital for rents to remain affordable

To take up explanation [3] above, these constructions can be understood as extensions of the skeleton variant of the copula construction introduced for unextended examples like *It is hot* in the previous section.<sup>11</sup> Apart from the effects of the copula construction (end-focus on the adjective complement and the flexibility of TAM perspectivizing), this interface was described as involving semantic attraction between the adjectival concept and the speaker's deictic stance (spatial *HERE* or temporal *NOW*), for which the *it*-element of the construction acts as a placeholder. In (25–28) and similar examples, however, the speaker's stance does not refer to the deictic center; instead it represents the speaker's own evaluation of what is to be regarded as easy, important or vital. Compare Figure 13 for an annotated analysis of (28) as the extended variant of the skeleton copula/modifier interface.<sup>12</sup>

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10. The choice between the two constructions documented for *easy* is also available for adjectives that can be seen as borderline cases between emotional reaction and evaluation (*silly*, *nice*). Example: *Peter is silly to queue for tickets. vs. It is silly (of Peter) to queue.*

11. This explanation of (28) is in contrast to the accepted view of regarding this construction as 'extraposition' of complex sentences with nominal subject clause (*That rents remains affordable is vital*). With regard to *for*+infinitive+*be*+adj constructions (*For rents to remain affordable is vital*) see Section 10.3.1. Compare Qu (18.33); H and P: Chapter 4; Section 3.2.2.

12. An extended version of the copula/modifier interface is not only possible for constructions introduced by *it*, but also for the *there*-construction. Here the presentational potential of the unextended *there*-construction (Section 8.1.1) can be used to introduce the message contained in a postverbal participle construction, as in *There is a whole crowd waiting at the bus stop.*

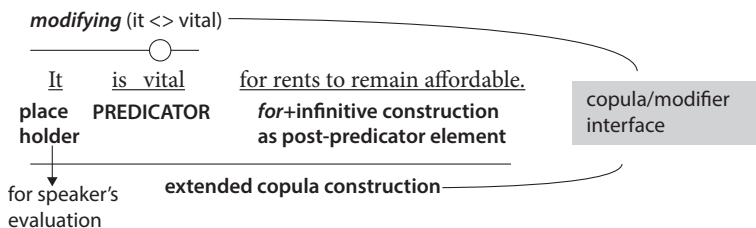


Figure 13. Extended copula/modifier interface with introductory *it*

Summarizing at this point the main result is that copula/modifier interfaces with rich semantic subjects and skeleton interfaces with introductory *it* are to be considered as constructions in their own right: the former because they utilize the semantic attraction between an adjectival and a substantial nominal concept, the latter because they establish a relationship between the adjectival concept and the speaker's deictic stance or his/her own evaluations. A final overview of constructions with copula/modifier interface is provided in Table 7.

Table 7. Overview of copula/modifier interfaces involving adjectives

Adjectival concepts	Type of copula/modifier interface	Alternative constructions
most adjectival concepts	rich subject variant (unextended) <i>Peter is tall. The food is good.</i>	no relevant alternative
weather phenomena, calendar items, time of the day	skeleton variant (unextended) <i>It's hot.</i> <i>It's cold.</i> <i>It's cloudy. It's Monday. It's half past ten.</i>	no relevant alternative
volition, emotional reaction & attitude ( <i>eager, anxious, afraid</i> )	extended rich subject variant <i>Peter is eager (for me) to do sth.</i>	no alternative
object-related evaluation in terms of difficulty, availability ( <i>difficult, easy, ready, available, sufficient</i> )	passive rich subject variant <i>John is easy to please.</i> <i>The scholarship is difficult to get.</i>	extended skeleton variant for easy group: <i>It is easy to please John.</i>
speaker-oriented evaluation ( <i>vital, essential, unimportant</i> )	extended skeleton variant <i>It is vital (for Jack) to pass the test.</i>	nominal subject clause <i>That Jack passes the test is vital.</i> <i>To pass the test is vital (for J.)</i>

### 8.1.3 Other types of interface between VMCs and modifying

Though interfaces based on the verbal element *be* are obviously the most widespread realization of the interaction between VMCs and modifying, there are constructions with other verbs that can also be combined with adjectival or suitable nominal concepts as postverbal participants and can then be regarded as copula/modifier interfaces in a wider sense. These verbs denote appearance (*seem* (29), *appear*), or location (*sit* (30), *lie*, *stand*), as well as continuance (*remain* (31), *stay*, *keep*) or development towards a result (*turn* (32), *become*, *get*, *grow*). A special group are perception verbs (Qu: 4.30) or ‘sense’ verbs, which describe the physical qualities of objects (*look*, *sound*, *feel*, *smell*, *taste*) (33–34); these constructions will be further discussed in Section 9.2.1.

- (29) They all *seem* (to be) crazy.
- (30) They *sat* waiting for the doctor.
- (31) We all *remained* quiet.
- (32) He *turned* red, while the others grew pale.
- (33) The cheese *smells* horrible.
- (34) You *look* beautiful today.

Moreover, this interface effect is not restricted to the relationship between postverbal and subject participant; it also occurs in VMCs involving two postverbal elements, one of them a PATIENT participant, the second represented by an adjectival element or a nominal element, i.e. constructions with object and object complement in traditional terminology. Here again the interface makes use of the advantages of VMCs (i.e. the adjectival element benefits from verb mediation and end-focus potential), yet the attribution of the adjective is not established with the subject participant, but with the PATIENT participant functioning as object in the active construction (35). If in passive VMCs this participant is used as subject, the semantic tie of attribution with the PATIENT is maintained (36) so that the label *participant/patient modifier interface* seems justified (which should be regarded as a variant of the copula/modifier interface). Both in active and passive use the force of the interface is strongest in connection with verbs that clearly express a CAUSE-RESULT relationship, such as *drive* (35–36), *render*, *make*, *get*, but it is also possible with verbs denoting mental occupation or evaluation like *regard*, *consider*, *find* (37). Relying on the inherent constructional meaning, participant/PATIENT modifier interfaces can even be used with atypical lexical concepts, as illustrated by Goldberg’s (1995) example in (38), where the verbal concept *KISS* is interpreted as a CAUSE-RESULT relationship.



- (35) His mother-in-law drove him mad.  
 (36) He was driven mad by his mother-in-law.  
 (37) Many people regard their in-laws as crazy/as idiots.  
 (38) He kissed her unconscious. (Goldberg 1995: 152)

## 8.2 Interfaces of VMCs and circumstancing

Apart from modifying, circumstancing is the second major area of attribution; here interfaces arise because many postverbal participants interact with circumstances, as reflected in the label '*participant/circumstance interface*'. For the linguist participant/circumstance interfaces deserve particular attention because here the concept-linking approach competes with the well-established system of valency grammars in explaining the gradient from complements to adverbials, for which a fine-grained classification has been developed over the years (Herbst et al. 2004). Approached from the angle of concept linking, valency grammars must necessarily appear as somewhat one-sided because they only consider the mediating power of the verb (its 'valency potential'). Though concept linking does not neglect the role of the verb and the verb-mediated constructions, it also takes account of the contribution made by the linking mechanism of attribution and, in particular, by preposition-guided circumstancing. The result should be a more balanced view of how adverbial concepts like *LOCATION*, *TIME* and *MANNER* are rendered in communication.<sup>13</sup>

### 8.2.1 Circumstancing, VMC integration and interfaces

Considering how concepts of *LOCATION*, *TIME* and *MANNER* can be presented, concept linking provides three options:

- [1] Adverbial concepts remain outside a VMC and are linked to it by way of circumstancing, i.e. by making use of the non-verbal semantic attraction of attribution.
- [2] Adverbial concepts are fully integrated into a verb-mediated construction, i.e. they take the shape of a nominal phrase and are positioned in one of the standard participant slots of VMCs.
- [3] Adverbial concepts interact with a VMC in what has already been labeled '*participant/circumstance interface*'.

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13. For the role of adverbial perspectivizing see Section 2.3.4, for its combination with circumstancing see Section 9.1.

The availability of these options depends on the linguistic realization of the adverbial concept and the kind of verbal concept underlying the VMC involved in the utterance. With regard to their linguistic shape, circumstances are prototypically combined with a preposition or an adjective signaling for instance a *PLACE*, *TIME*, *INSTRUMENT* or *MANNER* specification. The result is either a prepositional phrase (*in the house*, *after breakfast*, *with a hammer*, *with care*, etc.), a complex adverb (*upstairs*, *indoors*, *outside*, *overboard*), or a modifier-head phrase (*last night*, *three times*), not to forget the adverbial proforms *here* and *there*. The preposition or modifying adjective is used as a guideline for the interpretation of the otherwise holistic semantic attraction; they also ensure that the circumstancing mechanism works even if the VMC of the utterance is not based on a verbal meaning that might influence circumstancing.<sup>14</sup> These are the conditions for option [1], or – in traditional terminology – for the use of adverbials as non-obligatory clause constituents (*at Sophie's place* in (39)) and more or less independent elements in conversational fragments (*next Friday* in (40)).

(39) We're going to watch a film *at Sophie's place/upstairs/there*.

(40) We'll be going to the pictures one of these days. I absolutely want to see Almodóvar's new film. – When? – *Next Friday* perhaps.

Options [2] and [3] both presuppose the use of a VMC based on a suitable verbal concept, though in different ways. The more radical way of exploiting the potential of VMCs is what will be called '*VMC integration*' of the adverbial concept (option [2]). Here the nominal concept of the circumstance is used to fill one of the participant slots of the VMC, either the subject slot (as in 41–43) or the postverbal slot (as in 44).<sup>15</sup> Yet the application of this method is limited and, in addition, often conveys the impression that the concept is rendered as a *PATIENT* participant (*BUS*, *MONDAY*, *STONE*, *HILL*, *OBSERVATION TOWER*) rather than a circumstance (*INSTRUMENT*, *LOCATION*, *TIME*). The linking potential of a possible preposition, which would contribute substantially to the effect of circumstancing, is not utilized.

(41) The bus holds 40 passengers.<sup>16</sup>

(42) Monday opens another hot week.

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14. Prepositions are missing in compounds where the holistic semantic attraction is regarded as sufficient – see Section 2.2.2.

15. In morphologically rich languages VMC integration is normally indicated by a nominative or accusative case morphology respectively.

16. In the following examples VMC-integrated circumstances are underlined, pure circumstances appear in italics and interfaces are indicated by underlined italics.

(43) The stone hit the window.

(44) The party climbed the hill and finally reached the observation tower.

Compared with this approach, option [3], or the *participant/circumstance interface* option, is much more widely applicable and also more satisfactory for advocates of concept linking. Its advantage is that it combines the form/meaning potential of both preposition-guided circumstancing and of verb mediation: On the one hand, the preposition is retained and with it the potential of guided semantic attraction typical of circumstancing. On the other hand, the interface makes use of the postverbal participant slot of a suitable VMC, i.e. a construction expressing goal-directed motion (*going* or *arriving somewhere* (45–47)) or positioning (*living somewhere* (48)), or caused motion or caused positioning (*putting* or *keeping sth. somewhere* (49–50)).<sup>17</sup>

(45) The party went up the hill / upstairs.

(46) The party arrived at the restaurant.

(47) She is driving to Munich.

(48) She lives in Munich.

(49) She keeps the butter in the fridge.

(50) She puts the butter in the fridge.

These participant/circumstance interfaces not only provide a more precise relationship of the circumstance with the other participants (AGENT or PATIENT respectively); by interacting with the VMC the circumstance, or more precisely, its nominal element, is also assigned the positional end-focus, which guarantees the desired prominence (see Section 6.4.1).<sup>18</sup> Finally the three options are contrasted in the diagrams of Figure 14, using the first of the above examples for each option, i.e. (39), (41) and (45).

Of course, the small set of examples discussed so far is not sufficient to illustrate the important role the participant/circumstance interface plays in concept linking.

The variants in which this interface is used will be discussed in the following sections, which are devoted to the domains of *LOCATION*, *TIME* and *AGENT-INSTRUMENT-MANNER*.

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17. This short list already shows that preposition-guided attribution produces similar effects with different valency patterns – *put* and *keep* require an obligatory adverbial complement; with *go*, *arrive* and *live* the adverbial complement is optional. See Herbst et al (2004) for information on the respective valency patterns.

18. As illustrated by (45–50), participant/circumstance interfaces can replace the first or second postverbal VMC participant. If *INSTRUMENT* or *MANNER* circumstances are involved, an additional element can also be added as in *He sliced the salmon for the sandwiches with a knife/with great care*.

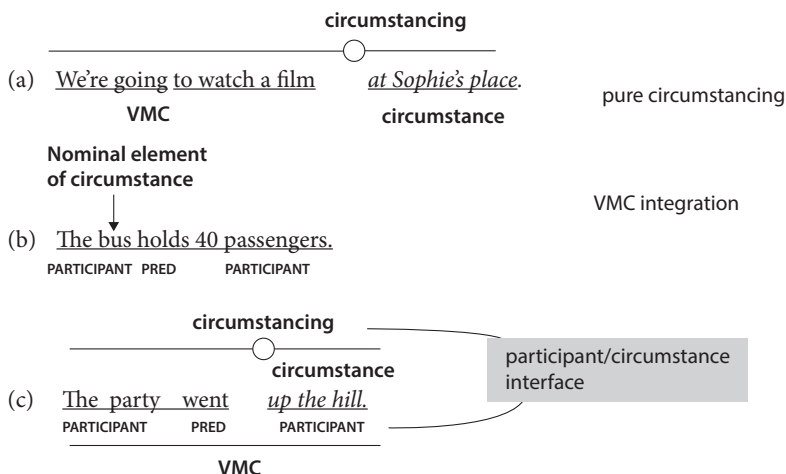


Figure 14. Linking options for adverbial circumstancings

### 8.2.2 Locative interfaces between circumstancing and VMCs

The fact that most of the introductory examples in the previous section were taken from the domain of *LOCATION* may already be seen as an indication of the importance of this type of construction for the context of interfaces. Yet the full picture only emerges when finer distinctions are made, in particular the distinction between *PLACE* (understood as *POSITION* or *AREA*) and *DIRECTION*.<sup>19</sup>

Within the locative domain, *PLACE* is the circumstance for which the conceptual background of the *CONTAINER* image schema is particularly convincing (see Section 2.7). It is quite natural to assume that organisms, objects, actions and events are related to a certain position or – seen from the angle of concept linking – that the message of the construction is ‘embedded’ in a circumstance of *PLACE* by non-verbal semantic attraction, as in (51–54).

- (51) Boats were sailing *on the lake*.
- (52) The roof glistened *in the sun*.
- (53) People drink a lot of beer *in Germany*.
- (54) *In the country* people take their time.

19. The term ‘path’ is avoided here as it is used for the complex *PATH* image schema underlying VMCs. Instead *LOCATION* is used as an umbrella term, divided up into *PLACE* (or *POSITION*) and *DIRECTION* (and further into *SOURCE*, *COURSE* – used instead of ‘path’ – and *GOAL*).

While for theme-bound two-element constructions (51–52) this variant of ‘pure’ circumstancing seems to be the only type of concept linking available, two alternatives to circumstancing have to be considered for agent-driven three-element constructions, as in (53–54). The more radical of them is, no doubt, the VMC integration of the circumstance, as introduced in the previous section. In this case the subjects of suitable active constructions and also of passive VMCs are filled with the nominal concepts of locative circumstances, as in (55–58).

- (55) The barrel holds 100 liters.  
 (56) The suitcase contained all his possessions.  
 (57) The pond was teeming with fish.  
 (58) The caves are inhabited by bats and spiders.

The more frequent option, however, is the interface between preposition-guided circumstancing and suitable VMCs; this is possible in three-element and four-element constructions expressing that something ‘occurs in a certain place’. In constructions with one postverbal slot this is filled by the locative element (59–62); in four-element constructions the AGENT subject causes the PATIENT participant to be placed in the position expressed by the locative element, which therefore functions as a second postverbal participant (63).<sup>20</sup>

- (59) The money was lying on the floor.  
 (60) My parents live in the city center.  
 (61) The accident happened/occurred at the crossroads.  
 (62) The post office is round the corner.  
 (63) My grandmother keeps her money in the mattress.

This is a fairly straightforward syntactic solution if the construction is supported by verbal concepts such as LIE and LIVE (59–60)<sup>21</sup> or SIT, STAND, STAY, or by event-related concepts like HAPPEN, OCCUR (61) and the verb *be* (62)<sup>22</sup> – all of them strongly supporting the constructional meaning (‘occur in a certain place’).

20. In all of these examples the prepositional phrase denoting the circumstance could be replaced by the deictic locative adverb *there*, which is common in this function.

21. With verbs like *lie* and *live* this constructional meaning only applies to one of the verb senses. In valency grammar these verb meanings can be distinguished from other senses by means of valency tests, e.g. the deletion test (Herbst et al. 2004).

22. *Be* should here be seen as rendering a basic locative meaning. For interfaces in which its bare relational copula meaning prevails see Sections 8.1.1–2.

Similarly, lexical backup for the causative variant of this construction is provided by *KEEP* (63), where the locative circumstance functions as the second postverbal participant (object complement in traditional terminology, obligatory with *keep* in the sense of ‘keeping sth. somewhere’). Here the effect of the VMC is evident, but it is not sufficient to completely clarify the relationship between the locative and the other participants of the construction (because, for instance, the money mentioned in (63) need not be in the mattress, it could also be kept under the mattress). This means that a certain amount of preposition-guided circumstancing is still necessary, and this is not verb-mediated, but non-verbal.

A less prototypical type of interface can be observed when verbal concepts express *PLACE*-independent rather than *PLACE*-dependent actions. Compare (64–65), where only the combination of the inherent constructional meaning ‘occur in a certain place’ and the preposition-guided semantic attraction of locative circumstancing sufficiently clarifies the message, i.e. that an activity is institutionally or habitually tied to a certain location and is different from the message conveyed by the VMC without the locative circumstance (64’–65’).

- (64) All the family work *at the local factory*.  
 (64’) He is working. (Don’t disturb him.)  
 (65) Peter always eats *at Judy’s little restaurant/at home*.  
 (65’) Whenever I call Peter, he is eating.

Yet no matter whether the interface is based on a fairly prototypical collocation (‘staying at a hotel’) (66) or somewhat more marginal (‘sleep and have breakfast at a guest house’) (67), the locative element receives the end-focus and the nucleus of the construction (indicated by pointed brackets and capitals respectively); it acquires much greater prominence than when it is merely attached to VMC by the semantic attraction of circumstancing (68).

- (66) Our friends were staying < *at a five-star hoTEL* > during their visit.  
 (67) We slept and had breakfast < *at a small GUEST house* > during our visit.  
 (68) We played games and had < *great FUN* > *at the hostel*.

### 8.2.3 Interfaces for *DIRECTION*, *SOURCE*, *COURSE* and *GOAL*

Turning from *PLACE* to *DIRECTION*, this variant of *LOCATION* may be dominated by *GOAL* orientation (Stefanowitsch and Rohde 2004), but it should not be forgotten that it also comprises *SOURCE* and *COURSE* orientation (*COURSE* stands for the narrow sense of ‘path’). Unlike positional *LOCATION*, which quite naturally functions

as a ‘container’ for the message of the construction and is therefore rightly related to the CONTAINER image schema, the notion of *DIRECTION* is based on the PATH schema, which in previous sections has been primarily claimed for verb-mediated agent-driven constructions. Considering this, it is not surprising that *DIRECTION* is not rendered by circumstancing alone, but that VMCs, and even more so, participant/circumstance interfaces are favored. To start with VMC integration, replacing the PATIENT participant by the nominal concept of a *DIRECTION* circumstance is possible for *SOURCE*, *COURSE* and *GOAL* alike (69–71).

- (69) The family left the house. *SOURCE*  
 (70) The policemen passed the house. *COURSE*  
 (71) The party reached/entered the hostel. *GOAL*

Yet the more widespread form of concept linking for *DIRECTION* concepts is the interface between preposition-guided circumstancing and directed-motion or caused-motion VMCs. There are a number of fairly prototypical examples for both interfaces: constructions supported by general motion concepts like *COME* and *GO* (72–73) or causative constructions expressing action concepts like *PLACE* or *PUT* (74–75).<sup>23</sup> In each of these interfaces the orientation towards the *GOAL* (or *SOURCE* or *COURSE*) is either supported or further specified by preposition-guided circumstancing.

- (72) My friend comes from Spain. *SOURCE*  
 (73) They are going to Finland via Stockholm. *GOAL, COURSE*  
 (74) They placed their shoes under the table. *GOAL*  
 (75) He puts the borrowed books on the counter. *GOAL*

This is also true of more specific motion concepts such as *RUN*, *RUSH*, *WALK*, *HURRY*, *FLY* or *CRAWL* (here represented selectively in (76–77)), some verbs of pointing (*point at*, *aim at*) and caused-motion concepts like *PUSH*, *PULL*, *DRIVE*, *THROW*, *BLOW* – see examples (78–79).

- (76) He hurried into the house.  
 (77) The bird flew to the next tree.  
 (78) The cowboys drove the cattle into the corral.  
 (79) She threw the jewels into the dustbin.

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23. Alternative senses of these motion verbs, e.g. *come* ‘arrive’, *go* ‘leave’, *place* ‘bet on sth.’ or *take* ‘take away’ are neglected; they do not seem to exist for *put*.

The dependence of these locative interfaces on preposition-guided circumstancing becomes most evident when a basically goal-oriented motion construction or a caused-motion construction is applied to the *SOURCE* or *COURSE* of the motion; here the preposition is indeed necessary to convey the desired semantic specification. In most instances *SOURCE* and *GOAL* are combined, while *COURSE* can be added to them or occur separately, as with TRAVEL (80–81).

(80) The party travelled *from Denmark* ... *SOURCE*  
                                   (*through Germany*) (*COURSE*)  
                                   ... *to Italy*.           *GOAL*

(81) The party travelled *through Germany*. *COURSE*

Of course, prepositional support is even more important when the verbal meaning of a construction does not explicitly express motion or caused motion, and the interpretation of the interface is based on the inherent constructional meaning. This is the context in which Goldberg's famous 'sneezing example' (82) has to be seen (Goldberg 1995: 152). Her explanation that the caused-motion message relies on the inherent constructional meaning was revolutionary, but it does not sufficiently emphasize the important conceptual contribution made to the interface by the preposition *off* as part of its circumstancing component. As illustrated by a comparison with (83) and (84), the preposition-guided circumstancing component is necessary to clarify that the message concerns the locative *SOURCE* of the motion and not its *COURSE* or *GOAL*.

(82) Frank sneezed the tissue *off the table*. *SOURCE*

(83) She sneezed the tissue *past the ashtray*. *COURSE*

(84) She sneezed the tissue *to the wall*. *GOAL*

This type of example can also be found for verbal concepts denoting other bodily reactions like COUGH (85), SHOUT or BARK (86), as well as – perhaps in a more subdued way – for common actions of humans, e.g. constructions with PLAY, DRINK or EAT (87–89), not to mention figurative goal-oriented uses (90–91).

(85) He coughed his wife *out of their bed*.

(86) The dog barked the sheep *into their pen*.

(87) Machowsky played the ball *into the penalty area*.

(88) We drank water *from the well*.

(89) We ate poor food *from magnificent porcelain plates*.

(90) She always sings her baby *into sleep*.



(91) He drank himself *into oblivion*.

Faced with these examples it should be clear that any attempt to establish a cut-off point between non-adverbial participants of a VMC and genuine locative circumstances will not capture the real character of the participant/circumstance interface as a separate and unique form/meaning combination. Instead, it should be acknowledged that two concept-linking mechanisms are at work simultaneously, though in differing degrees.<sup>24</sup> The result of the fusion including the focusing effect is indicated graphically in (92), which takes up the first of the above examples (85):

circumstancing (preposition-guided)  
 \_\_\_\_\_○\_\_\_\_\_

(92) He coughed his wife < out of their BED >.  
 VMC (with positional end-focus)

Where the contributions of VMCs and circumstancing to the interface differ noticeably, this is due to the semantic content of the preposition and the verbal concept involved. A rough guideline is that a semantically vague preposition, such as *under* (which can be interpreted in terms of *GOAL* or *PLACE*) requires a caused-motion VMC with strong verbal support like *PUSH* to express the *GOAL* meaning (93). In contrast, a semantically more specified preposition, such as *into* or *onto*, can be more easily combined with a VMC that relies on the inherent constructional meaning of directed motion and receives less support from the verbal concept, as is the case with *FLY* in (94). Compare the annotated examples in (93–94), where normal and weak letters indicate the different share of VMC and circumstancing in the interface.

circumstancing  
 \_\_\_\_\_○\_\_\_\_\_

(93) He pushed the shoes < under the WARDROBE >.  
 VMC

circumstancing  
 \_\_\_\_\_○\_\_\_\_\_

(94) The bird flew < onto the ROOF of the church >.  
 VMC

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24. This supports the claim put forward in Chapter 7 that interfaces should be understood as scales between two poles, of which here one pole would signal participant dominance, the other pole circumstance dominance. Compare the scales proposed for other interfaces in Chapters 9, 10 and 11.

If a relatively vague circumstancing preposition, e.g. *in front of*, is combined with a motion VMC which is only weakly supported by the verbal concept, e.g. MARCH in (95), the result will be ambiguous, permitting an interpretation as both GOAL-oriented interface (95') and 'VMC plus circumstance of PLACE' (95'').<sup>25</sup>

(95) The soldiers marched *in front of the barracks*. (GOAL or PLACE?)

(95') The soldiers marched *to the barracks*. (GOAL)

(95'') The soldiers marched up and down *in front of the barracks*. (PLACE)

To add some more general observations, all the participant/circumstance interfaces discussed so far have involved agent-driven VMCs because motion and caused motion express the very essence of an action chain. Yet if circumstancing is guided by the right kind of orientational preposition, an interface seems also possible with THEME-PREDICATOR VMCs, which normally only comprise a subject participant and a PREDICATOR, but might here be seen as extended to include an interface with a locative element. Compare (96–97), where the THEME-PREDICATOR VMC is combined with a GOAL or COURSE circumstance, which consequently attracts the constructional end-focus (as indicated); example (98) has been added to illustrate the figurative use of this interface.

(96) The sun/the moon was shining *< into her ROOM >*.  
THEME-PRED VMC + GOAL

(97) It is raining *< through the ROOF >*.  
THEME-PRED VMC + COURSE

(98) The new boss exploded *< into the MEETING >*.<sup>26</sup>  
figurative use of THEME-PRED VMC + GOAL

#### 8.2.4 TIME WHEN and TIME DURATION in concept linking

Circumstances of TIME are often closely related to locative circumstances, in fact it has been suggested that temporal concepts are mostly derived from locative concepts by way of metaphor (Radden 2004). In terms of conceptualization – and

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25. In languages with a richer morphology, nominal cases may contribute to disambiguation. Compare German *Die Soldaten marschierten vor die Kaserne* (accusative for GOAL) / *Die Soldaten marschierten vor der Kaserne* (dative for PLACE) – a phenomenon labeled 'Wechselpräpositionen' (alternating prepositions').

26. This last example already seems to hover on the borderline between theme-bound and agent-driven constructions.

leaving aside the domain of *FREQUENCY* for the moment – the division of *LOCATION* into *PLACE* and *DIRECTION* is paralleled by the distinction between *TIME WHEN* and *TIME DURATION* circumstances and so is their further subclassification, as indicated in Table 8.

Morphologically, both *TIME* and *LOCATION* circumstances are represented by prepositional phrases, among them many instances in which the same preposition is utilized (*in Munich/in the morning, at the bus stop/at six o'clock, on the roof/on Monday, from Munich to Berlin/from eight to five o'clock*).<sup>27</sup> In both domains prepositions are extended into complex adverbs (*upstairs, inside, today, tomorrow*), not to mention the parallel sets of proforms (*here and there, now and then*). Faced with these affinities it is only natural to expect parallels in the use of concept-linking mechanisms. As illustrated in the upper part of Table 8, the parallels are more than obvious: All the concept-linking constellations described for *PLACE* circumstances (VMC integration, circumstancing, interfaces) can also be claimed for *TIME WHEN*. Admittedly, VMC integration, i.e. the use of the nominal element of a *TIME WHEN* circumstance in the participant slot of the VMC, is rare (99). In contrast, construction-independent circumstancing (100), whether guided by a preposition or a relational adjectival modifier, is frequent and widely applicable.

(99) Monday opens another muggy, hot week.

(100) We watched football *in the evening/last night*.

This not only supports the traditional view that time adverbials are overwhelmingly used as free modifiers, it is also understandable from the stance of concept linking. Unlike *LOCATION*, the semantic role of *TIME* is not only expressed by phrases and adverbs functioning as circumstances, but also by the TAM perspectivizer of tense, which is signaled by verb affixes and auxiliaries (see Section 2.3.2). The result is an interaction from which temporal circumstances and tense perspectivizing seem to benefit.

Tense is strengthened where the temporal circumstance is represented by a deictic expression, either by the proforms *now* and *then* (101), by compound expressions like *yesterday* (102), *today* and *tomorrow* or by phrases like *last week* and *next month* (103). On the other hand, past tense, present tense and future tense supply temporal deixis to prepositional phrases that – if taken by themselves – would only express a non-deictic temporal relationship on the time line (104–105).

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27. Specific to the temporal domain are the prepositions *since* and *till/until*, some postpositions, which are often regarded as adverbs (*two months ago/back/ahead /before/after*) and combinations with adjectives like *last, next, previous, coming*.

Table 8. Contrasting circumstances of LOCATION and TIME

Types of concept linking	LOCATION	TIME
	PLACE (point or area in space)	TIME WHEN (point or period in time)
VMC integration (turning circumstance into a genuine VMC participant)	<i>Locative participant</i> <u>The bus</u> holds 40 passengers. (AGENT) Different ethnic groups inhabit <u>the country</u> . (PATIENT)	<i>Temporal participant</i> <u>This year</u> seems to have been the hottest ever. (AGENT)
Participant/circumstance interface	<i>Locative participant &amp; circumstance</i> My aunt lives <u>in Munich</u> . (AREA) We'll meet <u>in front of the station</u> . (POSITION IN SPACE)	<i>Temporal participant &amp; circumstance</i> The meeting will take place <u>tomorrow</u> . (PERIOD) The party starts <u>at 8.30</u> . (POINT IN TIME)
Circumstancing	<i>Locative circumstance</i> People drink a lot of beer <u>in Bavaria</u> . <hr/> DIRECTION (SOURCE, COURSE, GOAL)	<i>Temporal circumstance</i> We watched football on TV <u>in the evening/last night</u> . <hr/> TIME-DURATION (BACKWARD SPAN, NEUTRAL DURATION, FORWARD SPAN)
VMC integration	<i>Locative participant</i> The party has left <u>the hostel</u> . (PATIENT) They have climbed <u>the foot hills</u> . (PATIENT). Soon they will reach <u>the summit</u> . (PATIENT)	<i>Temporal participant</i> The journey took <u>three hours</u> . (PATIENT) I wasted <u>a whole day</u> . (PATIENT) I spent <u>a whole day</u> doing errands. (PATIENT)
Participant/circumstance interface	<i>Locative circumstance &amp; participant</i> The party has departed <u>from the hostel</u> . (SOURCE) They walked <u>along the beach</u> . (COURSE) When will they arrive <u>at the village?</u> (GOAL)	<i>Temporal circumstance &amp; participant</i> The party lasted <u>for two hours</u> . (NEUTRAL DURATION) I've been watching the sea <u>since dawn</u> . (BACKWARD SPAN) We will be staying <u>until next Tuesday</u> . (FORWARD SPAN)
Circumstancing	∅	∅

(101) We first met at my grandma's birthday party. I didn't know Peter *then*.

(102) We waited for him *yesterday*, (but he didn't come).

(103) The café will re-open *next month*.

(104) The café will re-open *after a lengthy break*.

(105) Susan attended language courses *before her departure*.

Against this background of temporal circumstancing it makes sense to assume that participant/circumstance interfaces are less important than interfaces in the locative domain. An exception are temporal interfaces that share their VMC with locative interfaces; prototypical instances are constructions expressing the notion ‘take place at a certain point in space or time’, which are supported by verbal elements like *happen* or *occur*, *take place* or the copula *be* (106–107). Also fairly safe candidates for temporal interfaces are VMCs with *be born*, *start* or *finish*; here the temporal meaning of the construction is even more dominant than the locative meaning (108–109).

- (106) The meeting took place on 3 May.
- (107) The accident happened/occurred early in the morning.
- (108) Peter was born on 20 December 1994.
- (109) The lecture starts at 8.00 and finishes at 9.00 sharp.

The situation is different for interfaces with VMCs based on verbal elements like *work*, *play* and *eat/have a meal*; here the locative orientation is dominant in the sense that these VMCs tend to express an institutionalized or habitual activity in a certain place rather than a time span (110–112). If a temporal interface is postulated for these examples, this may be justified by the claim that the temporal circumstance is assigned the positional end-focus of the construction (110’–112’). Yet this advantage seems to be lost if a locative and a temporal circumstance are combined, as in (113). Here the positional end-focus normally falls on the locative circumstance and not on the subsequent temporal circumstance.<sup>28</sup>

- (110) // Susan works/worked/will work < at the local FACTory > . //
- (110’) // Susan works/worked/will work < on weekENDS > . //
- (111) // He plays < in the SCHOOL band > . //
- (111’) // The band played < last SATurday > . //
- (112) // They had dinner < on the TERrace > . //
- (112’) // They had lunch < at TWO > // and dinner < in the EVEning > . //
- (113) // Susan works < at the local FACTory > on weekends . //

---

28. A shift of the positional focus onto the final temporal circumstance seems possible if it merits a contrastive focus. This shift is even more justified when it is supported by a perspectival focus, as signaled by the focusing adverb *only*: *Susan works at the local factory <only on weekENDS>*. See also Section 6.5.1.

Turning from *PLACE* and *TIME WHEN* to the domains of *DIRECTION* and *TIME DURATION* (bottom section of Table 8), their comparison also yields a number of parallels. The most striking finding is that – just as in the domain of *DIRECTION* – there seem to be no instances of *TIME DURATION* that solely rely on non-verbal circumstancing, i.e. instances which can be used without specific consideration of the constructional meaning and verbal concept. This is rather surprising because – as for *TIME WHEN* circumstances – a number of perspectivizing tenses are available to support the *TIME DURATION* meaning in case of doubt, in particular the present perfect progressive (supports backward span (114)) and the future progressive (supports forward span (115)).

(114) We have been waiting *since two o'clock*.

(115) We will be waiting at the airport *from two o'clock*.

The reason why *TIME DURATION* is often VMC-integrated (i.e. its nominal constituent fills a participant slot) becomes clearer when one considers the close relationship that the notion of *TIME DURATION* has with the participant role of *MEASURE* (or *EXTENT*) in VMCs.<sup>29</sup> *MEASURE* elements also occur in VMCs involving other semantic domains, e.g. *LENGTH* and *HEIGHT*, *DISTANCE*, *VOLUME*, *PRICE* and, as will be shown below, *TIME FREQUENCY*. For *TIME DURATION* it is available in VMCs based on verbal elements, such as *take*, *spend*, *devote* or even *waste* (116–117).

(116) The journey took three hours.

(117) I wasted a whole day looking for souvenirs.

However, if a VMC is based on a clearly dynamic verbal concept such as *WORK*, *READ*, *WRITE*, *SPEAK*, *LISTEN* and *TEACH*, the interface solution is favored because the semantic attraction potential of the preposition *for* is needed to support the *TIME DURATION* meaning (118–119).<sup>30</sup> If the VMC relies on a less dynamic or on a stative verbal concept, such as *LAST*, *STAY* or *LIVE* (Qu: 9.42), the prepositional support provided by the interface is helpful, but not crucial; this permits a choice between interface and VMC integration (i.e. its use without preposition), as in (120–122). Yet the interface solution with prepositional support is again necessary if a forward or backward span is specified, as in (123–124). Needless to say that both interface and VMC integration provide an opportunity for the *TIME DURATION* element to attract the positional end-focus (not indicated in 118–124).

29. *MEASURE* (OR *EXTENT*) are candidates for semantic roles whose status (participant or participant/circumstance interface) still deserves closer investigation.

30. This function can also be fulfilled by nouns combined with *all*, *whole* and *half*.

- (118) He has been working on it *for two weeks*.
- (119) Haven't you been teaching at our school *for almost ten years*?
- (120) The concert lasted two hours / *for two hours*.
- (121) We will be staying two nights / *for two nights*.
- (122) I lived there the best part of my life / *for the best part of my life*.
- (123) I have been living in Munich *since my childhood*.
- (124) We'll be staying *until next Tuesday*.

A final remark is necessary with regard to the (mostly deictic) adverbs expressing *TIME WHEN* (*now, then, afterwards, today, yesterday, tomorrow*, etc.) and *TIME DURATION* (*since (then), until then, up to now*). Although basically the same linking mechanisms apply as with prepositional phrases and nominal modifier-head expressions, these temporal adverbs do not only appear in the postverbal participant slot (125) or in the peripheral position of circumstancing items (126–127). At least occasionally they are also used in the preverbal 'mid' position (128–129), which may be due to the influence of perspectivizing frequency adverbs like *already, still* and *soon*; see Section 2.3.4.

- (125) The discussion had lasted *until then*.
- (126) The spokesman announced the government's decision *yesterday*.
- (127) The meetings have been very successful *since then*.
- (128) The spokesman *yesterday* announced the government's decision.
- (129) The meetings have *since* been very successful.

### 8.2.5 *TIME FREQUENCY* in concept linking

The last of the major *TIME* domains, *TIME FREQUENCY*, is more difficult to tackle. Semantically, it is rooted in time, as represented by *TIME WHEN* and *TIME DURATION* items, but it transcends this domain in two ways: by including a *MEASURE* component on the one hand and a *MANNER* component on the other. This semantic diversity is reflected in the morphology of *FREQUENCY* expressions and it has consequences for the application of concept-linking mechanisms. In Table 9 *FREQUENCY* expressions are divided up into *NUMERICAL FREQUENCY* and *PERIOD FREQUENCY*, with *MANNER FREQUENCY* added as a third category.

To start the analysis with *NUMERICAL FREQUENCY*, a first glance suggests that it represents the most palpable realization of the *FREQUENCY* notion. The morphological inventory is limited to numerical adverbs (*once, twice*) and number

Table 9. TIME FREQUENCY – semantic features, morphology, concept-linking mechanisms

	<i>NUMERICAL FREQUENCY</i>	<i>PERIOD FREQUENCY</i>	<i>MANNER FREQUENCY</i>
Conceptual-semantic features	<i>TIME</i> & (result-oriented) <i>MEASURE</i>	<i>TIME WHEN</i> (time period)	<i>TIME</i> & <i>MANNER</i>
Prototypical realizations	adverbs ( <i>once, twice, once more</i> ) phrases with numerals ( <i>three times, on four occasions</i> )	<i>every/each/per</i> + temporal concept denominal <i>ly</i> -forms ( <i>daily, hourly, weekly</i> ) proform-like adverbs ( <i>again, again and again, time and again</i> )	deadjectival <i>-ly</i> adverbs ( <i>constantly, regularly, usually, rarely</i> ) other types ( <i>always, often, sometimes</i> )
Available concept-linking mechanisms	VMC integration Participant/circumstance interface	VMC integration Participant/circumstance interface Circumstancing	Perspectivizing (see Section 2.3.4 & Section 9.1.1)

phrases (*three times, on four occasions*, etc.); the *MEASURE* component is strong, its resultative bias obvious and often supported by present perfect-tense perspectivizing. From the angle of concept linking, VMC integration is possible with all VMCs based on lexical action concepts permitting iteration (130). Alternatively, *NUMERICAL FREQUENCY* can be expressed in interfaces combining iterative VMCs with preposition-guided circumstancing (*on two or three occasions* in (131)).

(130) She has won the Wimbledon tournament twice/three times.

(131) I have met her on two or three occasions.

However, such distinct realizations of *NUMERICAL FREQUENCY* are not as widespread as one might assume. Following Quirk et al. (Qu: 8.64), the numerical usage is often combined with a *TIME WHEN* circumstance (*in the nineties* in (132)) or this notion is at least implied (133). This shows that *TIME FREQUENCY* often has a *TIME PERIOD* background; in other words, even *NUMERICAL FREQUENCY* is a prototypically structured category rather than a discrete class of *FREQUENCY* adverbs.

(132) Steffi Graf won the Wimbledon tournament seven times *in the nineties*.

(133) Between them the William sisters have won the championship a dozen times.

Unlike *NUMERICAL FREQUENCY*, where time periods have a background function with regard to the numerical result, *PERIOD FREQUENCY* explicitly identifies the period in which the repetition of an iterative action takes place. The morphological inventory is larger than in the case of *NUMERICAL FREQUENCY*, comprising not only





*permanent, periodic*), *HABIT* (*usual, common, customary*), *NORMALITY* (*normal, ordinary, general*) and *OCCURRENCE* (*frequent, rare, scarce*). Adverbs derived from these adjectives quite naturally describe the manner of the temporal *FREQUENCY*, and this also implies various degrees and shades of indefiniteness – Quirk et al. talk of “impressionistic frequency” (Qu: 8.64).

Seen from the concept-linking stance the primary aim of adverbs of *MANNER FREQUENCY* is not to supply reliable background information that is related to the VMC of the utterance by way of circumstancing, VMC-integration or interface. These adverbs are rather to be seen as signals of a perspectivizing process, producing a scope that includes a varying number of elements contained in the utterance, as in (138–139).

*scope of manner frequency adverb*

(138) Our teacher rarely loses her temper.

*scope of manner frequency adverb*

(139) People usually consume too many sweets  
and too much alcohol on weekends.

Compare Section 2.3.4 for details on prototypical adverb perspectivizing and Section 9.1.2 for interfaces between circumstancing and perspectivizing uses.

### 8.2.6 Interfaces for *AGENT*, *INSTRUMENT*, *METHOD* and plain *MANNER* concepts

If the term ‘manner’ is claimed for certain *FREQUENCY* concepts, this implies that the *MANNER* concept is here used in a broader sense.<sup>32</sup> This wider view can also include concepts like *AGENT*, *INSTRUMENT*, *METHOD* (or *MEANS*) and ‘plain’ *MANNER* concepts; their morphology ranges from prepositional phrases (with the prepositions *by*, *with*, *in*) to de-adjectival *ly*-adverbs.

The fact that the *AGENT* concept (in the shape of the *by*-agent) is counted among the concepts eligible for circumstancing may be surprising because an *AGENT* subject is obviously an indispensable participant of prototypical agent-driven VMCs. This is true for active constructions; passive clauses, however, have *PATIENT* or *RECIPIENT* subjects and do not require an explicitly expressed *AGENT* participant. As a consequence, the *by*-agent has been regarded as a non-obligatory adverbial in traditional analysis.

32. The term ‘manner’ in this sense corresponds to ‘process’ in Qu: 8.5.

Yet viewed against the background of concept linking, does this really mean that in passive clauses the AGENT concept is exclusively linked to the VMC as a circumstance guided by the preposition *by*? What seems to make more sense is that the AGENT concept, if it is to be expressed at all (which it need not be), does not only rely on the semantic attraction of circumstancing. In addition, the *by*-agent can – at least to some extent – be expected to exploit the agentive potential of the PREDICATOR of the VMC, which still seems to be available, even though unexpressed, in the passive construction. Admittedly, this involvement in the VMC does not turn the *by*-agent into a genuine participant, but at least grants it an intermediate status between circumstance and participant, which can be well accommodated within the range of participant/circumstance interfaces. This explains, for instance, why the *by*-agent attracts the positional end-focus (140–141).

(140) The tourists were welcomed < *by the hoTEL manager* >.

(141) The tourists were given the wrong information < *by the GUIDE* >.

What is puzzling is that the intermediate status between VMC participant and construction-independent circumstance, which is here postulated for *by*-agents, is more readily accepted in the linguistic tradition for other types of adverbials, i.e. adverbials denoting INSTRUMENT and related concepts such as MATERIAL and ACCOMPANIMENT (or COMITATIVE). In fact, the behavior of these adverbials closely resembles circumstances of TIME DURATION and PERIOD FREQUENCY (see Sections 8.2.4–5). This means that although VMC integration is possible for INSTRUMENT concepts, which occasionally appear as subject participants (142), interfaces are dominant (143–144); construction-independent circumstancing occurs only rarely, for instance with ACCOMPANIMENT circumstances (145).

(142) This key opens the front door. INSTRUMENT as subject

(143) He killed his victim *with a butcher knife*. INSTRUMENT as interface

(144) She wrote the letter *in green ink*. INSTRUMENT as interface

(145) We watched a wonderful film on TV ACCOMPANIMENT  
*together with our friends.* as circumstancing

Still close to the role of INSTRUMENT, but drawing nearer to the prototypical concept of MANNER ('the way in which something is done') are adverbs describing METHOD (or MEANS). Morphologically, METHOD circumstances take the form of prepositional phrases, some of them introduced by complex prepositions (*by means of*, *with the help of*); another frequent linguistic realization are adverbs derived from nouns with the help of 'semi-suffixes' such as *-like*, *-style*, *-fashion*, and *-wise*.

What distinguishes *METHOD* circumstances from *AGENT* and *INSTRUMENT* circumstances is that they conceptualize aspects that are really tightly connected with the verbal concept, which calls for an interface solution rather than verb-independent circumstancing. The verbal concept involved, which prototypically expresses an action or process, can be either very general and vague, as in the case of the verbal elements *behave* and *treat* used in their general senses (146–147), or more specific, as illustrated in an exemplary way by the verbal elements *submit*, *solve*, *salute*, *jump*, *arrange* in (148–152). The contribution of circumstancing to these interfaces is either preposition-guided, as in (147–149) or, in the case of adverbs with semi-suffixes, governed by the suffix meaning – which is fairly concrete in the case of *-style* or *-fashion* (150–151), less so with the suffixes *-like* or *-wise* (146, 152).

(146) He always behaves *so childlike*.

(147) You shouldn't treat this fabric *with detergents*.

(148) Please submit your request *by email*.

(149) You should solve the problem *with your mathematical skills*.

(150) First he saluted *military-style*.

(151) Then he jumped the fence *cowboy-fashion*.

(152) She arranged the pictures *clockwise*.

The last category in the *MANNER* domain has provisionally been labeled '*PLAIN MANNER*'. These items characterize or assess the physical quality or value of an action or process (*quickly*, *strongly*, *sharply*, *nicely*, *badly*) or the human propensities involved (*proudly*, *nervously*, *eagerly*, *kindly*) in a rather subjective way. Morphologically these meanings are primarily rendered by de-adjectival *ly*-adverbs, which, as already mentioned in Section 2.3.4, supply the major reservoir for adverbial perspectivizing even if they may be involved in interfaces with circumstancing in certain cases (see Section 9.1.1). However, to the extent that *PLAIN MANNER* is expressed by prepositional phrases, the resulting utterances are typical instances of the participant/circumstance interface and are equipped with the end-focus of the VMC (153–154).

(153) She sliced the salmon for the sandwiches < *with CARE* >.

(154) The police car passed us < *at great SPEED* >.

### 8.2.7 Participant/circumstance interfaces: An overview

Rounding off the discussion of circumstances and their interfaces with VMCs, Table 10 provides an overview which shows that the availability of linking processes varies markedly between different semantic domains – a variability that defies the classification offered by most valency grammars, but is quite well accommodated in the concept-linking framework.

**Table 10.** Circumstances in concept linking – an overview

SEMANTIC ROLES	VMC integration	Participant/circumstance interfaces	Circum-stancing only
PLACE/POSITION			
DIRECTION (SOURCE/COURSE/GOAL)			
TIME WHEN			
TIME DURATION			
TIME FREQUENCY			
NUMBER FREQUENCY			
PERIOD FREQUENCY (MANNER FREQUENCY*)			
MANNER			
AGENT (in passive constructions)			
INSTRUMENT			ACCOMPANIMENT
METHOD			
PLAIN MANNER (prep. phrases only)			

\*Adverbs of manner frequency are primarily used as perspectivizers

### 8.3 Participant/circumstance interfaces, prepositional verbs and phrasal verbs

Since on the surface both prepositional and phrasal verbs comprise more than one word, they tend to be treated together in linguistic descriptions. The result is often consternation about why these multi-word verbs and their particles – which are

partly classified as prepositions, partly as adverbs or as items belonging to both classes – behave so differently (Qu: 16.2; 16.12).

Viewed within the concept-linking framework, the differences are not surprising. Particles like *in*, *out*, *up*, *down*, which directly reflect individual orientational image schemas (Section 2.7), as well as particles that express a combination of these schemas, such as *over*, *under*, *along*, *across*, *around*, are employed in two different ways:

- Used as *preposition*, the particle provides access to circumstances like *LOCATION*, *TIME*, *MANNER*, etc. and can be involved in interfaces between these circumstances and participants of VMCs.
- Used as ‘ad-verb’ (literally understood as ‘ad’+‘verb’), the particle does not rely on a relationship with an ensuing nominal concept, but is directly attributed to a verbal concept that it modifies by way of semantic attraction.

These two different interpretations of particles and their consequences for an understanding of prepositional verbs and prepositional phrases on the one hand and of phrasal verbs on the other hand will be discussed in the following sections.

### 8.3.1 Constructions with prepositional verbs as interfaces

As summarized in Table 10 above, the participant/circumstance interface is typically realized in the interaction of VMCs with adverbial prepositional phrases or complex adverbs, i.e. phrases that are semantically assignable to circumstances like *PLACE*, *DIRECTION*, *TIME* and *MANNER*. Yet if one looks at examples like (155–157), the nominal phrase following the preposition does not really denote a specific circumstance; instead it seems to refer to a concept that might be equally well used as a *PATIENT* or *RECIPIENT* participant in a VMC, giving rise to an interpretation as ‘prepositional verb+prepositional object’.

(155) He never asks for advice.

(156) Why did you stare at that picture?

(157) We thanked the host for the invitation.

In some cases the analysis is also supported by passive constructions, in which the preposition stays with the verb (and is not tied to the fronted nominal element of the prepositional phrase, as in (158; Qu: 16.14). However, contrary evidence is supplied by the fact that the whole prepositional phrase can be fronted in active constructions (159) or that an adverb can be inserted between the verb and the prepositional phrase (160), two features corresponding to the behavior of prepositional phrases used as circumstances (Qu: 16.13).

- (158) Our advice was never asked for.
- (159) For our advice nobody ever asked  
(although we would have been happy to give it).
- (160) Nobody ever asked seriously for our advice.

These findings lead Quirk et al. to permit two conflicting types of syntactic analysis for the construction of ‘verb+prepositional phrase’, a somewhat disappointing result.<sup>33</sup>

Yet from the concept-linking stance this interpretational impasse turns out to be the hallmark of a construction that combines advantages of VMCs and circumstancing in a special variant of the participant/circumstance interface. The label *PPP interface* (for Participant/Prepositional Phrase interface) is used to emphasize the fact that the prepositional phrase involved does not render a prototypical circumstance (*LOCATION, TIME, MANNER*), as already suggested, but is closer to a *PATIENT* or *BENEFICIARY* meaning. Compare the annotated version of some of the above examples provided in Figure 15.

As shown in the diagrams of Figure 15, the *PREDICATOR* of the VMC, relying on the lexical meaning of the verbal element (*ask, thank*), provides the mediation between the subject participant and the prepositional phrase as a (first or second) postverbal participant. One of the effects is that the prepositional phrase receives the end-focus of the construction (with the nucleus on the stressed syllable of its nominal element). In addition, the VMC permits passivization in constructions with suitable activity verbs (e.g. *Our advice was never asked for*).

However, the contribution of the prepositional phrase to the interface is not negligible either, adding as it does the semantic attraction of attribution, which in turn is guided by the meaning of the preposition. Contrary to a widespread opinion, these prepositions are not arbitrarily chosen and then conventionalized, but represent conceptual aspects that are important for the overall meaning of the respective construction. This is best illustrated by examples in which many different prepositions are coupled with the same verb, e.g. with *look* (161). Even where the constructional meaning primarily relies on the verbal concept and is therefore less dependent on the meaning of the preposition, different prepositions will usually indicate a difference in meaning (e.g. *talk to s.o.* is more goal-oriented than *talk with s.o.*) or a different stylistic level (*talk of* is more formal than *talk about*) – see (162–163).

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33. The two interpretations offered by Qu (16.5) are ‘He (S) never asks (V) for advice (PP as ADV)’ vs. ‘He (S) never asks for (Vprep) advice (Oprep)’. Ditransitive constructions (*He thanked the host for his invitation*) are explained in a similar way.

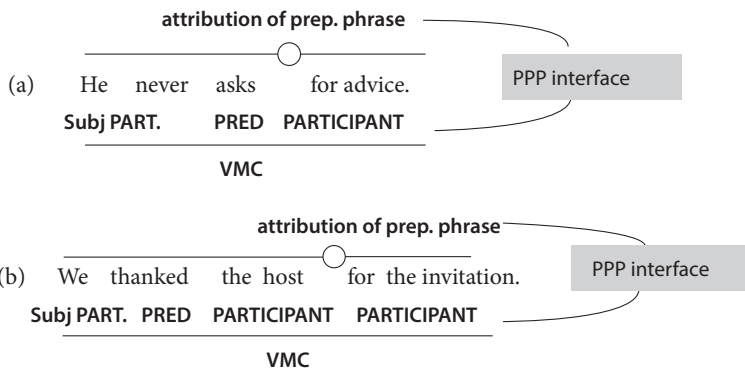


Figure 15. Participant/Prepositional Phrase (PPP) interface

- (161) *look*: look at sth. vs. look for sth. vs. look to sth. vs. look into sth.  
 vs. look after sth. vs. look up to s.o. vs. look down on s.o., etc.
- (162) It is difficult to *talk to* Peter.  
 vs. I got a good feeling from *talking with* him.
- (163) The English always *talk about* the weather.  
 vs. My grandfather and his friends *talked of* old times.

All in all, one may claim that an analysis based on the PPP interface (as a variant of the participant/circumstance interface) is superior to traditional approaches in accounting for the structural characteristics of prepositional verb constructions and their semantic range.

One of the questions that is left open is whether a dividing line can and should be drawn between these prepositional verb interfaces and genuine participants of VMCs. Or more precisely: When do items that could be regarded as RECIPIENT or BENEFICIARY participants of agent-driven constructions qualify as such? Obviously, the full participant status is justified as long as a CAUSE-RECEIVE construction is linguistically realized as a specific form/meaning pairing, with the RECIPIENT or BENEFICIARY placed before the PATIENT participant ('positional indirect object' in traditional terminology; see (164–165)). If the alternative variant with the preposition *to* or *for* is chosen and the element is placed after the PATIENT participant, as in (164'–165'), this PPP interface suggests a different form/meaning pairing that arises from the combination of verbal and prepositional meaning.<sup>34</sup>

34. This view is also indirectly supported by H and P for constructions with prepositions as “non-core complements” when – within their otherwise conventional description – they state that “the preposition characteristically makes a contribution to identifying the semantic role of the NP” (H and P Chapter 4; 7.3.2, p. 216).



(164) He gave *his grandmother* the present.

(164') He gave the present *to his grandmother*.

(165) Can you get *me* the newspaper?

(165') Can you get the newspaper *for me*?

Since in (164–165) the construction is supported by fairly prototypical verbal concepts, i.e. GIVE (+RECIPIENT) and GET (+BENEFICIARY), the difference between the two constructions will be small. If, however, the construction relies on a verbal concept that is more marginal for the CAUSE-RECEIVE CONSTRUCTION, e.g. DESCRIBE (+RECIPIENT), as in (166), or PAINT (+BENEFICIARY), as in (167), the contribution of preposition-guided attribution, as it occurs in the interface, is of greater importance and the alternative of the positional indirect object is no longer available (166') or at least problematic (167').

(166) He described the situation *to her*.

(166') \*He described *her* the situation.

(167) The little girl painted a picture *for her dad*.

(167') ?\*The little girl painted *her dad* a picture.

As shown by these examples, preposition-guided attribution even tends to make inroads into what is regarded as safe territory of verb-mediated constructions – a further proof of how powerful interfaces are in concept linking.

### 8.3.2 Constructions with phrasal verbs

Why are constructions with phrasal verbs different from prepositional verb interfaces though many particles of phrasal verbs are also used as prepositions? As already mentioned in the introduction of Section 8.3, particles and prepositions may share their image-schematic base, but they are integrated into the concept-linking mechanisms in different ways.<sup>35</sup>

While prepositions guide the attribution of circumstances (and of other prepositional phrases; see Section 8.3.1), particles of phrasal verbs are best understood as 'ad-verbs'. This means that they are directly linked to suitable verbal elements by modifying attribution – very much like adjectives are attributed to nouns in

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35. Compare Qu (16.2), where a distinction is made between items used only as prepositions (*against, among, at, beside, for, from, into, of, with, etc.*), items used only as adverbs (*ahead, aside, away, back, forward, etc.*) and a third group used in both functions, among them very common items (*in, out, up, down, about, after, around, by, away, off, over, under, round, through, etc.*).

modifier-head combinations (Section 2.2.1). In other words: Used as particles, items like *in*, *out*, *up*, *down*, *over*, *under*, *away*, etc. require a directed-motion verb (168, 170) or a caused-motion verb (169), to which their conceptual content of locative orientation is linked by means of semantic attraction. If this condition of attribution is fulfilled, the particles need not be accompanied by the nominal concept of a circumstance – the context can be gleaned from the speech situation (168) or derived from the speaker/hearer’s encyclopaedic knowledge (169). If the particles of phrasal verbs are often presented as elliptic versions of prepositional phrases, the ‘full’ version should be regarded as a paraphrase, not as a structural base (170).

(168) Do come *in*. Put your rucksacks *down*.

(169) The employers sent hundreds of job applicants *away*.

(170) The host, the hostess and their helpers were running *up* (to the roof garden) and *down* (into the kitchen).

Phrasal verbs would not be as important for the English language if the underlying orientational image schemas (IN–OUT, UP–DOWN, FRONT–BACK, etc.) did not invite a host of figurative uses of the verbal concepts involved. A tiny selection is provided in (171–175), with the figurative applications reflecting the semantic gradient from locative meanings (171–172) through continuative/completive meanings (173–174) to idiomatic meanings (175) (Qu: 16.12).

(171) The student dropped *out* (i.e. out of school).

(172) The workers walked *out* (i.e. went on strike).

(173) Once he had started, he worked *away* (like mad).

(174) Drink *up* (we are waiting for you).

(175) I must look the word *up* in the dictionary.

Another reason for the multiplicity of applications is that VMCs with phrasal verbs are not restricted to the ‘intransitive’ type of verb+particle. Compare (176–177), where this construction is contrasted with a VMC that includes an additional post-verbal PATIENT participant.

(176) The students dropped *out*.

(177) The students locked the teacher *out*.

This ‘transitive’ structure (to use traditional terminology) shows how close constructions with phrasal verbs can be to the AGENT–PREDICATOR–PATIENT sequence of prototypical VMCs. The parallels are even more striking when verbal elements with prefixes, such as *overtake*, *underrate* or *outreach*, are considered, also prototypical VMCs in which the prefix is rooted in an orientational image schema. That

this structural parallelism may be used to express a semantic contrast is shown in (178–179).

(178) The sports car *overt*ook the tractor.

(179) Volkswagen has taken *over* many smaller car manufacturers.

The special status of the particle in phrasal verbs also shows up in their focusing and stress behavior. The status as additional ad-verb seems to ensure that it survives as a separate linguistic item. If there is no other postverbal element in the construction, the particle (and not the lexical verb) receives the nucleus of the focused part of the message (180). In constructions with a PATIENT participant the particle retains the focus if it is placed after the participant (181) – which is obligatory after pronouns (181'). In its more frequent position after the lexical verb form, the particle loses the focus to the final participant, but is left with the word-internal primary accent, still an unusual accent distribution in English (182).<sup>36</sup>

(180) // Starlets < **show OFF** > // (wherever they can).

(181) // The employers sent hundreds of job applicants < **aWAY** > . //

(181') // The employers sent them < **aWAY** > . //

(182) // Internet dealers often take 'in < **their CUS**tomers > . //

A natural conclusion to this section is provided by the analysis of what is traditionally called phrasal-prepositional verbs. As shown for *put up with* in Figure 16, this construction consists of the VMC, an orientational particle attributed as ad-verb to the predicator and an interface between a postverbal participant and an attributed prepositional phrase.

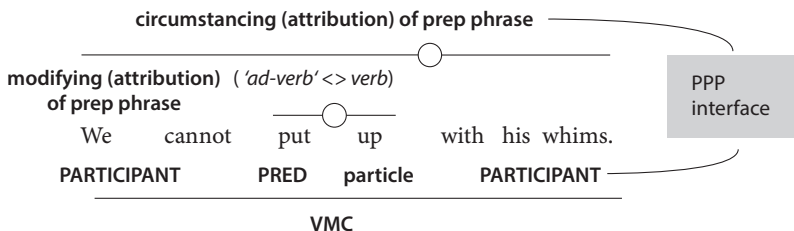


Figure 16. Analysis of construction with phrasal-prepositional verb

36. Yet front accent applies in nominalized phrasal verbs, e.g. 'walk-out, 'show-off.

## Interfaces of perspectivizing and attribution (adverb interfaces)

Although interfaces between the concept-linking mechanisms of perspectivizing and attribution are perhaps not as essential for communication as interfaces between attribution and VMCs, they may nevertheless contribute to our understanding of some puzzling linguistic phenomena such as the positioning of *ly*-adverbs and, in particular, the use of suffixless ‘adjectival adverbs’ to express both *MANNER* and *DEGREE* concepts.

### 9.1 Interfaces of perspectivizing and circumstancing

#### 9.1.1 Clause-final manner adverbs as interfaces

It is well known that a number of *MANNER* concepts can be expressed either by a prepositional phrase or an *ly*-adverb, evidently with little difference in meaning or communicative effect as long as the item is used in clause-final position, as in (1–2).

- (1) She revised the manuscript *with care*.
- (2) She revised the manuscript *carefully*.

For the prepositional phrase this can be seen as the standard position; it agrees with its status as participant/circumstance interface discussed in Section 8.2.6.<sup>1</sup> But why is the clause-final position also available for the *ly*-adverb *carefully*? As first claimed in Section 2.3.4, de-adjectival *ly*-adverbs function in concept linking by way of perspectivizing and scope; their prototypical position is scope-initial, which for manner adverbs would mean the position before the lexical verb form (*He carefully revised the manuscript*). If the adverb is used in clause-final position, as in (2), this may be explained by the principle that adverbs need not be placed scope-initially if their lexical meaning fully supports the intended perspective, in this case the *MANNER* perspective. Yet this only explains why the clause-final position is possible, not why it is preferred to the scope-initial position in certain contexts.

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1. The only positional alternative is the clause-initial position, which has a scene-setting effect with a dramatic undertone. Compare: *With great care he revised the manuscript*.

The justification of this preference is that the adverb need not be seen as a perspectivizer only; it can also be interpreted as a *MANNER* circumstance similar to the prepositional *MANNER* phrase *with care*. This means that the clause-final *ly*-adverb involves two interfaces, i.e. the interface between perspectivizing and a prepositional phrase that already functions as an interface (see Section 8.2.6).<sup>2</sup> One consequence of this interface – henceforth ‘*clause-final adverb interface*’ – is that clause-final *ly*-adverbs expressing *MANNER* such as *carefully* gain a footing in the VMC which helps them to claim the end-focus of a postverbal participant for themselves. Compare Figure 17 for an annotated representation.

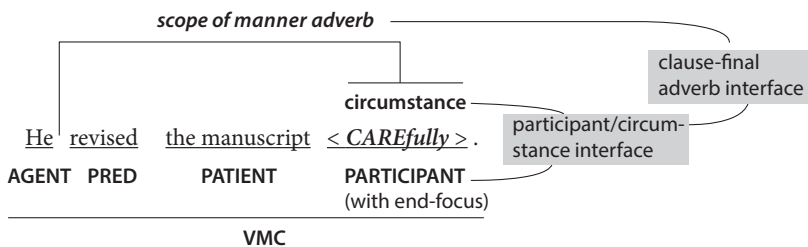


Figure 17. Clause-final adverb interface

The clause-final adverb interface is quite a widespread phenomenon because it is not restricted to adverbs paired with prepositional phrases, such as *accurately/with accuracy*, *efficiently/with efficiency*, *luxuriously/in luxury*, *differently/in a different way*. It also applies where no parallel prepositional phrase is available, for instance to the process-related adverbs *automatically*, *comfortably* and *inhumanely*. Here the *MANNER* concept could be expressed by other positions of the adverb as well (3–5), but the clause-final position is chosen to achieve its focal prominence, as indicated in (3'–5').<sup>3</sup>

- (3) The program *automatically* blocks most junk mail.
- (3') The email program blocks most junk mail < *autoMATICally* >.
- (4) The elderly couple *comfortably* lived in their old flat.
- (4') The elderly couple lived in their old flat < *very COMfortably* >.
- (5) The inmates were *inhumanely* treated in the prison/were treated *inhumanely* in the prison.
- (5') The inmates were treated in the prison < *quite inhuMANEly* >.

2. Technically, the clause-final adverb interface could therefore be regarded as a ‘second-order interface’. For another example of this type of interface, the *for*+ noun+infinitive construction, see Section 10.3.1.

3. Clause-final manner adverbs are often accompanied by degree adverbs like *very*, *quite*, etc., which strengthen the effect of the manner adverb – see (4'–5').

However, the clause-final adverb interface becomes even more important when it not only guarantees the end-focus, but also marks off process-oriented *MANNER* meaning from other adverbial meanings. Compare (6–8), where the clause-final position of the adverbs *philosophically*, *honestly* and *seriously* signal the process-related *MANNER* meaning, while the alternative positions of the adverb are understood as expressing characteristic behavior (person-oriented *MANNER*) (6') or speaker-related *VIEWPOINT* (7'–7'', 8').

- (6) The professor explained the problem *philosophically*.
- (6') *Philosophically* he declined/he *philosophically* declined to provide a final judgment.
- (7) We didn't talk to him *honestly*.
- (7') I *honestly* didn't like him at all.
- (7'') *Honestly* I didn't like him at all.
- (8) You never take my problems *seriously*.
- (8') *Seriously*, he never cares about what I think.

Summing up, one can claim that the concept-linking approach provides a fairly comprehensive explanation of the use and positioning of de-adjectival *ly*-adverbs: Their clause-internal (and clause-initial) positions can be explained by the mechanism of perspectivizing and scope (which favor the scope-initial placement and often a person-oriented functional meaning; see Section 2.3.4); the clause-final use of these adverbs can be understood as an adverb interface which combines the potentials of perspectivizing, circumstancing and postverbal VMC participant to express a process-oriented meaning.

### 9.1.2 Clause-final position of frequency and viewpoint adverbs: Interface or afterthought?

What the examples of *ly*-adverbs discussed in the last section had in common was that they permit a *MANNER* interpretation, which is strengthened in clause-final adverb interfaces. Whether the same kind of interface effect is at work with respect to clause-final frequency adverbs, both de-adjectival *ly*-adverbs (9–10) and non-derived 'original' adverbs (11–12), is less certain.

- (9) Peter plays truant from school quite *regularly*.
- (10) Susan takes a taxi *occasionally*.
- (11) I bring Grandma a bunch of flowers *sometimes*.
- (12) I don't meet Peter very *often*.

Although these adverbs tend to render a *MANNER*-influenced concept of *FREQUENCY* (expressing the way in which an event takes place; see Section 8.2.5), they do

not as much depend on genuine verbal action concepts as process-related manner adverbs do, and this is also reflected in the assignment of the end-focus of the VMC. While it is possible to regard frequency adverbs in end position as adverbs within a clause-final adverb interface (9', 12') that comes with the end-focus potential of its VMC footing, this interpretation is not required if the PATIENT participant deserves more prominence (10'). In this case the final position of the adverb can be explained as the non-prototypical position of a perspectivizer. Finally, frequency adverbs can be used as a kind of *afterthought*, added after a pause that justifies assuming a separate intonation unit with a separate nucleus; this leaves the end-focus on the postverbal participant of the VMC – compare (11') as opposed to (9') and (12').

(9') // Peter plays truant from school < **quite REgularly** >. //  
 clause-final adverb interface\*

*scope of frequency adverb*

(10') // Susan takes < **a TAXi** > *occasionally*. //  
 non-prototypical position of perspectivizing adverb

(11') // I bring Grandma < **a bunch of FLOWers** > // < **SOMEtimes** >. //  
 separate intonation unit as  
 afterthought

(12') // I don't meet Peter < **very OFten** >. // clause-final adverb interface\*  
 \*with end-focus inherited from VMC footing

Of course, clause-internal positions (preferably adjacent to the first auxiliary or the main verb) are widespread and also offer satisfactory communicative solutions based exclusively on the effects of perspectivizing (9''–12'').

(9'') Peter *regularly* plays truant from school.

(10'') She *occasionally* takes a taxi.

(11'') I *sometimes* bring Grandma a bunch of flowers.

(12'') I don't *often* meet Peter.

Moving from frequency adverbs to *ly*-adverbs of viewpoint, the interface solution is not possible. Rare as it is, the clause-final position should here be regularly understood as an afterthought marked by a separate intonation unit as in (13–14); this separate intonational status is also possible with the clause-initial position of viewpoint adverbs (13'–14').

(13) // He didn't answer < **my PHONE call** > // < **surPRI**singly >. //

(13') // < **SurPRI**singly > // he didn't answer < **my PHONE call** >. //

(14) // He didn't turn up < **at the PARTy** > // < **FORT**unately >. //

(14') // < **FORT**unately > // he didn't turn up < **at the PARTy** >. //

## 9.2 Adjectival adverbs

While the interfaces between perspectivizing and attribution discussed so far combine perspectivizing with circumstancing attribution, there are also interfaces in which perspectivizing is better understood as being coupled with modifying attribution. In other words: Apart from interfaces that only concern adverbs and adverbial phrases, there are interfaces involving items that are called adverbs in one context and adjectives in another, which will be the topic of this section.

### 9.2.1 Adjectival adverbs as interface phenomenon

Considering the examples with *tight* in (15–19), the label ‘adjective’ would generally be accepted for adjective-noun modifying (15) and for the use of *tight* in a copula/modifier interface (16), a status that could – preliminarily – be extended to constructions with perception verbs like *feel* (17); see Section 8.1.3. As for adverbs, a clear case is represented by (19), where *tightly* is used as a perspectivizer whose scope includes not only the predicator, but also the ensuing locative circumstance *round the ankle*.

- |   |           |
|---|-----------|
| (15) <i>tight</i> jeans   | adjective |
| (16) The jeans are <i>tight</i> .                                 | adjective |
| (17) The jeans feel <i>tight</i> .                                | adjective |
| (18) Hold <i>tight</i> .  | ?         |
| (19) The bandage must be <i>tightly</i> fastened round the ankle. | adverb    |

This leaves example (18) unexplained, in which the item *tight* would normally be regarded as an adverb rendering *MANNER*, although morphologically it lacks the typical *ly*-suffix encountered in *tightly*, which also expresses the concept of *MANNER*. To emphasize the special status of this and similar suffixless items vis-a-vis perspectivizing *ly*-adverbs,<sup>4</sup> the hybrid label ‘*adjectival adverb*’ was coined long ago (Beckmann 1880).

Indeed, the differences are not restricted to the absence of the *ly*-suffix. As the position of adjectival adverbs in VMCs is tied to the postverbal slot, a scope-initial preverbal position, which is widespread with perspectivizing manner adverbs, is excluded. This not only applies to formulaic combinations like *Hold tight* or *Stand clear*, but also to semantically substantial and collocationally more flexible examples like (20–22), which are contrasted with the ungrammatical versions of (20’–21’’).

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4. Diachronically these adjectival adverbs have developed from Old English forms with an adverbial *e*-suffix (Ungerer 1988: 231–236, 246), but have not systematically accepted the modern adverbial *ly*-suffix.



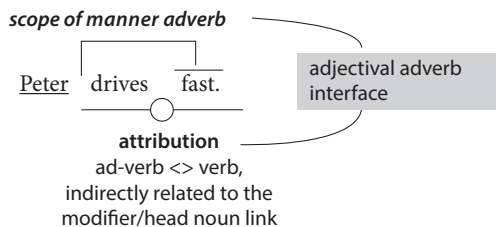
- (20) Many young people drive too *fast*. (20') \*They (too) *fast* drive.  
 (21) Her t-shirt was bought *cheap* in a (21') \*Her t-shirt was *cheap* bought.  
 second-hand shop.  
 (22) He works *hard* in his job. (22') \*He *hard* works in his job.

In (21–22) it even remains open if the scope of the adverb includes other elements apart from the predicator, e.g. the circumstances *in a second-hand shop* and *in his job*. To sum up, adjectival adverbs express a *MANNER* concept like their *ly*-counterparts, but their grammatical function cannot be satisfactorily explained by the concept-linking mechanism of perspectivizing alone.

Looking for alternative explanations, one is struck by the parallels between adjectival adverbs and adjectives as used in copula/modifier interfaces, especially parallels with regard to focusing effects, which seem to stem from the end-focus potential of the copula construction; see the contrasted pairs in (23–26).

- | Action verb + adjectival adverb                        | Copula/modifier interface with adj.           |
|--|---|
| (23) // Hold < <b>TIGHT</b> > .//                      | (23') // The jeans are < <b>TIGHT</b> > .//   |
| (24) // Peter drives < <b>FAST</b> > .//               | (24') // Peter's car is < <b>FAST</b> > .//   |
| (25) // The t-shirt was bought<br>< <b>CHEAP</b> > .// | (25') // Her t-shirt was < <b>CHEAP</b> > .// |
| (26) // Miners work < <b>HARD</b> > .//                | (26') // Their work is < <b>HARD</b> > .//    |

In order to do justice to the influence of both the modifying component of the copula/modifier interface and the scope effect of the perspectivizing mechanism it seems necessary to postulate still another interface, henceforth '*adjectival adverb interface*', which is illustrated for example (24) in Figure 18.



**Figure 18.** The adjectival adverb interface

The overall impression created by Figure 18 is that the interface has its footing in the two concept-linking mechanisms just like other interfaces discussed so far. This is true with regard to perspectivizing; yet for the attributive footing the explanation added to 'attribution' in Figure 18 indicates that the connection with the prototypical attributive modifier/head relationship is only an indirect one. The reason is that in the case of adjectival adverbs the semantic attraction is not directed towards

the nominal concept of the subject element (as in copula/modifier interfaces), but towards the verbal concept – similar to what was already observed for particles in phrasal verbs (Section 8.3.2). Yet while phrasal verbs are based on the attraction between a locative prepositional concept and a verbal concept denoting directed motion or caused motion, adjectival adverbs like *tight*, *fast* and *cheap* represent quality concepts (ADHESION, SPEED, VALUE, INTENSITY), which in turn combine with action concepts (HOLD, DRIVE, BUY, WORK). This is the condition for establishing a genuine ‘ad-verb’ relationship between the adverb and the verbal element – a relationship that has to be kept apart from the mediating function fulfilled by the verb in VMCs between AGENT and PATIENT participants.

This ‘ad-verb’ relationship is not peculiar to adjectival adverbs; it can also be observed in combinations consisting of a perception verb and what is usually regarded as ‘adjective’ (Qu: 4.30); compare the set of examples in (27–31).<sup>5</sup>

- (27) The jeans *feel* tight.
- (28) Their clothes *looked* cheap.
- (29) Your first note *sounds* wrong.
- (30) Many famous cheeses *smell* awful.
- (31) Your cake *tastes* delicious.

Constructions with perception verbs have traditionally been assigned to subject-complement constructions and were therefore included in the first survey of the copula/modifier interface in Section 8.1.3. Yet looking closer one finds that these constructions differ from prototypical copula/modifier interfaces because attribution does not exclusively concern the relationship between the ‘adjectival’ concept (*tight*, *cheap*, *wrong*, etc.) and the nominal head element. Instead, the link expressed is – to some extent at least – a relationship between the ‘adjectival’ concept and the verbal concept of perception (*feel*, *look*, *sound*, etc.), which means that the adjectives also exhibit a certain ‘ad-verb’ quality, suggesting a neighborhood to adjectival adverbs.

This raises the question if the perception-verb construction is also involved in the modifier/perspectivizer interface proposed for adjectival adverbs. Such a conclusion seems justified if – as suggested in Chapter 7 – the interface is seen as a scale extending between the poles of genuine copula constructions and perspectivizing *ly*-adverbs, as illustrated in Table 11. Here the ‘modifying pole’ is represented by Column A, the ‘perspectivizing pole’ by Column D; perception verb constructions and adjectival adverbs are assigned to Columns B and C respectively to indicate their intermediate position on the scale.

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5. To illustrate the range of collocations used with perception verbs the items *awful* and *delicious* are included, which do not function as adjectival adverbs and are not based on the elementary adjectives discussed in the next section.

Table 11. Scale of the modifier/perspectivizer interface for adjectives and adverbs

Modifier/perspectivizer interface scale			
← modifying pole		perspectivizing pole →	
A adjective in copula/modifier interface (after copula <i>be</i> )	B adjective after percep- tion vb. ( <i>look/ feel/ taste/smell</i> )	C suffixless adjectival adv. after action vb.	D <i>ly</i> -adverb as perspecti- vizer of verb + postverbal elements
Example: <i>The jeans are tight. Your cake is deli- cious.</i>	Example: <i>The jeans feel tight. Your cake tastes delicious.</i>	Example: <i>Hold tight. Stand clear.</i>	Example: <i>The bandage must be tightly fastened round the ankle.</i>

### 9.2.2 Adjectival adverbs and elementary adjectives

The adjectival adverbs discussed so far (*tight, fast, cheap, hard*) are not a chance collection, but are extracted from the inventory of what may be called *elementary adjectives* (Ungerer 1988:232–236). These adjectives comprise a limited set, used to conceptualize dimensions, observable physical properties and value concepts – the classification is based on Dixon (2005:381–385).<sup>6</sup> They mostly come in antonymic pairs, sometimes extended into triads, and permit polar gradation in comparison. Morphologically, these adjectives tend to be prototypical members of their word class, i.e. they are mostly short, monomorphic words and not derived from either nouns or verbs. From a concept-linking angle they occur as adjectival modifiers of nominal heads and in copula-modifier interfaces (i.e. as predicative adjectives); they permit the derivation of perspectivizing *ly*-adverbs – and most remarkably in the present context – they supply the reservoir for adjectival adverbs. Table 12 provides an overview that shows to what extent elementary adjectives are used in this function.<sup>7</sup>

Looking at the individual items, one finds that their use as adjectival adverbs is often restricted to certain collocations, which might be regarded as idioms or item-based schematizations (Fillmore et al. 1988), at least in present-day English (32).

6. For a diachronic view of elementary adjectives as a self-replacing system see Ungerer (1988:243–244), for a list of sources see Ungerer (1988:236, fn. 25).

7. Some elementary adjectives are not used as suffixless adverbs: *old, young, new* (dimension); *sweet, sour, bitter* and color adjectives (physical property); *rich, poor* (value). Yet some of them support *ly*-adverbs (e.g. *newly, bitterly, poorly*).

Among the adverbs that combine with several verbal concepts are the dimension items *high*, *low*, and *deep* (33), the physical property items *rough*, *loose* and *loud* (34–35) and the value items *right/wrong* (36).

**Table 12.** Overview of elementary adjectives and their use in interfaces

semantic domains	Important elementary adjectives	Examples of adjectival adverb interfaces
dimension	big, large, small, fine tall, long, short wide, broad, narrow high, low, deep even, flat, plain, straight, far, near, clear, close	talk big, think big, sing small walk tall, cut short open wide fly high, fly low, dive deep break even, stay clear, bring close
perceivable physical property (including speed)	fast, tight, loose  thick, thin heavy, light rough, smooth sharp, blunt hard, firm, soft hot, cold, warm, cool bright, dark loud, low, still, quiet fast, quick, slow strong, weak clean, clear, dirty	stuck fast (in the mud), pack/fit/hold tight, break/cut/tear/let loose cut/slice/spread (butter) thick/thin hang/lie heavy, talk/sleep light live/sleep/treat sb. rough, play (it) rough look sharp, sing (too) sharp hit/work/press hard, play (it) soft give it sb. hot, stop/leave sb. cold fire burns bright, stars shine bright speak/talk/laugh/sing loud drive fast, come quick, go slower go strong, come strong, go week in/at the knees come clean, stand/steer clear of sth., play dirty
value	dear, cheap good, ill, bad fair, foul right, wrong true, false	buy dear, buy/go/come cheap speak/think ill of sb. play/fight fair/foul guess/go right; guess/go/get sth. wrong speak true

(32) talk *big*, think *big*, sing *small*, walk *tall*, go *strong*, play it *soft*, speak *true*, etc.

(33) fly/get/ride *high*, fly/lay/run *low*, dive/dig *deep*

(34) live/sleep/treat sb. *rough*, play (it) *rough*

(35) break/cut/tear/let *loose*, speak/talk/laugh/sing *loud*

(36) guess/go right; guess/go/get sth. *wrong*

While the majority of these adjectival adverbs belong to the *MANNER* category, some are primarily used to express a *DEGREE* meaning (*deep down*, *high up in the air*, *close behind*). This semantic distribution can also be observed with perspectivizing *ly*-adverbs based on elementary adjectives, which exist alongside the

suffixless derivations though with a different meaning and function. As far as these *ly*-derivations render a *MANNER* meaning, the general description of manner adverbs in Section 2.3.4 applies; their use as degree adverbs will be discussed in the next section.

### 9.3 Perspectivizing, modifying and interfaces to express *DEGREE*

When degree adverbs were introduced in Section 2.3.4, care was taken to select *ly*-adverbs with a dominant *DEGREE* meaning (*totally, entirely, completely, slightly, barely*), which could be explained as forthright instances of perspectivizing. However, such degree-dominant adverbs are rather the exception. In most cases, degree adverbs are secondary (often metaphorical) applications of linguistic items which in their literal meaning render different types of non-degree concepts and occur in different concept-linking mechanisms. With this in mind, a threefold classification of degree adverbs will be proposed:<sup>8</sup>

- [1] De-adjectival *ly*-adverbs with a basic *MANNER* meaning, which comprise a number of *ly*-adverbs derived from elementary adjectives, such as *strongly, highly, deeply, sharply* and *widely*, but also adverbs with other roots, e.g. *vigorously, completely, sufficiently, relatively, slightly*, finally adverbs with a basic emotional meaning, e.g. *tremendously, terribly, awfully, dreadfully, wildly*.
- [2] Suffixless adjectival adverbs, which have diverse qualities as their basic meaning, e.g. *very, pretty, real, damn, bloody, mighty*, again including a number of adverbs derived from elementary adjectives, such as *deep (down), high (up), close (behind)*.
- [3] Adverbs based on measure expressions, e.g. *much, little, a lot, a great deal*, plus the determiner-based items *sort of* and *kind of*.

These three groups will be discussed in the following sections with an eye on how the major mechanisms of concept linking are applied; the claim is that degree expressions make use of all three mechanisms and also of interfaces.

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8. Correlative degree adverbs (*so quickly that, too quickly to*) will be neglected here. See Ungerer (1988: 283–286).

### 9.3.1 *ly*-adverbs of degree as perspectivizers

Starting with the first of the above groups (de-adjectival *ly*-adverbs), it is obvious that the use of the first subclass (items like *vigorously*, *strongly*) is strongly influenced by the concept-linking behavior of the underlying perspectivizing manner adverbs, no matter how prominent or weak the *MANNER* meaning may be. This means that the rules for perspectivizing process-oriented manner adverbs apply to this type of degree adverb: Their scopes normally comprise the predicator and post-verbal participants (37–38)<sup>9</sup>, but they do not usually occur with minimal scopes over adjectives and adverbs (38') except participles (*supported* in (39)), especially when the *MANNER* meaning of the adverb is dominant.

*scope of degree adverb*

(37) She *vigorously* dislikes fancy dress parties.

*scope of degree adverb*

(38) He *strongly* recommended the local plumber for the repair.

(38') \*He was *vigorously/strongly/bitterly* angry.

*scope of degree adverb*

(39) a *strongly* supported motion

Adverbs like *entirely*, *completely*, *slightly*, which were characterized as degree-dominant above, admit minimal scopes over adjectives and adverbs more readily (40) and so do *ly*-adverbs derived from elementary adverbs of dimension like *highly* and *deeply* (41), but even here the actual realization is dependent on the grade of conventionalization acquired by individual collocations of adverb and adjective.

*scope of degree adv.*      *scope of degree adv.*      *scope of degree adv.*

(40) *completely* stupid      *entirely* wrong      *slightly* nervous

*scope of degree adv.*      *scope of degree adv.*

(41) *highly* successful/intelligent      *deeply* sorrowful/emotional

Due to the influence of *MANNER* perspectivizing, the scope of these degree adverbs is also limited as they are dominated by *not*-negation (42) and by various adverbial perspectives (*VIEWPOINT*, *TIME*, *FREQUENCY*) as well as emphaziers (43).

9. In example (37) and some of the following examples the scope is indicated in a rather restricted way, without the use of weak lines for extensions (see Section 2.3.4).

- scope of not-negation*
- scope of degree adverb*
- (42) The case was *n't sufficiently* investigated.  
\*... was sufficiently not investigated.

- scope of emphazer adverb*
- scope of degree adv.*
- (43) He *really completely* removed all doubts about the project.  
\*He completely really removed all doubts.

The second subclass of *ly*-degree adverbs (items like *tremendously*, *terribly*, *awfully*, *amazingly*, *incredibly*), which express strong emotional attitudes, are often less restricted in their perspectivizing behavior than their *MANNER*-based counterparts. If one goes by the original lexical meaning of the underlying adjectival concepts, these adverbs tend to denote an extreme position, either in a positive or negative sense (44–48), even if their meaning is duly weakened by constant use and quick ‘wear’. What is grammatically relevant is that these emotions can be related to verbal actions and adjectival qualities alike. The effect is that the scope of these adverbs is quite variable; in fact, they occur with verb-encompassing scope (44–45), but more often with scopes restricted to individual adjectives (46–47) and also adverbs (48).

- scope of degree adverb*
- (44) She *tremendously* likes fancy dress parties.

- scope of degree adverb*
- (45) She *tremendously* dislikes/abhors fancy dress parties.

- scope of degree adverb*
- (46) No doubt, he's *incredibly* stupid.

- scope of degree adverb*
- (47) This wasn't an *awfully* helpful response.

- scope of degree adverb*
- (48) He didn't react *terribly* helpfully.

If one tries to compare and assess the concept-linking potential of de-adjectival *ly*-adverbs of degree, the two subclasses overlap to some extent, but do not complement each other. Emotion-based *ly*-adverbs of degree (*tremendously*, etc.) can be used with variable scopes; semantically, however, they tend to denote a maximum or at least a very high grade, but do not cater for the lower stages on the *DEGREE* scale. By contrast, the less emotional *MANNER*-based *ly*-adverbs provide a much more comprehensive

coverage of the *DEGREE* scale, ranging e.g. from *vigorously*, *violently*, *strongly* to *sufficiently*, *relatively* and on to *mildly*, *slightly* and *scarcely*; yet they do not all permit small scope perspectivizing of adjectives and adverbs. To bridge these usage gaps, other types of degree adverbs and other linking mechanisms are used. This leads on from *ly*-adverbs to the second group of adverbs listed above (suffixless adjectival adverbs) and from the linking mechanism of perspectivizing to modifying attribution.

### 9.3.2 Adjectival adverbs of degree as modifiers

As first proposed in Section 2.2.1, the model case of modifying attribution occurs in the pairing of adjacent adjectival and nominal constituents (modifier-head pairs) and is based on semantic attraction. That this type of concept linking can be transferred to other links was discussed in the context of ‘ad-verb’ attribution (Section 9.2.1). This granted, one may assume that suitable degree adverbs can be linked to adjacent items, be it adjectives, adverbs or even prepositions, by way of semantic attraction, resulting in ‘ad-adjectives’, ‘ad-adverbs’ and even ‘ad-prepositions’.

The prime example for this kind of modifying degree adverb is, of course, the item *very*; other candidates are *real*, *right* and *pretty* as well as *damn*, *bloody*, *dead* and *mighty*.<sup>10</sup> In line with the characterization of attribution as a local effect (Section 2.2.1) these adverbs are primarily used with adjacent adjectives (49–54) and – some of them – also with adverbs (55–56).<sup>11</sup> The modification of verbal elements (plus complements) is excluded (57–58).

- (49) That’s a very nice story.
- (50) He’s real good at badminton.
- (51) It’s a pretty nasty business.
- (52) It’s a *damn/bloody* good idea.
- (53) I’m *dead* certain that Dad has got the phone number wrong.
- (54) Oh, that’s *clean* stupid.
- (55) I *very* patiently waited for an answer.
- (56) He got the message *pretty* quickly.
- (57) \*I very liked your story.

10. The well known register background of these adverbs (standard, substandard variety) will not be discussed here.

11. This also means that adjectival adverbs like *very* and *pretty*, sometimes compete with *ly*-adverbs of degree. Compare *very/tremendously successful*, *pretty/highly intelligent*.



(58) \*He real works hard.

Being restricted to the modification of the adjacent item, these adjectival adverbs can complement *MANNER*-based *ly*-adverbs that also express *DEGREE* (*very nice, pretty interesting*) while *bloody* and *mighty* compete with emotion-based *ly*-adverbs – compare *a bloody good idea* with *an awfully good idea*.

The analysis as modifiers is also helpful when one returns to a group of adjectival adverbs derived from elementary adjectives denoting dimensions (Section 9.2.2). These items are not only used to express *MANNER*, but also occur in connection with locative prepositions, such as *high, deep, wide, far* and *close*. Apart from being used to express *MANNER* concepts (e.g. *fly high, dive deep*), they frequently precede locative prepositions as in (59–60).

- (59) high ○ up (in the air)      deep ○ down (in the lake)  
wide ○ off (the mark)      straight ○ down (the road)
- (60) close ○ behind (the winner)      close ○ by the shop entrance  
far ○ away (from the city)

Semantically this use may hover on the borderline between *MANNER* and *DEGREE* meanings, but the concept-linking mechanism employed is modifying attribution (realized as ‘ad-preposition link’) rather than perspectivizing.

### 9.3.3 MEASURE-based degree adverbs

While the *DEGREE* meaning of most adverbs discussed so far is based on an underlying dimension or *MANNER* meaning, the use of items like *much, (a) little*<sup>12</sup>, *all, a lot, a great/good deal, heaps, a bit* to express *DEGREE* can be understood as rooted in the concept of indefinite quantity<sup>13</sup> or the semantic role of *MEASURE*.<sup>14</sup> Used in this function, *much, little, a lot* etc. mainly occur with relational verbs like *weigh, cost, contain*, but also

12. To limit the discussion, the comparative and superlative forms of *much* and *little* are neglected here, nor will the sensitivity of *much* towards polarity be discussed. Compare Ungerer (1988: 276–281).

13. ‘Quantity’ is the term used in semantic descriptions of quantitative determiners in present-day English; however, ‘MEASURE’ is preferred in the following as better supporting the status of VMC participant for these items.

14. Seen historically, *much, little* and *all* go back to Old English case forms expressing *EXTENT, MEASURE* and *DEGREE* (Mitchell 1985: § 1381–1385, 1414). Several other expressions have developed from concrete measure terms, e.g. *a lot* ‘a large number’ (19th cent.) < ‘a plot of land’ and *a bit* ‘small piece’ (16th cent.) < ‘a portion bitten off’ (Hoad 2003).

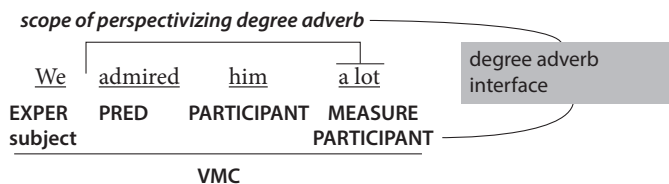
with verbs denoting physical actions, such as *eat*, *drink* and *work*, all of them based on non-gradable concepts. Although the concept-linking status of these MEASURE expressions is not easy to pinpoint, they may pass as postverbal VMC participants (61–62).

- (61) My first laptop cost *a lot*. The last one didn't cost *much*.  
 (62) Sorry, Grandma, but I can eat only *a bit* today.

However, the situation is different if these MEASURE items are applied to gradable verbal concepts, e.g. to verbs expressing a mental attitude like mourning or admiration. Here their semantic effect is no longer interpreted as merely rendering MEASURE, but is understood as primarily expressing a specific grade of intensity or DEGREE, which puts them on a par with *ly*-adverbs like *terribly* and *greatly* and justifies their labeling as adverbs. Compare (63–64) with (63'–64').

- (63) We miss Grandma *a great/good deal*.  
 (63') We *terribly* miss Grandma.  
 (64) We admired him *a lot* for his eloquence.  
 (64') We *greatly* admired him for his eloquence.

From a concept-linking stance this means that the adverbial phrases *a great/good deal* and *a lot* in (63–64) can no longer be simply regarded as participants of the VMC, although they do not give up their postverbal position in favor of the scope-initial placement of *terribly* and *greatly* in (63'–64'). In fact their semantic influence is not only changed, but also extended to include other participants of the VMC (e.g. *for his eloquence* in (64)), as is typical of perspectivizing adverbs. This suggests an interaction between the MEASURE function in VMCs and perspectivizing, a situation best described as interface between VMC participant and perspectivizer – henceforth this variant will be called *degree adverb interface*. Compare Figure 19 for an annotated analysis.<sup>15</sup>



**Figure 19.** Degree adverb interface (as a variant of the participant/perspectivizing interface)

15. Although the degree interface does not belong to the category of perspectivizing/attribution interfaces (announced as topic in the heading of the chapter), but functions as an interface of perspectivizer and VMC participant, it is dealt with here to keep the degree adverb phenomena together.

Turning to *much* and *little*, these adverbs seem to function in the same way as *a lot*, etc.; yet on a closer look one finds that the influence of perspectivizing is even stronger. Like *a lot* and *a great deal*, the items *much* and *little* occur in the postverbal position (65). Yet, unlike *a lot* and *a great deal* the items *little* and *much* can also be placed in a preverbal scope-initial position; here they are so close to the perspectivizing function of *ly*-adverbs of degree that it seems appropriate to analyze them solely in terms of perspective and scope (66).

(65) He doesn't think *much* about how to earn his living.

Interface MEASURE participant/perspectivizing

*scope of perspectivizing degree adverb*

(66) He doesn't *much* think about how to earn his living.

This recalls the introductory remarks on interfaces in Chapter 7 that interfaces should basically be regarded as scales whose poles are taken up by the two footings (MEASURE participant and perspectivizing degree adverb in this case). If such a scale is assumed, *much* and *little* will be placed closer to the perspectivizer pole than *a lot*, *a great deal*, etc.. However, tidy as the explanation as degree interface may appear, it does not explain why these measure-based adverbs can be used as modifiers of adjectives and adverbs, at least of their comparative forms (67–68) and – in the case of *much* – as modifiers of the superlative form (69).<sup>16</sup>

(67) A new car is *a great deal/much* faster than a vintage car.

(68) The destination was *much* more quickly reached than predicted by GPS.

(69) This is *much* the best road map I have come across recently.

True enough, there may be diachronic reasons at least with regard to the use of *much* and *little*, which go back to Old English dative and instrumental case forms that were widely employed in comparisons (Mitchel 1985: 1414–15). Another explanation would be that the quantitative determiners *much*, *little*, *a lot*, *a great deal* have been transformed into modifying 'ad-adjectives' (67, 69) and 'ad-adverbs' (68), a development quite feasible within the mechanism of attribution.

Finally attention should be drawn to the combination of degree adverbs represented by *very much*. Here the semantic attraction of the ad-adverb *very* is fused with the MEASURE-derived adverb *much*, which permits the scope-initial position as well as the extension of its scope beyond the verbal element. As a result, these

16. The modification of the basic form is possible if an adjective semantically implies a comparison (e.g. *not much different from sth.*) or with adverbs expressing a relatively low degree (*a bit stupid*, *a little nervous*).

functions are also available for the combination *very much*, which should be regarded as a complex perspectivizer (70).

- scope of complex perspectivizer 'very much'*
- (70) I don't very much like to discuss films with my partner.

### 9.3.4 *Sort of* and *kind of* as degree adverbs

Although not derived from items with a quantitative meaning like *a lot* or *a great deal*, but originally identifying determiners, the items *sort of* and *kind of* can also be used to express *DEGREE*, in this case a low grade that is not too distant from the meanings of *a bit* and *a little*. Used in this way, *sort of* and *kind of* function as modifying 'ad-adjectives' and 'ad-adverbs' (71–72). In addition, they also occur with a verb-encompassing scope like perspectivizing adverbs – here indicated by the respective scope notation in (73–74) – yet without abandoning the *of*-element inherited from their determiner function.

- (71) How are you? You're looking kind of/sort of pale.

- (72) They had prepared themselves for the exam  
kind of/sort of carelessly.

- scope of degree adverb*
- (73) I sort of/kind of remember her face.

- scope of degree adverb*
- (74) We sort of/kind of like going to fancy dress parties.

It is true that the scope of *sort of/kind of* may be more flexible because these adverbs are primarily used in colloquial conversation, but then *a lot* and *a bit* also belong to the colloquial rather than the formal register. The most appropriate analysis from a concept-linking stance is that – empirical evidence pending – *kind of/sort of* first developed into ad-adjectives and ad-adverbs within the mechanism of modifying attribution. Currently the two adverbs seem to be moving towards the status of perspectivizer; viewed diachronically, this progress takes place along an interface between the earlier status as attributive adverb and the full status of perspectivizer with flexible adverbial scope.

Due to this flexibility, the adverbs *sort of* and *kind of* fulfill a special communicative function which is not covered by other degree adverbs, as will emerge in the final section.

### 9.3.5 Adverbs expressing *DEGREE*: An overview

While for other aspects of concept linking the occasional summarizing tables may have been a welcome addition, for degree adverbs the overview is almost a necessity: Table 13 attempts to draw together the many different strands feeding degree adverbs and the effect this has on the extension of their grammatical and semantic coverage.

Of primary interest from a concept-linking angle is, of course, the left-hand column of Table 13, which shows that all three linking mechanisms (perspectivizing, attribution, VMC in the guise of the participant/perspectivizing interface) contribute to the expression of *DEGREE*.

This concept-linking background is decisive for the coverage of grammatical elements (predicators, adjectives, adverbs) provided by degree adverbs, as indicated in the middle column. Here the collaboration of different linking mechanisms becomes obvious: Perspectivizing *MANNER*-based *ly*-adverbs (like *vigorously*), whose scope is mostly predicator-bound, are complemented by modifying adjectival adverbs that are tied to individual adjectives and adverbs by attribution (like *very*, *pretty*), as indicated by the arrow. The grammatical coverage is rounded off by *MEASURE*-based adverbs (*much*, *little*, *a lot*), which can also modify comparative forms of adjectives and adverbs. Only emotion-based perspectivizing *ly*-adverbs and *sort of/kind of* are capable of providing the full grammatical coverage, the former because they are not tied to the verbal predicator by a *MANNER* background, the latter because they seem to fill a genuine semantic gap.

This gap becomes obvious when one looks at the right-hand column of Table 13, which is devoted to the *DEGREE*-related coverage – the categories maximizers/boosters, compromizers, minimizers/diminishers have been taken from Quirk et al.'s classification of intensifiers (Qu: 8.105). As it turns out, using *sort of* and *kind of* is one of the few ways to express an intermediate grade together with rather formal *MANNER*-based *ly*-adverbs like *sufficiently*, *comparatively* and *relatively*.<sup>17</sup>

There are also few ways to express a really low grade, again mainly *manner*-based adverbs such as *mildly*, *partly*, *slightly*, *barely*, *scarcely*, but also *measure*-based *little*. In contrast, all other concept-linking processes and most interfaces contribute to expressing a high grade of intensity, which is not surprising when one considers that this is probably the prototype of a *DEGREE* concept.

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17. The use of other adverbs like *somewhat*, *fairly* and *rather* that might also be considered is much more restricted by polarity sensitivity.

**Table 13.** Adverbs expressing *DEGREE*: linking mechanisms, coverage of grammatical elements, intensity scale

Concept-linking mechanism	Coverage of grammatical elements		Coverage of the degree/intensity scale		
	Predicator (+ participant)	Adjectives adverbs prepositions	Maximizers boosters	Compromizers	Diminishers minimizers
Perspectivizing manner-based <i>ly</i> -adverbs ( <i>vigorously</i> )					
emotion-based <i>ly</i> -adverbs ( <i>tremendously</i> )					
Attribution adjectival adverbs ( <i>very, pretty</i> )					
suffixless adverbs as ad-prepositions ( <i>high up, close behind</i> )					
Interfaces participant/perspectivizing interface based on MEASURE element of VMC ( <i>much, little, a lot</i> )					
modifier/perspectivizer interface (diachronic view) ( <i>sort of/kind of</i> )					

Returning once more to the left-hand column of Table 13 with its list of concept-linking processes, the final impression is that it provides welcome grammatical support for the long-standing, but rather vague semantic classification on which other descriptions of degree adverbs rely.



## Non-finite constructions as interfaces of VMCs, attribution and perspectivizing

### 10.1 Introduction

If the topic of infinitive, gerund and participle constructions is raised in the context of concept linking, this is motivated by the belief that such an approach may offer a genuine explanatory alternative to the dominant analysis of non-finite structures as surface variants of underlying clausal structures – an interpretation not only applied to structures with a notional subject of their own (e.g. object+infinitive constructions), but also to ‘plain’ infinitives, gerunds and participles. Compare the – admittedly rather crude – interpretation in (1–2), where the object+infinitive construction is derived from two clauses with different subjects, the plain infinitive construction from two clauses with identical subjects.<sup>1</sup>

- (1) My wife wants *me to buy a new car*.  
 < She wants something. / I buy a new car.
- (2) My wife wants *to buy a new car*.  
 < She wants something. / She buys a new car.

This analysis may be logically convincing, but it fails to establish non-finite constructions as specific form/meaning pairings that differ from finite clauses in terms of meaning and discourse function. Nor is it plausible from the angle of practical language use: Plain infinitives – and also gerunds and participles – are widespread, they seem to be constructions in their own right, often without a finite clause as alternative (3–5).<sup>2</sup>

- (3) My wife wants *to buy a new car*.  
 \* My wife wants that she buys a new car.

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1. A more refined explanation is provided by the notion of ‘object-raising’, postulated by generative grammars for the subject of the underlying subordinate clause. For a differentiated structuralist approach see Qu: 16.38–67. See also Section 10.2.3.

2. This view also complies with diachronic findings that participles, gerunds and originally also infinitives show nominal morphology (Krahe and Meid 1969: 81, 116), and that infinitives have developed from preposition+DATIVE noun in West Germanic languages towards more ‘verb-like’ uses.



- (4) We avoid *leaving rubbish around*.  
 \* We avoid that we leave rubbish around.
- (5) We sat *talking in the kitchen*.  
 \* We sat that/?while we were talking in the kitchen.

Taking these plain non-finite constructions as a starting point, variants with a notional subject can be regarded as extensions, but extensions that are still different from fully fledged subordinate clauses and also from variants in which the conjunction *that* is omitted, as illustrated for infinitives in (6–8).

- (6) We expected *him to be late*.  
 (7) We expected that he would be late.  
 (8) We expected  $\emptyset$  he would be late.

This line of thought is fully supported by an analysis in terms of concept linking: Plain infinitives, gerunds and participles can be seen as form/meaning interfaces in which certain features of nouns and adjectives as used in VMCs and attribution are combined with aspects of verbal mediating and TAM perspectivizing. Extended non-finite constructions (constructions with a notional subject) can be explained by including the conception of ‘attributed referent’ and still more interfaces.

Since the matter is rather complex, it will be approached in three steps: First the notion of non-finite interface will be introduced and applied to plain non-finite constructions in an exemplary way (Section 10.2.1), followed by an equally exemplary discussion of how this notion has to be supplemented for extended non-finite constructions (Sections 10.2.2–3). The remaining sections of the chapter will be devoted to the explanation of selected non-finite constructions within this framework (Sections 10.3.1–3).

## 10.2 Outline of the concept-linking analysis of non-finite constructions

### 10.2.1 Plain non-finite constructions as interfaces

A glance into any traditional grammar will show that *to*-infinitives<sup>3</sup> and gerunds can be used as subjects, complements, adverbials of superordinate clauses and as modifiers within phrases; this reflects a phenomenon traditionally regarded as

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3. With regard to infinitives, the full range of syntactic functions is only available for *to*-infinitives, while the use of bare infinitives is severely restricted. See below.

nominalization.<sup>4</sup> Participles behave more like adjectival elements and therefore occur as modifiers, subject complements and adverbials, to use traditional terminology. What infinitives, gerunds and participles share is that they are non-finite in the sense that they do not express a finite tense relationship; another important feature is that non-finite structures can be ‘subjectless’ (Qu: 16.38).<sup>5</sup>

Translated into the concept-linking approach, this means that non-finite constructions combine a selection of the functions that are prototypically fulfilled by verbal, nominal and adjectival elements within the concept-linking mechanisms of VMC, perspectivizing and attribution.

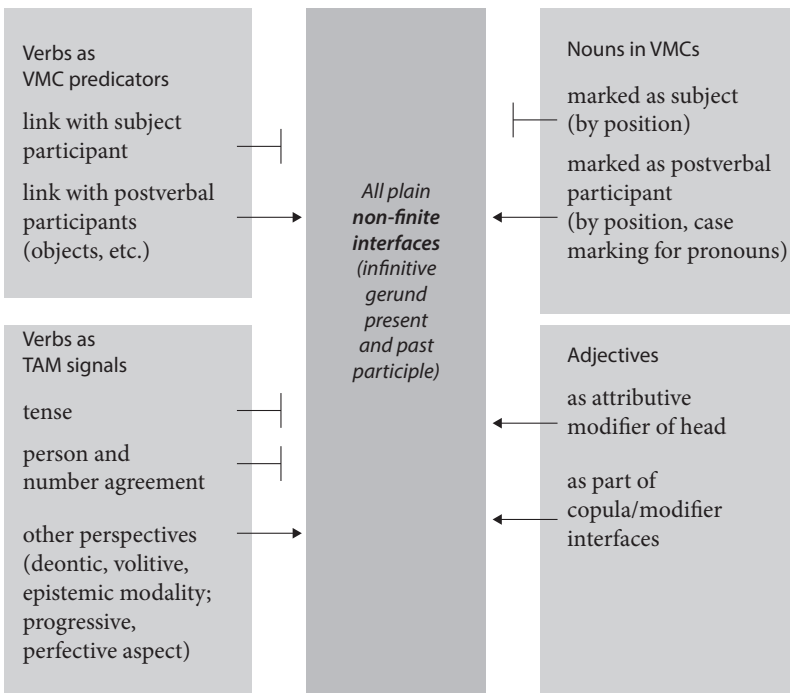
If one takes the non-finite construction by itself, the mediating function of the predicator in the VMC is reduced by the verb’s inability to bind a subject participant of its own (while the link with postverbal participants remains unaffected). The verb’s function as a perspectivizer is reduced because it does not express a tense perspective (the fact that it need not signal agreement with the missing subject participant goes without saying).<sup>6</sup>

However, if one turns from these functions to the role played by the non-finite construction within the superordinate VMC, one finds that the non-finite construction makes use of the characteristic potential of nouns to function as subject or object participants in VMCs. Participles behave like adjectives in employing attribution in copula/modifier interfaces, modifier-head combinations and circumstancing. The result of this amalgamation of ‘internal’ and ‘external’ features is a unique interface, which is different from finite subordinate clauses (henceforth *non-finite interface*). Compare Figure 20, where features that are transferred from verbs and nouns in prototypical VMCs to non-finite constructions are indicated by arrows, non-transferred features by the ‘dead-end’ symbol.

What deserves further specification is the transfer of the ‘other perspectives’ (bottom left hand in Figure 20) into the non-finite interface; it concerns the intricacies of when to use infinitive, gerund and participle interfaces. Starting from these different structures, the following distinctions can be made:

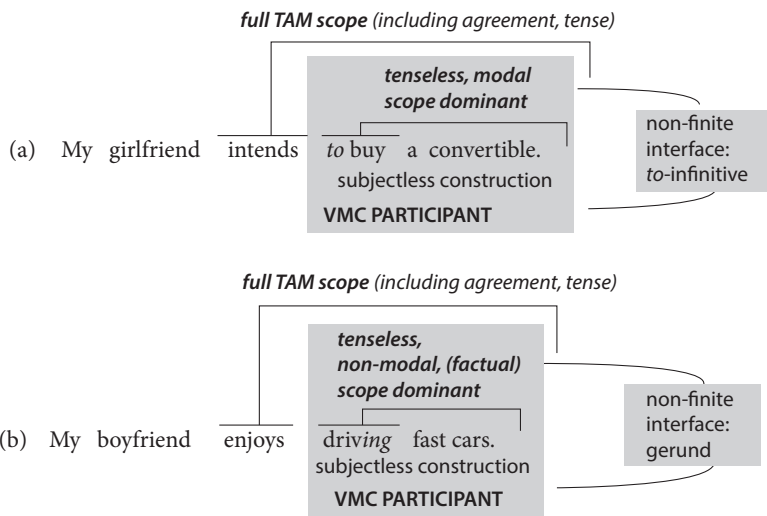
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4. Verbal nouns (Qu: 17.54) – or in H and P’s (3.1.4:81) terminology ‘gerundial nouns’ – will be neglected here because they function like standard nouns, apart from the fact that they do not have singular/plural morphology.
  5. This position is also supported by H and P, who talk of “desentailisation”, involving “the loss of properties that are associated with a clause standing alone as a full sentence” (Chapter 3.1.8:89). See also H and P (14.1.1:1175).
  6. One important effect of these reductions is that the double functions of the ‘main’ finite verbal element in a VMC (mediating, TAM perspectivizing) are not interfered with. In other words, this verbal element (e.g. *hoped* in *They hoped to win the game*) can function as the verbal interface of the clause (see remarks in Chapter 7).

- *to*-infinitive interfaces normally *highlight a modal perspective* by expressing that actions or states are still to be carried out (volitional and deontic use, as in (9–10)) or by indicating the degree to which actions or states are possible or probable (epistemic use, as in (11)).
  - (9) My girlfriend intends *to buy a convertible*.
  - (10) He hopes *to find a cheap van for his large family*.
  - (11) They seem *to be quite happy with their vintage car*.
- Gerund interfaces do not render deontic, volitional or epistemic modal perspectives; instead they express factuality by suggesting that actions/states are taking place (12), have already taken place (13) or are taken for granted for other reasons (14).
  - (12) My boyfriend enjoys *driving fast cars*.
  - (13) I remember *meeting (having met) them at the swimming pool*.
  - (14) We avoid *driving to the lake on bank holidays*.



**Figure 20.** Verbal, nominal, adjectival elements and non-finite interfaces

Apart from the differing representation of the modal TAM perspective – assertion or negation of modality – *to*-infinitive and gerund constructions run parallel in being embedded in VMCs and can therefore be visualized in parallel diagrams (Figure 21a/b).



**Figure 21.** Plain *to*-infinitive and gerund interfaces

- *ing*-participles function as progressive perspectivizers by *highlighting that actions are being carried out* (15–16). Past participles act as perfective perspectivizers by *highlighting that actions have been carried out*; they mostly imply a ‘passive’ PATIENT-related view and often emphasize the outcome, as in (17).

- (15) We sat *talking in the kitchen for hours*.      participle construction as postverbal element of VMC
- (16) The couple crossing the street have six children.      }      participle construction as postnominal modifier
- (17) The turtle found in our sandpit belongs to our neighbors.      }

Participles may be contrasted with bare infinitive constructions, which do not render the progressive and perfective aspect; this ‘zero function’ can be used to express that actions take place once at a certain point in time or in a sequence of actions.<sup>7</sup>

7. Bare infinitives are not illustrated by examples here because they are very rare as plain infinitives if auxiliary-verb combinations are not included (an example would be colloquial *leave go*); these infinitives normally occur in non-finite constructions with notional subject; see next section).

Turning to the syntactic aspects of participle interfaces, one should first deal with examples like (15), where the progressive perspectivizing of a second verb (*sat talking*) represents a constellation similar to postverbal gerund interfaces, as illustrated in Figure 21b above, and is therefore not presented by an additional Figure. What is quite different, but also more widespread are instances like (16–17), where the *ing*-participle (and the past participle) occur as postposed modifiers of nominal heads and replace an adjective (as used e.g. in *happy couple*) – compare Figure 22a for an analysis.

Here the integration of the participle into the utterance is a matter of attribution, even if the overall syntactic frame is supplied by verb mediation. Still, the interpretation is straightforward enough (though less explicit than it would be in the respective relative clause construction *who are crossing the street*). This is different when the participle constructions express a circumstance (‘adverbial participles’ in traditional terminology). As illustrated by (18–19), these participle interfaces occur in different guises, as conjunction-guided variant (18) or bare participles (19). Their analysis also applies to constructions introduced by prepositions like *on* (20), which are traditionally regarded as gerunds (but see Section 10.4).

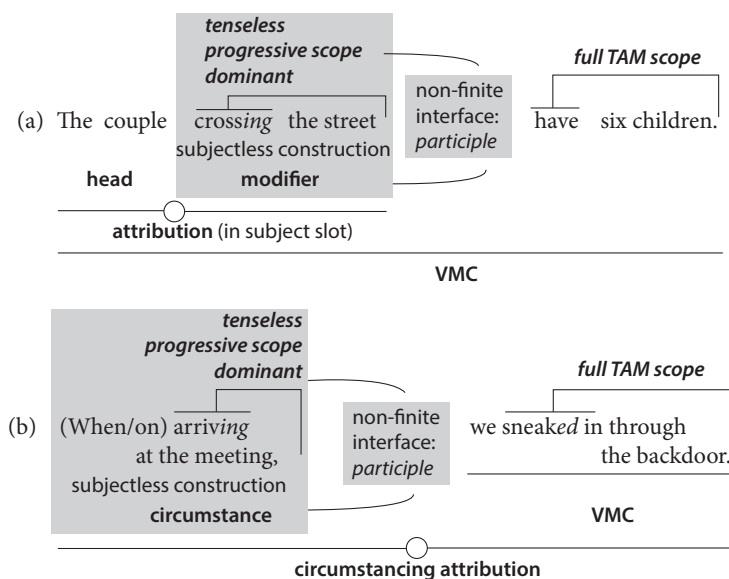


Figure 22. Plain participle interfaces

- (18) *When arriving at the meeting, we sneaked in through the backdoor.*
- (19) *Arriving late at the meeting, we caught everybody's attention.*
- (20) *On arriving at the meeting, we sneaked in through the backdoor.*

Especially the bare participle interfaces (19) invite a large range of interpretations, which goes far beyond what the verb-mediated VMC of an adverbial clause would permit (*when/as/since we arrived late at the meeting*). Bare participles are therefore much better explained by the concept-linking mechanism of attribution, which assumes a rather vague holistic semantic attraction as a circumstancing link between the participle construction and the VMC, as documented by the annotated analysis of Figure 22b.

Summing up at this point, it should have become clear that a comprehensive explanation of plain non-finite constructions is possible if these constructions are understood as interfaces fulfilling the following conditions:

- Non-finite interfaces are a special way of adding a second verbal element to a construction (either as a participant or circumstance) or of modifying a nominal head in a VMC; in each case a specific form/meaning pairing is established, which differs from subordinate clause constructions.
- Non-finite interfaces are subjectless and tenseless because these relationships are established by the primary verbal element, which acts as a predicator of the VMC and a signal of full TAM perspectivizing.
- However, in the non-finite verb element the faculty of perspectivizing is not completely lost, but only reduced to and concentrated on specific perspectives:
  - *to*-infinitives perspectivize volitional, deontic and epistemic modality;
  - gerunds perspectivize factuality, i.e. they indicate that the modality expressed by a *to*-infinitive is absent;
  - *ing*-participles perspectivize the progressive aspect, past participles express the perfective aspect.

The main reason why these characteristics are again summarized here is that the notion of non-finite interface is not only relevant for plain infinitive, gerund and participle constructions, but also for non-finite constructions with notional subjects; in fact, its applicability to these constructions should be regarded as the real test for the postulated non-finite interface.

### 10.2.2 Notional subjects of non-finite constructions as attributed referents

Although it is common to approach this topic through object+infinitive constructions, this aspect will here be postponed in favor of looking at some other constructional variants first – compare (21–29).

#### *for+noun+infinitive constructions*

(21) My mum arranged for **us** to meet her new partner.

(22) Let's record the film for Mum/**her** to watch it later.

(23) We hoped for the weather/*it* to change for the better.

(24) I'm anxious for the exams/**them** to take place in spite of the strike.

*with+noun+participle/infinitive constructions*

(25) With Peter/**him** keeping the key in a secret place, nobody could open the safe.

(26) With the road/*it* blocked by rocks, nobody could get into the valley.

(27) With the au pair/**her/him** to look after the kids, we have much more time now.

*noun+genitive/possessive determiner+gerund constructions*

(28) Nobody mentioned Ted's having missed the goal.

(29) I won't stand **his** criticizing my work any longer.

What these examples share is that in each of them the notional subject of the non-finite construction is signaled by an item that cannot be used as a subject participant in a finite subordinate clause. In (21–27) this is achieved by the combination '*for/with* plus object form of a pronoun/noun',<sup>8</sup> in (28–29) by the *s*-genitive suffix (28) or the morphological form of the possessive determiner (29). As far as the items *for* and *with* are concerned, they are identical with the prepositions discussed in Section 5.2, which were already singled out for their particularly wide range of meanings – *GOAL*, *PURPOSE*, *BENEFICIARY* in the case of *for* and *INSTRUMENT*, *ACCOMPANIMENT*, *ACCESSORY* in the case of *with*. This feature particularly qualifies the prepositions for the task at hand. If one considers phrases like *as for Peter* or *with this argument in mind*, one can see that both prepositions may be used to render a meaning like 'with reference to s.o./sth.' even though this meaning is approached from different angles (from the angles of *GOAL* and *ACCOMPANIMENT* respectively).

How does this square with the widely held opinion that – when used to introduce non-finite constructions as in (21–27) – *for* and *with* should be merely regarded as unclassified structural items preceding certain infinitives or participles?<sup>9</sup> Seen within the concept-linking framework (and cognitive linguistics in general), this view cannot be maintained: There is simply no reason why the conceptual content of the prepositions *for* and *with* should not be effective when they are used with infinitive or participle constructions.

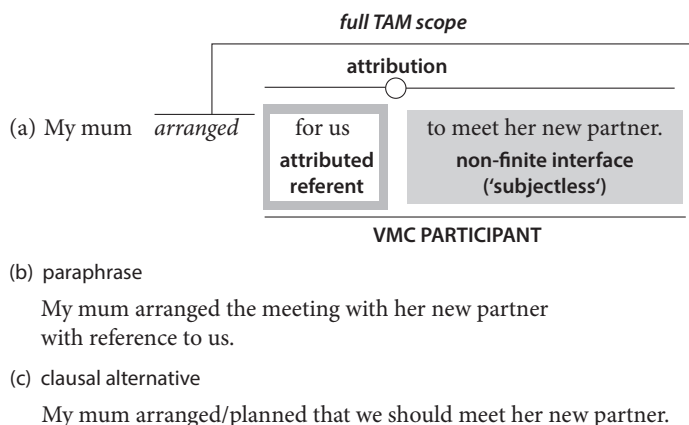
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8. The object/subject contrast is not expressed in the case of *it* in examples (3) and (6) because the pronoun *it* has no distinct case forms in English.

9. Quirk et al., for instance, seem to avoid any classification, using descriptions like "... the noun phrase is preceded by *for* which marks it as the subject of an infinitive clause" (Qu: 16.41).

If, in addition, one takes into account that – like other prepositions – *for* and *with* function as guiding elements in the non-verbal process of circumstancing attribution and also in participant/circumstance interfaces (Section 8.2), one arrives at the following interpretation: An example of the *for*+noun+infinitive construction like (21) above (*My mum arranged for us to meet her new partner*) is best understood as a non-finite interface (*to meet her new partner*) which is extended by an additional referent (*us*). This referent is linked to the infinitive construction by means of (circumstancing) attribution, and not because it fills the subject slot in a verb-mediated construction; the process of attribution is guided by the relational meaning ‘with reference to’ expressed by the preposition *for*. In other words: A *for*+noun+infinitive construction consists of a subjectless and tenseless interface plus a marked *attributed referent*. Compare the annotated analysis in Figure 23a, which is contrasted with its paraphrase (Figure 23b) and the complex sentence with two complete VMCs (Figure 23c).

When comparing Figure 23b and 23c, the paraphrase (couched in a fairly unnatural sequence of prepositional phrases as it is) no doubt appears much more clumsy and circumstantial than the complex sentence. However, this paraphrase still reflects the communicative advantage of the *for*+noun+infinitive construction, namely that the message can be put across without making a decision which tense and which specific modal auxiliary has to be chosen, as is necessary in the finite subordinate clause (Figure 23c). The versatility, simplicity and elegance of the attributed-referent construction become even more obvious when examples like (22) and (24) above (here taken up as (30–31) are contrasted with their clausal alternatives in (30’–31’).



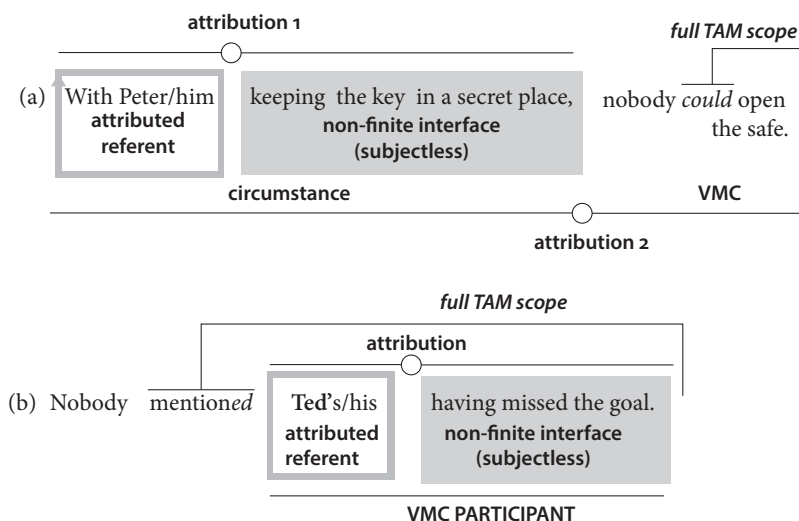
**Figure 23.** Concept-linking analysis of the *for*+noun+infinitive construction



- (30) Let's record the film for Mum to watch it later.  
 (30') Let's record the film so that Mum can/could watch it later.  
 (31) I'm anxious for the exams to take place in spite of the strike.  
 (31') I'm anxious that the exams ?might not/?should take place in spite of the strike.

Since the aim of this section is a first introduction, the effects arising when *for*+noun+infinitive constructions are combined with other uses of the preposition *for* will be dealt with separately – see Section 10.3.1.

Instead, attention should be drawn to the other introductory examples, first to the examples illustrating the *with*+noun+participle construction in (25–27) above – which will also be discussed in more detail later (Section 10.3.3). At this point it must suffice to show the parallels that exist with the *for*+noun+infinitive construction. As illustrated in Figure 24a, the preposition *with* (here expressing ‘with reference to’ or ‘as regards’) guides the non-verbal attraction of the attributed referent to the non-finite interface (attribution 1), which in turn – and this is different from the *for*+noun+infinitive construction – is linked to the VMC as a whole by a second application of the attribution mechanism (attribution 2). Here the preposition *with* also plays a role by signaling that attribution 1 (attributed referent and participle interface) functions as a circumstance in relationship to the VMC.



**Figure 24.** Concept-linking analysis of the *with*+noun+participle construction and ‘full’ gerunds

The interpretation of notional subjects as marked attributed referents is definitely strengthened when one finally returns to examples (28–29) above, here taken up again as (32–33).

- (32) Nobody mentioned Ted's having missed the goal.  
 (33) I won't stand his criticizing my work any longer.

In these examples the *s*-genitive and the possessive determiner of what has traditionally been labeled as 'full gerund' are again best understood as linked to the gerund construction by modifying attribution – compare Figure 24b for the relevant diagram.

While the explanation of these 'full gerund' constructions as involving attributed referents seems to be particularly convincing, the disadvantage is that the construction is much less frequent than the so-called 'half-gerunds', in which *s*-genitives of nouns denoting the attributed referent are replaced by the standard form of the noun (32') and possessive determiners by the object forms of the personal pronoun (33').

- (32') Nobody mentioned Ted having missed/missing the goal.  
 (33') I won't stand him criticizing my work any longer.

In either case the notional subject is not supported by a specific morphology (*s*-genitive, form of possessive determiner), and this is why these half-gerunds are comparable to constructions subsumed under the label of object+infinitive construction, which are dealt with in the following section.

### 10.2.3 'Object+infinitive' and related constructions as interfaces

In spite of the diversity of object+infinitive constructions<sup>10</sup>, which will unfold in this section, it seems possible to postulate a single explanation modeled on the analysis of *for*+noun+infinitive constructions, which can be conveniently illustrated by parallel examples with the verb *prefer* (34–35).<sup>11</sup>

- (34) I prefer *for Susan/for her* to buy a cake (her own cakes are inedible).  
 (35) I prefer *her* to buy a cake.  
 (35') I prefer *Susan* to buy a cake.

As already claimed for examples like (34) in the last section, the notional subject *Susan* should not be understood as a genuine verb-mediated subject participant, but

10. Though coined in a structuralist context rather than a cognitive or concept-linking framework, this term will be used in the following for ease of reading.

11. The *prefer for*+noun+infinitive construction (mainly AmE), is Quirk et al.'s only example (1985: 16.41), but the construction is also encountered with the verbs *like*, *love* and *hate* (Google search) and claimed for *wish* by Dixon (2005: 248); Biber et al. (1999: 700–705) also list verbs like *long*, *dream*, *care*, *intend*, *mean* and *look*.

rather as an additional referent that is linked to a subjectless infinitive construction (*to buy a cake*) by non-verbal semantic attraction, similar to an adverbial circumstance. But how does this work when the attributed referent is not marked by the preposition *for* as in (34)? Considering (35), one finds that the notional subject (as opposed to the subject proper) is still reliably characterized as attributed referent by the object case form *her* of the personal pronoun.

True enough, when the notional subject is represented by a noun (e.g. Susan in (35')), the attributed referent function is neither indicated by a preposition nor – at least in English – by case morphology. The reason why these nouns can nevertheless be identified as attributed referents is that they are exclusively used in the postverbal slot of the VMC, which would require the object form of the personal pronoun (and a non-nominative case form in other languages). This claim is supported by the negative evidence of examples like (36–41), which show that in all other positions, both as VMC participants and as modifiers, only the construction with *for* is possible.

- |      |  |   |
|------|--|---|
| (36) | <i>For Susan</i> to prepare an edible meal is impossible.    | subj. participant                               |
| (37) | * <i>Susan</i> to prepare an edible meal is impossible.      | *subj. participant                              |
| (38) | It is impossible <i>for Susan</i> to prepare an edible meal. | part of extended copula/<br>modifier interface  |
| (39) | *It is impossible <i>Susan</i> to prepare an edible meal.    | *part of extended copula/<br>modifier interface |
| (40) | The preference <i>for Susan</i> to do the job is widespread. | postnominal modifier                            |
| (41) | *The preference <i>Susan</i> to do the job is widespread.    | *postnominal modifier                           |

Granted that the items *Susan* and *her* in example (35) above can be understood as attributed referents of non-finite constructions, it cannot be denied that they are also perceived as the postverbal participant of the VMC. This double 'footing' calls for an interface between the two functions of Participant and Attributed Referent (*PAR interface* in the following), as illustrated in Figure 25.<sup>12</sup>

The problem is how to describe the footing of the PAR interface in the postverbal participant. Considering the *prefer* example analyzed in Figure 25, the whole object+infinitive construction including the attributed referent seems to function as a postverbal participant – and this also applies to the examples with *want* and *should like* in (42–43).

---

12. Compare Dixon's (2005: 242–253) discussion of *for*+noun+infinitive constructions and in particular his pragmatic-semantic interpretation of the differences between the construction with and without the preposition *for* (Dixon 2005: 249), which is fully compatible with the concept-linking analysis.

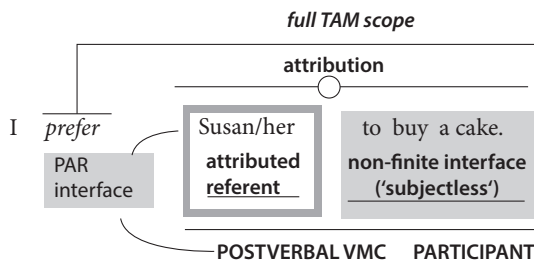


Figure 25. Participant and Attributed Referent (PAR) interface

(42) *We wanted* the boys/them to spend the weekend with us.

(43) *I should like* you to behave when we visit Grandma.

Yet with directive verbs such as *ask*, *tell*, *recommend*, *beg* (44–45) the situation is different: Here the primary function of the only linguistically represented postverbal participant is to denote the RECIPIENT of the request expressed by the main verb, while at the same time an element is needed that fulfills the function of attributed referent of the infinitive construction.

(44) Peter *asked* his friends/them to come along with him.

(45) An elderly lady *begged* us to help her with the luggage.

How can these constructions be integrated into the explanatory concept developed for verbs of wishing like *want*, *prefer* and (*should*) *like*? This problem is also discussed by Quirk et al. (Qu: 16.64–67), who propose a gradient or scale ranging from the monotransitive pattern (in which the 'object' is fused with the infinitive construction in a single syntactic constituent, as in *want sb. to spend the weekend*) to a ditransitive pattern (with the 'object' functioning as an indirect object followed by the infinitive construction as the second object, as in *ask sb. to come along*). Examples with verbs like *expect*, *consider*, *understand*, *know* (46–47) could then be placed at an intermediate position on the scale because both patterns could be used to explain them (Qu: 16.64).

(46) Everybody *expected* us to know our way around.

(47) We *considered* him to be the local expert on mushrooms.

While for Quirk et al. the notion of gradient creates problems vis-à-vis their otherwise rigid classification of verb complementation (and is therefore only offered as an alternative within a 'multiple analysis'),<sup>13</sup> it is fully compatible with the idea

13. Within Quirk et al.'s comprehensive structuralist classification of verb complementation, the non-finite structures are distributed across the S-V-O, S-V-O-OC and S-V-O-O categories (Qu: 16.20).

of a PAR interface in concept linking because the very nature of interfaces suggests a scale of dominance between their two ‘footings’ (see Chapter 7). As shown in Table 14 (greyed-out area), such a scale can be understood as extending between the dominance of the noun/pronoun as attributive referent at one end-point (Column A) and the dominance of its RECIPIENT function within the superordinate VMC at the other end-point (Column C); VMCs with *expect*, *consider*, *know*, etc. represent intermediate positions (Column B).

As also documented in Table 14, the diagram can be extended to include examples beyond the cut-off points of the interface scale: the almost exclusive interpretation of the noun/pronoun as attributive referent in force-dynamic *make-* and *let-*constructions (Column AA) and its exclusive use as RECIPIENT with commissive verbs like *promise* and *offer* (Column CC).

What is the advantage of an interpretation in terms of a flexible scale-based PAR interface? First and foremost, the interface is capable of explaining that in any object+infinitive construction (apart from the cut-off cases in Columns AA and CC) the noun/pronoun renders both the function of attributed referent and RECIPIENT participant, though in varying degrees: While examples with verbs like *want* and *prefer* (Column A) primarily foreground the function of attributed referent, there is still some directive quality in the message implying a wish addressed to a recipient.

Conversely, even if in constructions with directive verbs like *command* and *ask* (Column C) the RECIPIENT function is dominant, the PAR interface will ensure that the function of attributed referent is also considered to some extent when the postverbal participant is processed. Almost needless to say that a number of intermediate stages between these extreme positions are feasible, which are represented in the scale by the verbs *expect*, *consider* and *know* (Column B).

Another feature explained by the interface analysis is that any object+infinitive construction that expresses a RECIPIENT meaning requires the *to*-infinitive because of its modal meaning. This is quite obvious in the case of directive verb constructions, but it is also relevant for cases with verbs like *want*, *wish*, *desire*, which show only traces of RECIPIENT meaning. By contrast, bare infinitives, which lack this modal meaning (see Section 10.2.1) are used with force-dynamic verbs expressing causation and permission like *make* and *let* (Column AA).

Finally, there are object+infinitive constructions in which the postverbal participant behaves like a PATIENT rather than a RECIPIENT participant. This ‘PATIENT interpretation’, which rounds off the description of the PAR interface, is relevant for object+infinitive constructions in which the object actually represents a ‘thing’ concept (48–49) as well as for extended passive infinitive constructions, where the object may refer to both things and persons (50–51).



(55) We *found* the auditorium/it packed with screaming girls.

(56) We *saw* the band/them arrive in a pink pickup.

To sum up at this point, the common background of non-finite constructions and the role played by interfaces in the processing of these constructions can be stated as follows:

- If the message of a non-finite construction does not concern the referent of the VMC subject, but another person, organism or entity, this referent is linked to the non-finite construction as a kind of additional circumstance (attributed referent).
- The attributed referent can be signaled by prepositions, in particular by the preposition *for* (in the case of infinitives) and the preposition *with* (for participles), or by a possessive determiners or *s*-genitives (for gerunds).
- If none of these indicators is available, the attributed referent can be tied to the postverbal participant by a participant/attributed referent interface (PAR interface). This interface permits varying degrees of dominance of the attributed referent or of the RECIPIENT (OR PATIENT) participant in the VMC.

### 10.3 Selected phenomena of non-finite interfaces

As already indicated in the introduction to this chapter, the following sections go beyond the general outline provided in Section 10.2 by adding some specific issues that deserve more attention than they usually receive in grammatical descriptions.

#### 10.3.1 Non-finite interfaces introduced by *for* and other prepositions

When *for*+noun+infinitive constructions were interpreted as consisting of the combination ‘attributed referent+non-finite interface’ in 10.2.2, this description was somewhat one-sided. This interpretation may be sufficient for the examples repeated here as (57–58), where the attributed referent denotes an object or a state (*exams, weather*).

(57) We hoped *for* the weather/it to change for the better.

(58) I’m anxious *for* the exams/them to take place in spite of the strike.

The situation is different if the attributed referent is a person or organism, a realization of the *for*+noun+infinitive construction that appears to be more natural and also more widespread. Here the noun/pronoun preceded by *for* has an additional function that emerges when the construction is contrasted with related

prepositional phrases. Compare (59–62), where the remaining examples from Section 10.2.2 are repeated and a few new ones added.

- (59) My mum arranged *for* the family/us to meet her new partner.  
 (59') *Compare*: Mum arranged the meeting *for* the family/us. BENEFICIARY
- (60) We must wait *for* Mum/her to show us the way.  
 (60') *Compare*: We must wait *for* Mum/her. BENEFICIARY/GOAL
- (61) Let's record the film *for* Mum to watch it later.  
 (61') *Compare*: Let's record the film *for* Mum. BENEFICIARY
- (62) The city has designed this fairground *for* people to enjoy themselves.  
 (62') *Compare*: The city has designed this fairground *for* the people. BENEFICIARY

As illustrated in (59'–62'), each of the prepositional phrases expresses a *BENEFICIARY* or *GOAL* relationship within the VMC, which is rendered by a PPP interface – i.e. a participant/prepositional phrase interface (see Section 8.3.1). What is easily overlooked is that the effect of this interface is carried over into the *for*+ noun+ infinitive construction (59–62). This means that the preposition *for* not merely signals that the pronoun/noun (*us*, *Mum*) functions as attributed referent for the non-finite interface (meeting, watching a film, etc.), it also indicates that – to a certain extent at least – the pronoun/noun fulfills the role of *BENEFICIARY* or *GOAL* with regard to the VMC. In (59), for example, the family is not only involved in meeting Mum's new partner (as attributed referent), the family also acts as *BENEFICIARY* to whom the arrangement is addressed.<sup>15</sup>

It is not surprising that from the angle of concept linking this double function of the *for*-phrase calls for an interface solution, which is based on, but also somewhat different from the standard PAR interface introduced for object+infinitive constructions in the last section. The reason is that this new interface variant is not established between the attributed referent and a postverbal participant (the 'object' of the object+infinitive construction), but between the attributed referent and the *for*-phrase, which already enjoys the status of PPP interface as explained above. This means that one footing of this *PPP/AR interface* is not the VMC participant, but the PPP interface by which it is replaced in *for*+infinitive constructions.<sup>16</sup> Compare Figure 26, which contrasts this interface with the standard PAR interface.

15. Compare Qu (16.41) for a list of verbs eligible for this interface.

16. Technically the PPP/AR interface could be regarded as a 'second-order' interface because it is not based directly on elements of two concept-linking mechanisms, as one of its footings consists of a first-order interface. See Section 9.1.1. for another example.



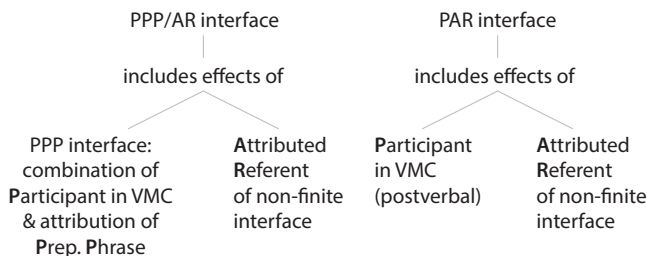


Figure 26. Comparison of the PPP/AR and PAR interfaces

Postulating the PPP/AR interface also solves the tricky problem of distinguishing between *for*-constructions that may still be considered as participants (prepositional objects; compare (59–60) above) and those analyzed as circumstances (adverbials of *PURPOSE*; see (61–62)). This distinction is evened out because – at least to some extent – PPP/AR interfaces rely on the process of attribution, which supports the *BENEFICIARY* or *GOAL* meaning of prepositional phrases with *for*; this effect is strengthened by the modal meaning of the *to*-infinitive in the non-finite construction.

As already illustrated by occasional examples, the PPP/AR interface is not restricted to VMCs with verbal concepts, but is often combined with copula/modifier interfaces (see 8.1.2 for a detailed explanation). Here it occurs both with the ‘rich subject variant’ of the copula/modifier interface (person subject+*be*+adj.) and its ‘skeleton variant’ (*it*+*be*+adj.). For the first variant compare (63–64).

(63) My grandma is eager for all of us to meet at Christmas.

(64) We were afraid for Susan to miss the last train.

In these examples the attributive link of the subject element (*my grandma, we*) with the predicative adjective (*eager, afraid*) equips the subject with a kind of *EXPERIENCER* quality (desire, fear) to which the action of the non-finite construction (‘meeting at Christmas’, ‘missing the train’) is linked by the copula construction. The PPP/AR interface supplies the attributed referent of this infinitive construction (*all of us, Susan*), which is at the same time understood as *BENEFICIARY/GOAL* of the expressed desire or fear. These effects can be represented (although again quite clumsily) in the paraphrases attached to the examples (63–64) in (63’–64’):

(63’) My grandma is eager for all of us to meet at Christmas.

*Paraphrase:* My grandma desires the Christmas meeting with reference to + for the benefit of all of us.

(64’) We were afraid for Susan to miss the last train.

*Paraphrase:* We feared the missing of the last train with reference to + to the disadvantage of Susan.

The second variant of the copula/modifier interface (the ‘skeleton variant’ *it+be+adj.*) was introduced as making use of the *it*-element as a placeholder for rendering the speaker’s evaluation or emotional attitude. This means that the third party is replaced as *EXPERIENCER* by the speaker, so that the same analysis applies as above. Compare example (65), where the speaker finds it vital that more details are provided ‘with reference to + for the benefit’ of the rescue team, or more technically, where the functions of attributed referent of the non-finite construction and *BENEFICIARY* of the VMC are combined in the PPP/AR interface.

(65) It is vital for the rescue team/them to get more details about the accident.

However, there are cases where the two functions are distinguished and – somewhat clumsily – distributed across two different *for*-phrases, one denoting the *BENEFICIARY* of the emotional attitude and a second one functioning as attributed referent of the infinitive (66). Finally, there are examples where the lack of a clear assignment to the VMC *BENEFICIARY* or the attributed referent of the non-finite construction gives rise to ambiguity (67).

(66) It is important for us for you to be satisfied with the finished product.  
*for*-phrase + separate AR/PPP interface with *for*

(67) It was unimaginable for her to live in a house without heating and hot water.  
(Ambiguity between “unimaginable for us that she could live there” and “unimaginable for herself that she could live there”)

Similar constructions as discussed with regard to *for* are possible with other prepositions, e.g. *of, about, at, in, on*. Yet due to their meaning these prepositions are not combined with the modal, goal-oriented *to*-infinitive, but are used to link verbs (68–69) or copula/modifier interfaces (70–71) to gerunds with their non-modal, factual meaning.<sup>17</sup>

(68) I have always dreamt *of* one of us winning the jackpot.

(69) She has never complained *about* her boyfriend having too little money.

(70) Why should I be ashamed *of* our family winning the lottery?

(71) We are proud *of* our son earning so much at an early age.

These constructions can be seen as the preposition-based version of the half-gerunds discussed in Section 10.2.3, to which the PPP/AR interface, as developed above with regard to *for*+noun+infinitive constructions, is applicable by analogy.<sup>18</sup>

17. If used in its adversative sense, the preposition *to* can also be used in this construction, e.g. *I object to my parents/them donating all their money to Oxfam.*

18. Instead of the half-gerund, the constructions with possessive determiners and – in formal style – *s*-genitives are possible as well (see Section 10.2.2).

### 10.3.2 Subject-related and speaker-related participles as circumstances

Although infinitive constructions can sometimes be understood as circumstances (but consider reservations expressed for circumstances of *PURPOSE* above), the majority of non-finite circumstances are provided by participle and gerund constructions, as illustrated here by (72–74).

(72) Entering the showroom, everybody was amazed.

(73) When entering the showroom, everybody was amazed.

(74) On entering the showroom, everybody was amazed.

From the angle of concept linking there are two major points of interest (which are also discussed in traditional accounts):

- the semantic quality of the attribution between the circumstance and the VMC (which is invariably less precise than the links produced by verb mediation within the VMC);
- the identification of the referent for the non-finite interface.

As for the first issue, bare participle constructions indicate that the attributive link is particularly vague; they permit different interpretations – primarily in the domains of *TIME*, *CAUSE/REASON* and *CONCESSION* – as long as the meaning is compatible with the progressive aspect (for *ing*-participles) or the perfective aspect (for past participles) (75–76). Depending on the speech situation, this vagueness of attribution will be experienced as welcome flexibility or irritating ambiguity. If participle constructions are introduced by conjunctions, there is normally sufficient semantic guidance to avoid this kind of ambiguity (77–78).

(75) *Living by the seaside*, I got used to the sound of the waves.  
*TIME/REASON*

(76) *Badly battered by the storm*, the boats returned safely.  
*TIME/CONCESSION*

(77) *Though badly battered by the storm*, the boats returned safely.  
*CONCESSION* only

(78) *After being badly battered by the storm*, the boats returned to the harbor.<sup>19</sup>  
*TIME* only

---

19. *After* (like *before* and *since*) can also be classified as a preposition introducing a gerund construction.

With regard to the second issue (identification of referent) three options have to be considered:

- [1] The attribution of the non-finite subjectless construction to the VMC as a whole automatically establishes the subject participant of this VMC as referent.
- [2] The speaker is understood as the referent of the non-finite construction.
- [3] An additional referent is attached to the non-finite construction by way of semantic attraction ('attributed referent', as introduced in 10.2.2).

If option [1], which is illustrated in (75–78) above, corresponds to the traditional category of 'related participle', there is nevertheless a major difference due to the fact that in the concept-linking framework the participle construction is not just another constituent of the clause that is tied to its subject by the predicator; here the participle construction is a circumstance linked to the VMC by the non-verbal semantic attraction of attribution. This conveniently explains why these 'adverbial' participles more readily permit an alternative (and sometimes hearer-related) interpretation in terms of option [2] (i.e. as being related to the speaker as implicit referent). For the analyst this means that the so-called 'dangling participle' is in fact often a speaker-related interpretation of the participle construction, as in (79–81) – see also (Hayase 2011; 2014)

- (79) Moving on to the next case, the same procedure can be applied.
- (80) Speaking of smoking, young people don't regard it as attractive any longer.
- (81) When buying online, a number of precautions should be taken.

The speaker-related use of adverbial participle constructions fits well into the overall repertoire of speaker-related devices used in concept linking. As shown in Table 15, speaker-related devices are spread across all three concept-linking mechanisms. Realized within a VMC, the speaker reference may be explicitly rendered by indefinite pronouns, but is more often implicitly expressed by the *it*-element of a skeleton copula construction (Section 8.1.1).

**Table 15.** Speaker-related devices in the concept-linking framework

Device	Concept-linking mechanism	Examples
VMCs with indefinite pronouns <i>one, you</i>	VMC (verb-mediated construction)	As one/you can see, excessive noise can be dangerous for one's/your health.
skeleton copula construction ( <i>it+be+adj</i> )		It is important to avoid noisy discos. (= the speaker finds it important...)
dangling participle construction	attribution	Turning to the issue of noise, most people are not very sensitive to it. (= the speaker turns to the new issue)
viewpoint adverbs	perspectivizing	Frankly/honestly/surprisingly many people are insensitive to noise.

In participle constructions, speaker reference is always implicit just like other aspects of the semantic attraction underlying circumstances. With perspectivizing viewpoint adverbs (Section 2.3.4) the perspective is lexically expressed even though the speaker is not explicitly named.

Another important aspect is that copula constructions, dangling participles and viewpoint adverbs do not only alternate in rendering speaker reference, they can also be used in conjunction to support each other. Compare (82–83), where the speaker reference of the participles is more acceptable because the participles are combined with a speaker-related skeleton copula construction (*it+be+adj*) or with the *there*-construction. The latter construction establishes an attributive link with the position from which speakers want to present their messages.<sup>20</sup>

- (82) Seeing the long queues at the cashiers, it was obvious that people were already doing their Christmas shopping.
- (83) When looking for a new tablet computer, there are a number of aspects to be considered.

What is also facilitated is the transfer of non-finite interfaces, both of participle constructions (84) and infinitive constructions (85), into the perspectivizing mechanism, where they join *ly*-adverbs (85') in establishing a viewpoint scope over the VMC.<sup>21</sup>

(84)  $\overbrace{\text{Generally speaking, economic conditions have improved.}}^{\text{scope of viewpoint adverb (transformed non-finite interface)}}$

(85)  $\overbrace{\text{To be honest, I would prefer to live in Ireland.}}^{\text{scope of viewpoint adverb (transformed non-finite interface)}}$

(85')  $\overbrace{\text{Honestly, I would prefer to live in Ireland.}}^{\text{scope of viewpoint adverb (ly-adverb)}}$

Finally the flexibility of attribution also makes it easier to use participle interfaces as conjunctions to guide the linking of complete clauses, as in (86).

- (86) Assuming/considering/provided/granted he has acquired the necessary qualifications, he should get the job.

20. This kind of *there*-construction is amply made use of in this book and in scholarly writing in general – see also Section 8.1.1.

21. See also Section 11.3 for the development of expressions like *I think* or *do you think* into viewpoint perspectivizers.

All in all the concept-linking approach seems to be well suited to explain speaker-related effects of participle constructions (option [2] above) and the use as conjunction and perspectivizing adverb arising from them. The question is if it can also be successfully applied to option [3], which – in traditional terminology – corresponds to the absolute (or unrelated/unattached) participle with a notional subject of its own.

### 10.3.3 Absolute participles and *with*-constructions

From the angle of concept linking the basic tenet relevant for absolute participles – as for other non-finite constructions – is that a notional subject is not a genuine subject, but an attributed referent attached to the subjectless participle interface, and that this should be indicated by a suitable linguistic signal.<sup>22</sup> This explanation is also applicable to what is often regarded as the model of the English construction: the Latin *ablativus absolutus* construction, in which the ‘adverbial’ non-subject case of *ablativus* provides the necessary identification.

Due to its reduced case morphology, the English language does not supply a specific inflectional signal to indicate the attributed referent or notional subject of absolute participles. However, as already observed in Section 10.2.2, English provides the *with*+noun/pronoun+participle construction (henceforth *with*+participle construction) as an alternative, in which the preposition *with* signals the attributed referent. This construction can be still better understood if the preposition is seen in the context of related combinations that do not contain a verbal element (‘non-verbal clauses’ in traditional terminology; Qu: 14.9). Compare the following set of examples in which a prepositional phrase introduced by *with* is combined with a second prepositional phrase (87–90), an adverb (91–92) or an adjective (93–94), all of them underlined in the examples.

*with*-phrase + 2nd prepositional phrase

(87) *With the kids out of the house, we feel quite lonely sometimes.*

(88) *With her husband on the dole, there was much less money around.*

(89) *The prospects of the company are excellent *with so many projects* in the pipeline.*

(90) *With most of the cancer patients beyond recovery, the mood was depressing.*

*with*-phrase + locative adverb

(91) *With so many people around thieves didn’t have a chance.*

(92) *With John away there was much more room in the house.*

---

22. The most comprehensive overview of participle structures and mainline interpretations is still provided by Kortmann (1991).

*with*-phrase + adjective

(93) She lying in her hammock *with the window open*.

(94) *With cigarettes so expensive* some people simply can't afford them any longer.

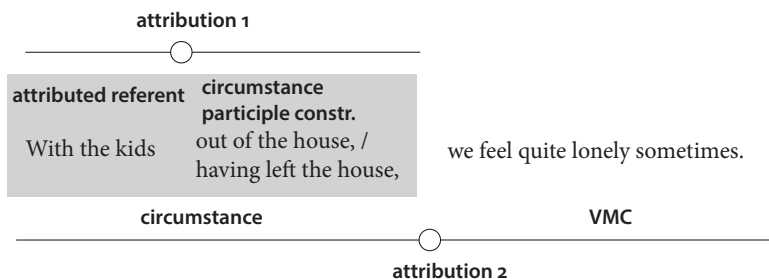
If one just takes the first example, repeated in (95), the proximity to *with*+participle constructions is obvious (95'–95''). Conversely, what may have appeared as a somewhat exotic application of the attribution mechanisms when it was first applied to *with*+participle constructions in Section 10.2.2 gains in force and conviction when the participle construction and the non-verbal examples are compared.

(95) *With the kids out of the house*, we feel quite lonely sometimes.

(95') *With the kids having left the house*, we feel quite lonely sometimes.

(95'') *With the kids lured away by good jobs*, we feel quite lonely sometimes.

If one sticks to what is linguistically realized in the utterance, a structure like (95) comprises two prepositional phrases (*with the kids*, *out of the house*), which are perceived as linked to each other without the mediation of a verbal element and which – taken together – are related to the VMC of the utterance. This means that the explanation in terms of 'double attribution' offered for *with*+participles is fully borne out: On the one hand attribution occurs when the *with*-phrase is combined with another prepositional phrase (also with an adverb or adjective), a link guided by the meaning of the preposition *with* ('with respect to'; see Section 5.2). On the other hand this combination of prepositional phrases is attributed to the VMC of the utterance (*we feel quite lonely sometimes* in (95)); here again the prepositional meaning of *with* supports the process of attribution. Compare Figure 27 for a visualization in which the parallels between non-verbal *with*-combinations and *with*+participle constructions are highlighted.



**Figure 27.** Double attribution of *with*+participle constructions and non-verbal *with*-combinations

All in all the process of double attribution in non-verbal combinations, as it can be observed in (95) and in the examples in (88–94) above, testifies to the strength of attribution as an independent concept-linking mechanism alongside verb-mediated constructions. For the *with*+participle constructions it can only be repeated that the item *with* is definitely more than a structure word signaling a subject element of the non-finite construction and that it contributes a great deal to the communicative success of the construction.

While the *with*+participle constructions is thus well established in communication, absolute participle constructions with prepositionless noun phrases as notional subjects are less frequent and often regarded as less acceptable – compare (96–97). It should also be noted that the object forms of personal pronouns are principally excluded from this usage.<sup>23</sup>

(96) ?The warden keeping the key in a secret place, nobody could open the safe.

(97) ?Our economy analyzed by a multitude of specialists, the media provide new predictions almost daily.

Examples like (96–97), though perhaps not unintelligible, are avoided by competent speakers of English. The reason is that in both examples the initial noun phrase (*the warden, our economy*) cannot be easily identified as subject participant of a construction (because the tense signal is missing), nor does it unequivocally qualify as attributed referent of a non-finite construction (because it is not marked as such by a preposition or postverbal position).

The question remains if there are instances of this type of absolute participle construction that are more acceptable than others. Skimming through the examples provided in grammatical handbooks, one finds that in most of them the noun phrase is combined with a possessive determiner referring to the subject participant of the superordinate VMC, i.e. it indirectly provides a PART-WHOLE link that to some extent resembles the subject reference in related participle constructions (98–99).<sup>24</sup>

(98) The explorers suddenly found themselves in a vast cavern, **their** lamps casting strong shadows.

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23. Examples with object forms of personal pronouns like \**Him keeping the key in a secret place, nobody could open the safe* are not acceptable since the object form of the pronoun is not supported by a PAR interface connecting the attributed referent with the object participant of a VMC. See Section 10.2.3.

24. Compared with examples like *in spite of his ruining the family car*, where the possessive determiner is regarded as notional subject, the determiner in (98–99) only functions as modifier of the nouns (*lamps, existence*) which in turn represent the notional subject.



- (99) **Their** existence discovered in 1940, the cave paintings of Lascaux quickly became famous around the world. (98–99) from Ungerer (2000)

Alternatively, but less effectively, the relationship between notional subject and VMC can be established by contextual closeness, as illustrated for the weather context in (100), for the meal context in (101) and for the context of business meetings in (102).

- (100) The sun having come out, they decided to go for a walk.  
 (101) Lunch finished, the guests retired to the lounge.  
 (102) No further discussion arising, the meeting was brought to a close.  
 (101–102) from (Qu: 15.58)

Considering the precarious status enjoyed by these absolute participles, the *with*+participle construction appears as a much more reliable and more flexible way of rendering participles with notional subjects in English, not least because it is explicitly anchored in the concept-linking process of attribution.

#### 10.4 Postscript on the terminology of gerund and participles

The long-standing question whether the distinction between gerund and participles makes sense and should be upheld arose at several points in this chapter. Not only does it feature in the well-known terminological overlaps concerning *stop/continue+ing*-form or *after/before/since+ing*-form, it also divides non-finite circumstances up into conjunction+participle (e.g. *when leaving the house*) and preposition+gerund (e.g. *on leaving the house*) on the grounds that prepositions require the nominalized *ing*-form of gerunds while conjunctions do not. The background is, of course, that unlike infinitives, which have their own morphological form, gerunds and many participles share the *ing*-form as morphological base and can only be distinguished by considering their ‘nominal’ or ‘adjectival’ functions.

If the traditional gerund/participle distinction has been maintained throughout this chapter, it has been as a tribute to established reading habits in a linguistic domain in which the concept-linking analysis already requires new terminology to describe essential interfaces. Looking back, this decision comes at a price because the concept-linking approach could provide a demarcation between gerund and participle that seems to be better suited to the syntactic priorities of English grammar than the current division that is tied to the word class distinction of noun and adjective. At the same time, it would avoid following grammatical handbooks (Quirk et al., Dixon 2005, Aarts 2011) into abandoning one of the labels altogether (i.e. dropping ‘gerund’ in favor of ‘participle’) or fusing the two terms into ‘gerund-participle’ (H and P).

The proposed demarcation would follow the distinction between the concept-linking mechanisms of VMC and attribution. In more detail, this would mean:

- The term ‘gerund’ would be employed throughout for *ing*-forms used as non-finite constructions within VMCs, not only as subject and object participants, but also as constituents of interfaces in these positions (this would include, for instance, *ing*-forms in copula/modifier interfaces, i.e. ‘participles’ used as subject complements).
- The term ‘participle’ would be used for *ing*- and *ed*- forms (and irregular past participles) functioning in attribution (both as circumstances and modifiers).

Since this definition would not radically shift the boundary between the two categories, it would not involve any change for the majority of gerund and participle constructions. Re-labeling would be restricted to the following cases – here listed in traditional terminology: Participles used as subject complements (103–104) and object complements in object+participle constructions (105–106) would be regarded as gerunds because in these functions the *ing*- and *ed*-forms belong to VMCs or to interfaces with VMC footing – and this would, of course, also apply to the recognized borderline cases mentioned above (*stop talking*, etc.). Gerunds used as circumstances after prepositions (107–109) would be regarded as participles because they function within the concept-linking mechanism of attribution. Compare the following examples:

**participle** → gerund (gerund in copula/modifier interface)

(103) We sat *watching* the birds in the sky.

(104) We sat *glued* to our seats.

**participle** → gerund (gerund in PAR interface)

(105) We watched *him walking along the road*.

(106) We found *him tied to a table leg with a rope*.

**gerund** → participle (participle as circumstance):

(107) *In spite of queuing for hours*, we didn’t get a ticket for the show.

(108) We finally managed to get in *by slipping through the stage entrance*.

(109) *Due to Peter’s behaving so badly*, we have never been invited since.



## Interfaces and the grammaticalization of perspectivizers

### 11.1 Interfaces and cross-mechanism grammaticalization

This chapter takes a first look at how the concept linking approach can contribute to a better understanding of grammaticalization. To follow Hopper and Traugott (2003: xv), grammaticalization can be defined “as a change whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions and, once grammaticalized, continue to develop new grammatical functions”.

Focusing on the second part of this definition (the evolvement of new grammatical functions from already existing grammaticalized functions), this process will be claimed for certain developments that start out from item-based VMC constructions and lead to the creation of new perspectivizing tools. This cross-mechanism grammaticalization, as it will be called, should be seen as based on interfaces that have their footings in these two linking mechanisms. As suggested in Section 7, interfaces are to be understood as scales with the footings functioning as poles of the scale. Due to this scalar quality cross-mechanism grammaticalization can be regarded as a cline, i.e. that the linguistic phenomena involved “go through a series of small transitions” (Hopper and Traugott 2003: 6) along interfaces before they are fully grammaticalized.

Examples dealt with in the following are the well-researched grammaticalization of semi-modals into modality perspectivizers (Section 11.2) and the development of item-based VMC cores such as *I think* and expressions like *do you think* into viewpoint perspectivizers (Section 11.3).

### 11.2 From verb+infinitive to complex predicates with modal perspectivizers

Consider the following pair of examples, each of them containing two verbal elements, of which the second represents the ‘base form’ (1–2).

- (1) I hoped to find a new job.
- (2) You can find a new job.

Although it is obvious that in (1) the verbal element *find* is part of a non-finite construction, as discussed in Chapter 10, while in (2) it constitutes a complex predicate together with the auxiliary *can*, the functional difference becomes even clearer when the concept-linking mechanisms of VMC and perspectivizing are distinguished, as in Figure 28.

(a) <i>I hoped to find a new job.</i>		(b) <i>You can find a new job.</i> (c) <i>I'm going to find a new job.</i>	
<p style="text-align: center; margin: 0;">MAIN VERB</p> <p style="text-align: center; margin: 5px 0;"><i>hoped</i></p> <p style="text-align: center; margin: 0;">+     </p> <p style="text-align: center; margin: 0;">full mediating function in VMC</p> <p style="text-align: center; margin: 0;">full perspectivizing (tense expressed)</p>	<p style="text-align: center; margin: 0;">INFINITIVE AS INTERFACE</p> <p style="text-align: center; margin: 5px 0;"><i>to find</i></p> <p style="text-align: center; margin: 0;">+     </p> <p style="text-align: center; margin: 0;">partial mediating function in VMC (subjectless)</p> <p style="text-align: center; margin: 0;">partial perspectivizing (tenseless, but modality expressed)</p>	<p style="text-align: center; margin: 0;">AUXILIARY/ SEMI-AUXILIARY</p> <p style="text-align: center; margin: 5px 0;"><i>can/be going to</i></p> <p style="text-align: center; margin: 0;">+     </p> <p style="text-align: center; margin: 0;">∅ mediating function in VMC</p> <p style="text-align: center; margin: 0;">full perspectivizing (modality + tense)</p>	<p style="text-align: center; margin: 0;">MAIN VERB</p> <p style="text-align: center; margin: 5px 0;"><i>find</i></p> <p style="text-align: center; margin: 0;">+     </p> <p style="text-align: center; margin: 0;">full mediating function in VMC</p> <p style="text-align: center; margin: 0;">∅ perspectivizing</p>

**Figure 28.** Verb+infinitive construction with complex predicate

In example (a) of Figure 28 (which takes up (1) and represents the verb+infinitive construction) both verbal elements partake in the mediating and perspectivizing function: The primary verb *hope* performs the mediating function between the subject and the postverbal participant; at the same time it renders the only TAM perspective necessary (past tense), producing a genuine verbal interface (see Section 7). The infinitive as non-finite interface involves both linking mechanisms by definition, yet in a reduced way (Section 10.2.1): Mediating is restricted to postverbal elements, perspectivizing primarily to the expression of modality. This reduced functional combination makes the interface eligible for the postverbal participant slot of the primary verb, a slot that is otherwise reserved for nominal elements. In contrast, example (b) in Figure 28 (which takes up (2) above and represents the complex predicate) documents the dissolution of the basic verbal interface (mediating plus TAM perspectivizing), which leads to a ‘division of labor’ between the main verb and the auxiliary: While the main verb takes care of the mediating function, the auxiliary is strictly limited to the perspectivizing function.

Still, there are developments that connect these two divergent ways of dealing with verbal mediating and perspectivizing. They can be explained in terms of cross-mechanism grammaticalization, as introduced in the previous section. Skipping the historically more distant derivation of modal auxiliaries like *can*, *must*

or *may* from lexical verbs expressing ABILITY, NECESSITY or PERMISSION,<sup>1</sup> there has been a continuous and still incomplete transfer of verb+infinitive constructions into the category of complex predicates in more recent times. Labeled semi-auxiliaries (Qu: 3.47) or semi-modals, items like *going/have(got)/be/want to* have in fact supplied some of the most prototypical examples of grammaticalization in linguistics (Hopper and Traugott 2003: 1) – and this is why they are represented by example (c) in Figure 28. The observation that these semi-modals are derived from verb+infinitive constructions is not surprising if one considers that *to*-infinitive interfaces highlight a modal perspective (deontic, volitional; see Section 10.2.1), which supports the modal meaning of the verbs *go*, *have* and *want* (i.e. MOTION, POSSESSION and INTENTION).

As suggested in the previous section, the grammaticalization cline has to be seen against the background of an interface scale, here a scale on which VMCs with infinitive complement<sup>2</sup> mark the bottom end-point and modality perspectivizing the top end-point – the two possibilities presented in Figure 28 above.

Compare Table 16, where the left-hand pole of the scale (Column A) is marked by genuine verb+infinitive constructions (3), and even more so, by main clauses equipped with elaborate TAM signals (*had been hoping* in (4)), with negation and adverbial perspectivizers (*not really* in (5)) and/or conceptually rich subject participants (*slow-moving authorities* in (6)).

**Table 16.** The scale of the VMC/modality perspectivizer interface

VMC/modality perspectivizer interface scale →		
VMC+inf. pole		perspectivizing pole
A	B	C
VMC function of 1st verb dominant	Intermediate position: extended copula construction	Perspectivizing function of 1st verb dominant
<i>hope/intend/propose</i> , etc. + 2nd verb as infinitive	<i>apt/likely/obliged/supposed/willing to</i> + 2nd verb as infinitive	<i>going to/have to/want to/be able/bound to</i> + 2nd verb as main verb of VMC

1. Although this grammaticalization process is often seen as a change of lexical items into constructions (corresponding to the first half of Hopper and Traugott's definition (see Section 11.1), the underlying lexical items are already used in the grammatical function of VMC predictor; their development into perspectivizing modal auxiliaries can therefore be regarded as cross-mechanism grammaticalization. For the development of modal auxiliaries see Fischer (2003).

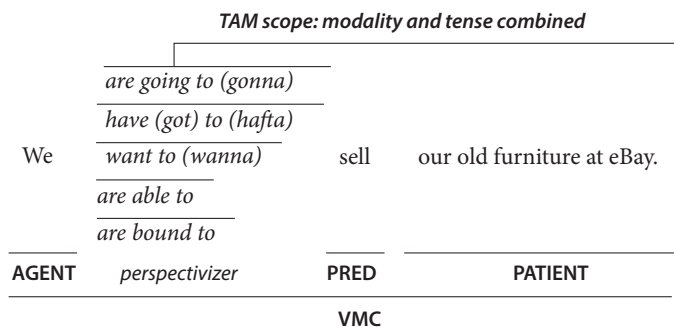
2. In fact what is labeled here as 'VMC with infinitive complement' for simplicity already involves another interface, the non-finite interface discussed in Section 10.2.1.

- (3) I hoped to find a new job. (= 1 above)
- (4) The newcomers had been hoping for such a long time to play in the match.
- (5) The authorities did not really intend to help the victims.
- (6) As always, the slow-moving authorities preferred to overlook the urgency of the situation.

Intermediate positions on the scale (Column B) can be claimed for extended copula/modifier interfaces (structures with ‘adjective complements’; see Section 8.1.2); these constructions still fulfill a matrix verb function though with a bias for perspectivizing the subordinate content clause. Examples are *apt/likely/obliged/supposed/willing to* (7–9).

- (7) He is apt to falter when confronted with difficulties.
- (8) Are you willing to come along and help us?
- (9) They are obliged to take some measures in this situation.

The perspectivizing pole of the scale (Column C) is, of course, rightly reserved for the verb-based semi-modals *going/get/have/want to* (and even more so for their colloquial contractions *gonna, wanna, hafta*<sup>3</sup>); additional candidates for this position and the status of semi-modals are copula/modifier constructions such as *be able to/bound to*.<sup>4</sup> The role played by semi-modals in the concept-linking framework is illustrated by the annotated example in Figure 29, where semi-modals are identified as signals of a combined modality and tense scope, with the verbal element *sell* functioning as predicator responsible for mediating between the subject participant and the postverbal participant.



**Figure 29.** Semi-modals as perspectivizers in complex predicates

3. This evaluation is based on the fact that contractions come closer to the ideal of one-word (or one-affix) perspectivizers even though the modal meaning of the *to*-infinitive is no longer rendered morphologically by the *to*-particle.

4. Quirk et al. classify *apt/likely/obliged/supposed/willing to* as semi-auxiliaries (Qu: 3.47)

Surveying once more the examples provided for the various stages of the interface scale, there can be no doubt that in present-day English the column-A and column-B examples presented in (3–6) and (7–9) are more challenging stylistically than the use of the highly grammaticalized perspectivizers *going/have/want to* and their contractions (Column C). This is important for the easy acquisition of these semi-modal perspectivizers in early childhood and promises to explain how young children are introduced to infinitive constructions by a kind of backdoor entry – compare Section 15.5.

### 11.3 From two VMCs to viewpoint perspectivizer+VMC

#### 11.3.1 Statements introduced by *I think*

While the grammaticalization of *going/have/want to* is as uncontroversial in traditional analysis as within the concept-linking framework, a grammatical explanation of utterances introduced by *I think* (occasionally *I say*) that goes beyond the traditional syntactic analysis has often been discussed, but not been generally accepted. According to the traditional interpretation examples (10–11) consist of a complement-taking matrix clause and a finite subordinate clause, an analysis that is backed by the notion of a uniform syntactic hierarchy.

(10) I think he earns a lot of money.

(11) I say you don't know anything at all.

Dissatisfaction with this analysis of what will be labeled '*I-think-element*' has been growing since the notion of discourse markers was introduced and applied to *I think*, *I mean*, *I say* and similar expressions (Schiffrin 1988). Seen from the angle of concept linking, the decisive step was taken by Thompson (2002), who characterized the *I-think-element* by saying that “what has been described under the heading of complementation can be understood in terms of epistemic/evidential/evaluative formulaic fragments expressing speaker stance toward the content of a clause” (Thompson 2002: 1). The ensuing discussion included interpretations of the *I-think-element* as speech-act adverbial (Aijmer 1996: 1), parenthetical (Dixon 2005: 233–238), instance of item-based schematization (van Bogaert 2011), grammaticalization in a specific constructional slot (Boyé and Harder 2007) and the explanation as element of a specific “thetical” grammar within the larger framework of a discourse grammar (Kaltenböck 2011, Kaltenböck et al. 2011, Heine et al. 2013).

Though all these explanations have their merits compared with the traditional analysis of the *I-think-element*, the concept-linking approach promises a solution within a comprehensive grammatical framework. Compare Figure 30, where the



proposed interpretation of (10) is presented in Figure 30b and contrasted with the traditional analysis (Figure 30a). If, as suggested in the ‘perspectivizer box’ of Figure 30b, the *I-think*-element is understood as a tool of perspectivizing, it is no longer regarded as a grammatical ‘loose-end’, but firmly integrated into one of the major concept-linking mechanisms and thus provided with an alternative ‘syntactic’ anchoring beyond verb-mediated constructions. As perspectivizer, the *I-think*-element interacts with the only remaining VMC (‘content clause’) like other perspectivizing tools such as TAM, *not*-negation, adverbs (12–13). A positional consequence is that – though normally placed in front of the VMC – the *I-think*-element can also follow the content clause *he earns a lot of money*. And quite in line with the relationship between perspectivizing and VMCs, the content clause is not regarded as subordinate and not introduced by the conjunction *that*.<sup>5</sup> Semantically the *I-think*-element is close to viewpoint adverbs (*personally, presumably, probably*) and thus equipped with a comparable grammaticalized scope.<sup>6</sup> Yet it is also different from these adverbs because it is more precise, as the first person pronoun *I* explicitly states that the speaker’s stance is rendered.

*I think he earns a lot of money.*

(a) Traditional interpretation		(b) Concept-linking interpretation			
VMC matrix clause  <i>I think</i>  <b>full</b> mediating in VMC  <b>full</b> perspectivizing (tense expressed)	+	VMC subordinate clause ( <i>that</i> -insertion possible)  <i>he earns ... money</i>  <b>full</b> mediating in VMC  <b>full</b> perspectivizing (tense expressed)	Perspectivizer  <i>I think</i>  ∅ mediating in VMC  <b>viewpoint</b> perspectivizing only	+	VMC (= only clause) ( <i>that</i> -insertion <u>not</u> possible)  <i>he earns ... money</i>  <b>full</b> mediating in VMC  <b>full</b> perspectivizing (tense expressed)

**Figure 30.** Traditional and concept-linking analysis of the *I-think*-element contrasted

5. This view is also supported by findings of language acquisition research, in which early examples of this construction are regarded as “mono-propositional” (Diessel & Tomasello 2005; see also Section 15.5.2).

6. A similar explanation is feasible for the *what-I-mean-is* construction, for example in *What I mean is how did you get this picture?* As discussed by Aijmer (2015: 34), this fossilized chunk of the nominal clause in a *what*-cleft (see Section 6.4.3) has a “projective force” or “scope” over the ensuing VMC, although this VMC cannot be structurally analyzed as the second part of the *wh*-cleft. This is no problem for a concept-linking analysis, in which the ‘chunk’ functions as a viewpoint perspectivizer just like the *I-think*-element.

*scope of viewpoint perspectivizer 'I think'*

(12)  $\overbrace{I \textit{ think} \textit{ he earns a lot of money.}}^{\text{VMC}}$

*scope of viewpoint perspectivizer 'I think'*

(13)  $\overbrace{\textit{ You're wasting your money, I think.}}^{\text{VMC}}$

As a grammaticalization phenomenon of the cross-mechanism type, the development of the *I-think*-element is related to a scalar interface bounded by the poles of VMC and viewpoint perspectivizing.<sup>7</sup> See Table 17, where the VMC pole (Column A) is open to any kind of complex sentence comprising an introductory, but semantically substantial matrix VMC and a second VMC. The second clause is experienced as genuinely subordinate and may (but need not) be introduced by the conjunction *that* (14) – in indirect interrogative statements the conjunction *if* or the pronoun *why* are obligatory (14').

**Table 17.** VMC/viewpoint interface scale for statements

VMC/viewpoint interface scale for statements →		
VMC pole	perspectivizing pole	
A	B	C
Introductory VMC with different verbs and semantically rich subject participant	Introductory VMC consisting of pronoun subject & simple present verb form	Introductory element <i>I think</i> as viewpoint perspectivizer
e.g. <i>Flood victims complained (+ that) + VMC</i>	pronoun + <i>say/think/wonder/imagine (+ that) + VMC</i>	<i>I think + VMC</i>

Intermediate positions on the interface scale (Column B) seem adequate for elements with pronouns other than first person *I*; they also permit other verbs of thinking and locution like *wonder* and *imagine* (15–16).

(14) Flood victims complained (that) relief was slow to arrive.

(14') The courts investigated why flood relief was delayed.

(15) We were wondering if we could help.

7. This scalar interpretation can also be applied to the *what-I-mean-is* construction (see fn. 6), where canonical *wh*-clefts (e.g. *What Dad means is that you should tell us everything*) would mark the bottom of the scale (VMC pole or Column A) while combinations of the fossilized chunk and a structurally unfitting VMC (e.g. *What I mean is how did Peter know*) would represent the top perspectivizing pole or Column C).

(16) Can you imagine they will recover?

The top position of viewpoint pole (Column C) will be reserved for the *I-think*-element, which shows all the characteristics of a viewpoint perspectivizer and cannot be combined with a conjunction; see examples (12–13) above.

### 11.3.2 Questions introduced by (*what*) *do you think*

Turning to questions, it is fairly obvious that *yes/no*-questions introduced by *do you think* can be explained in a similar way as *I-think*-statements apart from the difference that the viewpoint perspective is combined with the interrogative mode and therefore not speaker-based, but hearer-related. As shown in (17), *do you think* can be regarded as a perspectivizer that interacts with the remaining VMC.

*scope of viewpoint perspectivizer*  
*'do you think'*

(17) *Do you think* I've got something in my pocket?  
VMC

What is perhaps more surprising is that questions which generative linguists have classified as instances of 'long-distance dependency' based on the pattern *WH do you think S-GAP?* (Radford 2004: 394–401) and which are widely known under this label,<sup>8</sup> may also benefit from a concept-linking interpretation. As illustrated in (18), both the *what*-element and the *do-you-think*-element provide a specific perspective on the VMC: While *what* takes care of the interrogative sentence mode, the *do-you-think*-element adds a hearer-related viewpoint perspective to the message.

*scope of wh-question*

*scope of viewpoint perspectivizer*  
*'do you think'*

(18) *What do you think* I've got in my pocket?  
VMC

Considering this, the concept-linking view of this construction has indeed several advantages. Since *what do you think* is not seen as part of the VMC, but as consisting of an interrogative and a viewpoint perspectivizing signal, the problem of long-distance dependencies does not arise. Otherwise the same conditions apply as for statements: The status as viewpoint perspectivizer requires the formulaic expression *do you think/say* and the absence of *that* as a linking conjunction.

8. For instance, this label is also used by many cognitive linguists, e.g. Ambridge & Goldberg (2008), Dabrowska (2008; 2013).

The question is whether it makes sense to assume a cross-mechanism grammaticalization process for the types of questions discussed here and to establish an underlying scalar interface, especially if one considers that the historical background of the interrogative candidates for viewpoint perspectivizing is not really well researched. This is why the interface-based grammaticalization scale sketched in Table 18 relies on the situation in present-day English and can only be regarded as a first attempt.

As stated in Table 18 and illustrated by the respective examples, the situation for *yes/no*-questions is quite similar as for *I-think*-statements. The bottom position on the scale (VMC pole or Column A) is open to a wide range of locutionary and mental activity verbs and also to nominal subject participants, presented in a VMC, while the second subordinate VMC is linked by the conjunction *that*. The top position on the scale (perspectivizing pole or Column C) is restricted to formulaic perspectivizing *do-you-think*-items, with the VMC following without a conjunction. Intermediate examples (Column B) show a reduced choice of tense (only present tense), subject elements (only pronouns) and verbal concepts in the interrogative clause combined with the optional use of *that*.

For *what-do-you-think*-questions the variation along the interface is much more restricted – compare the bottom row of Table 18. In fact, as already observed by Dabrowska (2013:662), the acceptability of intermediate variants (Column B) is doubtful; examples that could theoretically represent the bottom pole of the interface scale (Column A) are not acceptable at all. This only leaves the combination of the *what-do-you-think*-formula combined with a VMC (Column C), which in Dabrowska's view is template-based (Dabrowska 2013). In the concept-linking framework this construction only works if the *do-you-think*-element is recognized as a viewpoint perspectivizer.

**Table 18.** VMC/viewpoint interface scale for *yes/no*- and *wh*-questions

VMC/ viewpoint interface scale for <i>yes/no</i> - and <i>wh</i> -questions		
bottom	→	top
A	B	C
Introductory VMC with a choice of verbs and a semantically rich subject participant	Introductory VMC consisting of pronoun subject & simple present verb form	Introductory do-you - think element as viewpoint perspectivizer absence of conjunction
YES/NO-QUESTIONS <i>Do your parents agree that + VMC?</i> *WH-QUESTIONS * <i>What are trade unions demanding that must be maintained?</i>	YES/NO QUESTIONS <i>Can you imagine Ø/that he'll recover?</i> ?WH-QUESTIONS ? <i>What did you complain Ø/ that Neil likes?</i> (Dabrowska 2013: 662)	YES/NO QUESTIONS <i>D'you think Ø I'm crazy?</i> WH-QUESTIONS <i>What d'you think Ø I'm doing?</i>

## 11.4 Final overview of interfaces

After the major interfaces have been presented in Chapter 8–11, the summary in Table 19 (which is attached here to save the effort of inserting an additional chapter) should round off a topic that plays a decisive role within the concept-linking approach.

**Table 19.** An overview of major interfaces in the concept-linking framework

Label of interface and traditional equivalent	Description
[1] Copula/modifier interface (= subject complement pattern) Details in Table 7.	Combining function of postverbal element in copula constructions (including those with <i>seem</i> , <i>become</i> ) with modifier function of adjective towards noun
[2*] Participant/patient modifier interface (*variant of [1]) (= object complement pattern)	Combining function of second postverbal participant with its modifier function towards 1st postverbal participant (PATIENT)
[3] Participant/circumstance interface (= obligatory and semi-obligatory adverbials)	Combining participant function in VMC with circumstancing attribution (LOCATION, TIME, MANNER), often guided by preposition
[4*] PPP interface (*variant of [3]) (= verb with prep. object)	Combining function of Participant with attribution of a Prepositional Phrase that does not denote a typical circumstance
[5] Clause-final adverb interface (= <i>ly</i> -manner-adverb used clause-finally)	Combining perspectivizing with the participant/circumstancing interface of prepositional MANNER phrases (the latter variant of [3])
[6] Adjectival adverb interface (= suffixless adjectival adverbs)	Combining attributive function of 'ad-verb' and function of perspectivizing adv.
[7] Degree adverb interface (= MEASURE-based degree adv.)	Combining postverbal use of the item in VMCs with perspectivizing function
[8] Non-finite interface (with infinitive/gerund/participle variants) (= non-finite structures)	Combining participant function in VMC with reduced TAM perspectivizing, yielding a subjectless, tenseless construction
[9*] PAR interface (*variant of [3]) (= non-finite structure with notional subject)	Combining Participant role in VMC with function as Attributed Referent of non-finite interface
[10*] PPP/AR interface (*variant of [3] and [9]) (= <i>for</i> +noun+inf. half gerunds after verb+prep)	Combining Participant/Prep. Phrase interface with Attributed Referent of non-finite interface
[11] VMC/modality perspectivizer interface ( <i>going/have/want</i> to as main verbs & semi-modals)	Combining matrix-verb function in VMC with function as modality perspectivizer
[12] VMC/VIEWPOINT interface (complement-taking verb, <i>yes/no-</i> & <i>wh</i> -questions)	Combining VMC core, e.g. <i>I think/(what) do you think</i> , with function as viewpoint perspectivizer

PART III

# Language acquisition



## Introductory remarks on concept linking in language acquisition

As concept-linking grammar is firmly rooted in the cognitive-linguistic tradition, it is not surprising that it is fully compatible with the two major tenets of the cognitive-linguistic and also usage-based approach to language acquisition: first, the claim that language acquisition is not separated from, but embedded in, the child's general cognitive development<sup>1</sup>, and secondly, that language competence gradually develops through different stages – from individual words and holophrases to two-word combinations, pivot structures and on to item-based constructions, which are later generalized into grammatical schemas.<sup>2</sup>

Indeed, both these cognitivist claims (which are of course opposed to the generativist claim of an inborn language faculty<sup>3</sup>) can be supported by additional explanations when language acquisition is related to the three linking mechanisms postulated by the concept-linking approach: verb-mediated constructions (VMCs), attribution and perspectivizing.

As for the first claim (the 'embeddedness' claim), it gains strength in the context of concept linking because the notion of attribution permits a new view on the earliest pairs of symbolic-linguistic items. It helps to understand why the first two-word combinations need not necessarily "determine" a complete communicative act (Tomasello 2000: 65), with non-linguistic means relegated to a merely supportive function. Instead, these pairs should be seen as being related to a conceptual scene by a vague, holistic link. Or to put it quite bluntly, these early two-word combinations are experienced by the child as 'belonging together'.

Such *early attribution links* (or EALs), as they will be called, can occur between any type of concept, not only between those that correspond to adult nominal concepts,

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1. See e.g. Tomasello (2000, 2003, 2006, 2008) and also Diessel (2013: 348), who emphasize the importance of "domain-general learning mechanisms".

2. *Holophrases* are here defined as nonsegmented multi-word units; *two-word combinations* as pairs whose elements "have roughly equal status" (Tomasello 2000: 64–65) no matter whether separated by a pause or showing a common intonation contour (Bloom 1973); *pivot structures* as consisting of pivot element and open slot (Braine 1976); *item-based constructions* as VMCs based on a single verb.

3. See Radford (2004: 10–13) for an introduction to the 'language faculty' (earlier term: language acquisition device or LAD), which is 'switched on' in the course of the child's language development, and Evans, V. (2014) for a critical assessment.



e.g. *boy girl, baby mummy, dolly shoe, bunny rabbit* – compare other combinations like *not mum, no see, bit too, coat on, just ships*.<sup>4</sup> Due to its holistic quality the notion of EAL is compatible with aspects of early language use that are sometimes neglected, for instance playful repetition and variation. Within intentional goal-directed communication EALs tend to perform only a supportive function, while communicative success still primarily depends on the non-linguistic strategies acquired by the child in the pre-linguistic phase: body posture and gestures (see Goldin-Meadow and Alibali 2013), vocal aspects like crying, laughter, rising and falling intonation. See Figure 31, where EALs are placed in the top left-hand corner, and the more detailed discussion, especially of the cognitive roots of EALs, in Chapter 13.

As shown in Figure 31, EALs evolve into pivot structures, a term introduced by Braine (1976) within the structuralist paradigm, but here re-interpreted in terms of concept linking (for details see Section 13.2.2). On this view pivot structures can be divided up into ‘non-verbal’ and ‘verb-containing’ variants, which open up different avenues of development: Non-verbal pivot structures evolve into the modifier-head attributions and circumstancing phenomena of adult language, a development that occurs within the attribution mechanism – see left-hand column in Figure 31. Verb-containing pivot structures evolve into item-based verb islands (Tomasello 2000: 66-69), as documented in the central column of Figure 31; their further development into VMCs is discussed for *put-* and *want-*constructions in Sections 14.2 and 14.3. After the VMC stage has been reached, it takes some more time before the construction develops into a clausal schema with full TAM perspectivizing and thus completes the process postulated by the ‘schematization claim’, the second tenet of usage-based acquisition theories (right-hand column of Figure 31).

Apart from VMCs proper the rise of interfaces also deserves attention, in particular the early presence of the copula/modifier interface (*that’s Sue, that’s better, it’s empty*, etc.). The first instances of this interface, mainly combinations of demonstrative+*be*-form+noun/pronoun, are rooted in non-verbal pivot structures, such as *that daddy, there dolly*, but also depend on the availability of the copula variant of the VMC, which is combined with the attribution potential of the pivot structure (see circular box in Figure 31 and Section 14.4).

Returning to the right-hand column of Figure 31, it also illustrates how EALs with negation element or *wh*-element are used as early instances of perspectivizing, as indicated by the arrow connecting the attribution column with the perspectivizing column. These early instances of negation and *wh*-questions (*no see, where duck?*) may often appear ‘incorrect’ from an adult stance, but this ‘partial achievement’ of perspectivizing is quite effective in terms of communication (see Sections 15.1–3).

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4. These examples (like the following examples in this chapter) are taken from the first samples of the pilot corpus – see Section 13.1.

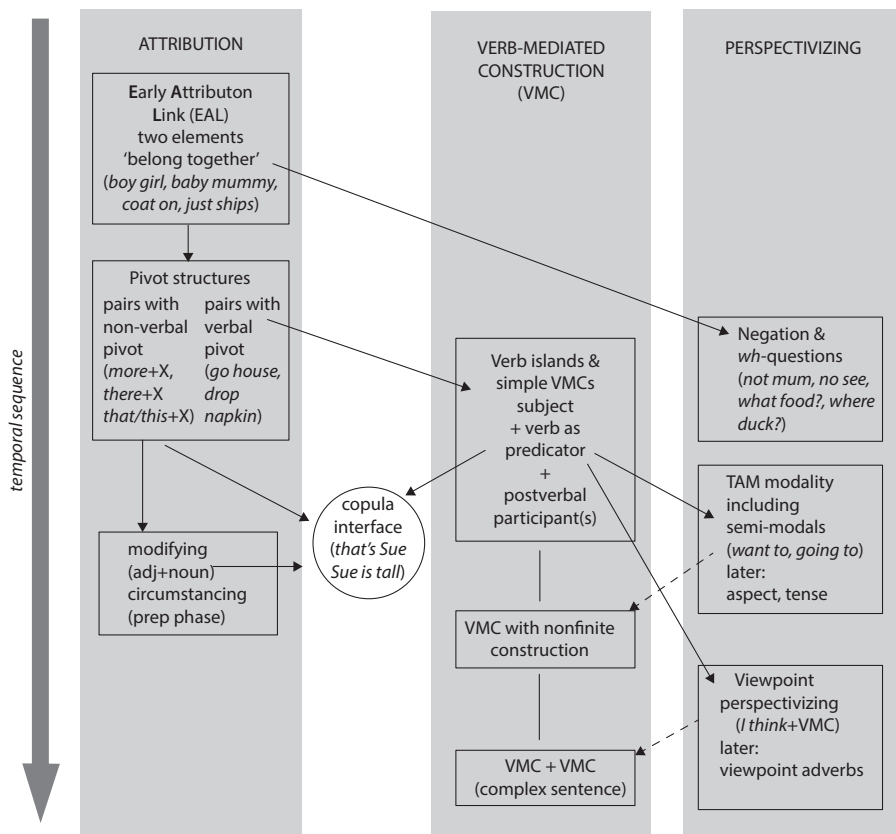


Figure 31. Selected aspects of the concept-linking view of early language acquisition

The remaining arrows in the diagram indicate specific links that develop between the VMC and the perspectivizing mechanisms (central and right-hand columns in Figure 31). The first link concerns the use of *go*, *get*, *have* and *want* in VMCs with two verbs (finite verb+infinitive in adult grammar). Here the arrow signifies that the first verb element takes over the function of a semi-modal in perspectivizing (see Section 15.4). In the case of *want* this is later followed by a reverse development which may be understood as the child's 'backdoor entry' to non-finite constructions embedded in VMCs (indicated by the broken arrow and further discussed in Section 15.5.1). A somewhat similar process takes place when the child begins to make use of VMC cores like *I think* to express a viewpoint perspective, which in turn provides another kind of 'backdoor entry', here used to access complex sentences (Section 15.5.2; compare the respective pair of full line and broken arrow).



## Temporal priority of attribution in early language acquisition

### 13.1 Early attribution and the pilot corpus

If one wants to substantiate the hypothesis put forward in Chapter 12 that the first two-word items should be regarded as early attribution links (or EALs) based on a holistic belong-together relationship, one should first of all ascertain that this interpretation does not just apply to a few cherry-picked cases, but is relevant for a large section of 'two-word-plus items' (quite often simply called 'word pairs' in the following)<sup>1</sup>

The simplest way to establish a candidacy for early attribution is to determine if a word pair consists only of non-verbal elements, which means that it lacks an element capable of functioning as a predicator in a VMC. In a second step, the non-predicating criterion can be applied to those verb-containing pairs that feature a verbal element whose mediating function is not yet fully activated within a VMC (i.e. which lacks a subject element although it is not used in the imperative sentence mode).

In order to supply empirical evidence for these two types of EAL candidacy, a pilot corpus was compiled from suitable corpora of the CHILDES collection, covering the early two-word period of language acquisition for five children.<sup>2</sup> To eliminate distortions likely to arise from different learning speeds, the period investigated is related to competence rather than age. The onset stage is defined as a sample of infant conversational turns containing at least 10% two-word-plus items; the development of acquisition is pursued for 12 months and monitored in two-months

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1. Two-word-plus items are defined as a combination of two or more elements that can be used by themselves, but do not constitute complete VMCs. Among the items not included are holophrases (greeting formulas, fixed expressions like *here\_you\_are*), combinations with question tags (*yes\_it\_is*), phrasal verbs (see also fn. 20 below) and repetitions within a child's single turn (e.g. *baa baa* 'lamb') or within consecutive turns. The distinction of verbal and non-verbal elements is not based on the automatic tagging supplied in CHILDES, but on a manual re-tagging that takes account of the context in doubtful cases.

2. Anne (Manchester Corpus), Eve (Brown Corpus), as well as Forrester, Lara and Thomas (UK corpora).

intervals. The resulting age range of acquisition stages extends from age 1;6 to 2;1 for the onset stage and from age 2;9 to 3;1 for the final stage.<sup>3</sup> Compare Table 20 for an overview of the sample data.<sup>4</sup>

**Table 20.** Quantitative overview of sample data: distribution of two-word-plus items (total 7355)

stages corpora	I onset	II +2 mths	III +4 mths	IV +6 mths	V +8 mths	VI +10 mths	VII +12 mths	Total
Anne	70	257	265	345	283	208	455	1880
Eve	161	304	376	311	517	232		1901
Forrester	70	159	152	108	126	185	121	919
Lara	108	153	181	114	128	209	484	1381
Thomas	49	103	168	183	335	268	167	1274

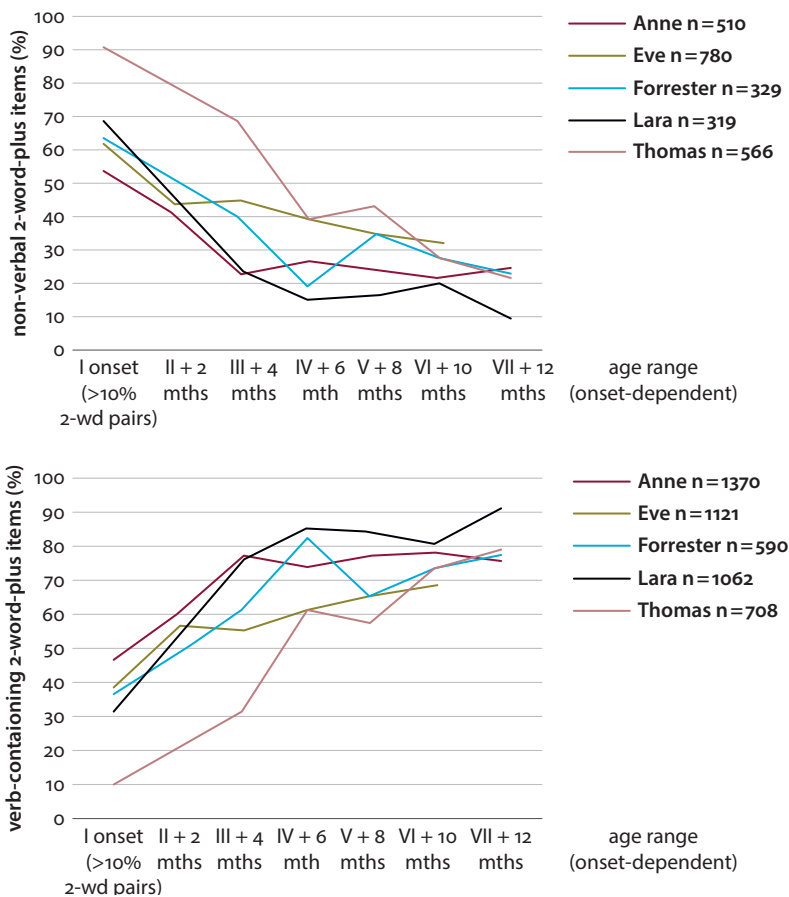
The sample data reflect quantitative tendencies in the relative frequency of non-verbal and verb-containing pairs for the observed period, as documented in Figure 32. If one compares the two diagrams in Figure 32, the top diagram clearly shows the strength of non-verbal pairs at the onset stage (50% to 90%) and during the first two months of the two-word period (40% to 80%) as well as their ensuing decline, while the bottom diagram represents the complementary rise in the proportion of verb-containing combinations.

As will emerge in Section 13.2, the explanation of the initial dominance and continuing presence of non-verbal pairs benefits considerably from an interpretation in terms of attribution.

Turning to verb-containing pairs, the second group of candidates for early attribution, counts are based on instances where the verb of a two-word-plus combination does not explicitly function as predicator of a verb-argument construction. In English this means that it is not used by the child together with a preverbal nominal element acting as subject in non-imperative examples. The results, though not uniform, show that – at least for the first two months (or onset stage and stage II) – the verbal element does not qualify as predicator proper in roughly 25–60% of the instances and that for stage IV (onset stage plus 6 months) the range is still 20–60%. Compare Table 21 for details.

3. For the Eve corpus the 7th stage is missing because this age range is not covered in the corpus.
4. Table 20 is based on the following sample data: Total number of turns: 47343, total number of child turns: 17371, number of two-word-plus child turns: 7355.

Given these quantitative tendencies in the pilot corpus, it seems indeed worthwhile to investigate the explanatory potential of the early-attribution claim.



**Figure 32.** Proportions of non-verbal and verb-containing two-word-plus utterances in the pilot study of 1;6 to 3;1-year-olds

**Table 21.** Absolute and relative frequencies of verb-containing two-word-plus items that do not qualify as predictors<sup>5</sup>

	I onset		II +2 mths		III +4 mths		IV +6 mths		V +8 mths		VI +10 mths		VII +12 mths	
Anne	$\frac{19}{33}$	58 %	$\frac{70}{154}$	45 %	$\frac{66}{202}$	33 %	$\frac{113}{256}$	44 %	$\frac{73}{217}$	34 %	$\frac{36}{164}$	22 %	$\frac{97}{348}$	28 %
Eve	$\frac{22}{63}$	35 %	$\frac{73}{173}$	42 %	$\frac{89}{206}$	43 %	$\frac{48}{188}$	25 %	$\frac{48}{334}$	14 %	$\frac{34}{157}$	22 %	-	-
Forrester	$\frac{7}{26}$	27 %	$\frac{54}{78}$	69 %	$\frac{43}{93}$	46 %	$\frac{23}{88}$	26 %	$\frac{19}{83}$	23 %	$\frac{27}{131}$	21 %	$\frac{21}{93}$	23 %
Lara	$\frac{11}{35}$	31 %	$\frac{24}{81}$	30 %	$\frac{24}{137}$	18 %	$\frac{19}{97}$	20 %	$\frac{15}{107}$	14 %	$\frac{22}{166}$	13 %	$\frac{37}{438}$	8 %
Thomas	$\frac{3}{5}$	60 %	$\frac{9}{22}$	41 %	$\frac{23}{54}$	43 %	$\frac{68}{112}$	60 %	$\frac{73}{190}$	39 %	$\frac{21}{195}$	11 %	$\frac{32}{129}$	24 %

## 13.2 Non-verbal two-word-plus items as attribution

### 13.2.1 Early attribution links (EALs)

The main reason why attribution can be profitably applied to early child language is not the superficial observation that most of the earliest word combinations consist of two elements.<sup>6</sup> What is much more important is the cognitive background of the PART-WHOLE image schema, which in adult language can be understood as a weighted, but basically holistic relationship distinct from PATH-based verb-mediation.

It is this holistic quality that turns out to be especially suitable for the interpretation of the first multi-word expressions as Early Attribution Links (EALs). Although the PART-WHOLE relationship – as prototypically expressed in adult modifier-head constructions – suggests a differentiation in weight, a holistic relationship between adjacent linguistic elements is also imaginable when the elements are not yet clearly ‘weighted’ against each other. This status seems to be highly appropriate for elements used in the earliest two-word combinations: Their conceptual content may not be fully grasped by the child and may still be somewhat fuzzy; category boundaries may appear as fairly vague and liable to over- and underextension (Clark and Clark 1977); the distinction between category types like PERSON/THING, LOCATION, QUALITY and ACTION may still be uncertain and a command of their specific functions not yet apparent.

5. Top digit of the fractions = number of non-predicating items = percentage given, bottom digit = number of verb-containing items = 100%.

6. Where longer non-verbal items occur, they can be explained as including additional instances of attribution. For example, *a man red truck* (Th II) can be analyzed as ATTR [a man ATTR [red truck]]; the example *Fraser pencil down* (E III) as ATTR [ATTR [Fraser pencil] down].

Now if two of these linguistic elements co-occur in a child's utterance, there is no reason to assume that the link established in this way will be more precise than the categorization of the individual concepts. Unless proved otherwise, it is unlikely to go beyond a vague holistic local connection of 'belonging together'. This suggests a kind of 'WHOLE-WHOLE' relationship<sup>7</sup> that can be seen as a forerunner of the weighted PART-WHOLE schema. What must not be forgotten either is that early attribution only concerns symbolic-linguistic elements. EALs are, as it were, 'hooked' onto non-linguistic strategies (body posture, gestures), which are used simultaneously by the child and, at this stage, are still more important in terms of communicative success.<sup>8</sup> Cognitively the non-linguistic tools express attention-craving skills like pointing at or holding up an object (Tomasello 2000: 63) and rely on early image schemas (Mandler and Canovas 2014) that have already been acquired by the child in the pre-linguistic period.<sup>9</sup>

The underlying vagueness of the WHOLE-WHOLE image schema is also the reason why EALs like *mummy telephone*, *mummy spoon*, *mummy fork* or MacWhinney's (2015: 28) example *Mommy chair* appear ambiguous when considered by themselves. Taking up the first example (*Mommy telephone*), it could be related to several different communicative scenes – Mommy possessing a telephone, the child intending to give her a telephone or trying to get a telephone from her, or simply directing Mommy's attention to a telephone or a toy phone game. It is only when the context of the child's linguistic utterance and the caregiver's reaction to it (which reflects the child's non-linguistic behavior) are taken into account that one of the possible interpretations – the toy phone game in the case of (1) – emerges as expressing the child's communicative intention.<sup>10</sup>

(1) (Source: E I)

MOTHER: *are you finished with your juice?*

CHILD: *Mommy telephone*

MOTHER: *wee, go and get your telephone [...] who are you calling, Eva?*

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7. 'WHOLE-WHOLE' may not be the most felicitous label for this relationship, but alternatives like 'ENTITY-ENTITY' are avoided because they suggest a level of abstractness that does not go well together with the notion of image schemas.

8. This is where the concept-linking analysis differs from Tomasello's (2000) account, who claims that the earliest two-word combinations are already capable of expressing the full communicative act, an approach that is shared by an anonymous reviewer who suggests that EALs metonymically express salient parts of the whole propositional structure.

9. Among early image schemas pointed out by Mandler and Canovas (2014: 1, 8–9) are MOVE, CONTACT and LINK, which are regarded as components of her tripartite system of spatial primitives, image schemas, and schematic integrations. See Section 2.7 on how these schemas are related to the concept-linking view of image schemas.

10. References for examples from the pilot corpus consist of the initial of the child's name and the number of the temporal stage in the child's development (Roman numerals, stage I = onset stage); see also Table 20.



Even if example (1) and the other ‘mummy examples’ listed as EALs above invite different readings, they all suggest a POSSESSOR-POSSESSED relationship as one of them. This interpretation becomes more prominent when body parts or clothes are referred to in the word pair (2) or when the child starts using *s*-genitives (3),<sup>11</sup> signaling in this way that the WHOLE-WHOLE relationship begins to make room to a more weighted variant of the PART-WHOLE schema.

- (2) Anne nose (A I) / Fraser hat (E I) / Lara tights (L I) / horsie eyes / Fraser coat (both E II)
- (3) Anne’s house / boy’s cup / baby’s bed (all A I) / mummy’s jumper / mummy’s spoon (both L II)

With these structures the child leaves the area of prototypical EALs and moves on to what was introduced as pivot structures in Chapter 12.

### 13.2.2 Pivot structures

Pivot structures (also called pivot constructions, pivot schemas) were defined by Braine (1976) as combining a linguistic element as pivot (or anchor) with an open slot to be filled by a suitable second element. They are frequent among non-verbal pairs – compare the examples in (4–7), which illustrate the semantic range represented in the pilot corpus.

- (4) *that* Kathy / *that* pencil / *that* radio (all E I) / *that* daddy (L I) / horsie *that* (E I)
- (5) *more* juice / *more* cookie / *more* pudding (all E I) / *more* horsie / *more* toy / *more* yum yum (=food) (all L I)
- (6) *bit* hair / *bit* hot (both L II)
- (7) boy *here* / Lara *here* / moos (=cows) *there* (all L I) / *there* dolly / *there* Fraser (both E I) / *there* Lara’s (L II)

Although the notion of pivot structure makes sense when considered in isolation, problems emerge when one tries to analyze it in terms of adult grammar. As it turns out, pivot structures like *horsie that*, *more toy* or *bit hair* do not fit the word-order, syntactic and morphological conventions of adult language. This has led to the conclusion that the gap between pivot structures and adult linguistic competence – if not indeed unbridgeable – can only be overcome by assuming an inborn switch-on language faculty (the generativist view). Yet even cognitivists like Tomasello (2006: Section 2.3) admit that pivot structures “do not have syntax” because they are not supported by word order (understood as serialization; see Section 5.1.2) or by case marking.

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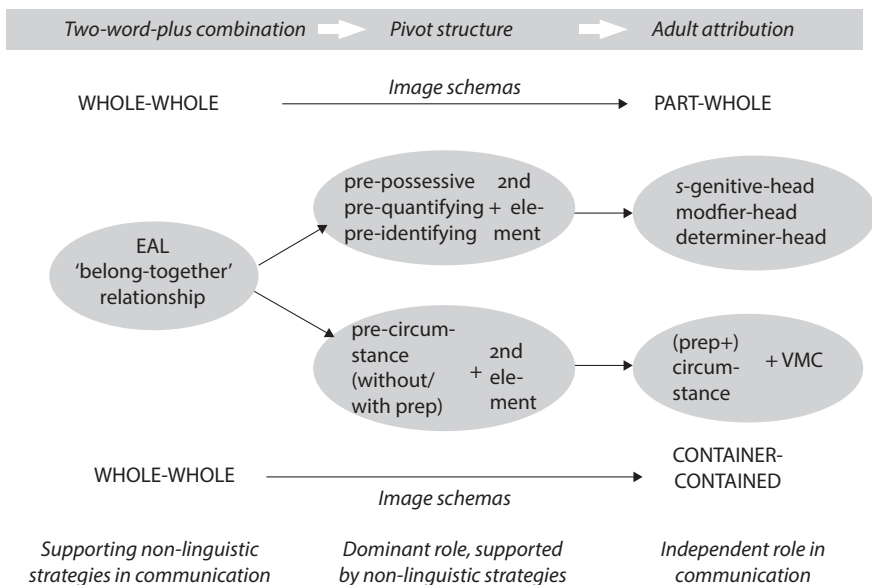
11. The question is, of course, whether the child already grasps the meaning of the genitive suffix – see Section 13.3 on the indeterminacy of TAM affixes.

Seen against this background, a concept-linking analysis in terms of attribution offers a number of advantages, which are here assembled for non-verbal variants (verb-containing pivot structures are discussed in the next section):

- Concept-linking integrates pivot structures into a continuous development of the attribution mechanism, which goes hand in hand with the transition from the **WHOLE-WHOLE** to the **PART-WHOLE** image schema.

This means that (as illustrated in Figure 33) pivot structures are seen as an intermediate stage between EALs with their vague belong-together relationship and adult forms of attribution, which are characterized by fully grammaticalized schemas like modifier–head or circumstance–VMC.

- The characteristic conceptual-semantic feature of pivot structures is that the unspecific holistic relationship of EALs is narrowed down and differentiated in a way that can be captured by pivot labels such as ‘pre-possessive’ (examples in (2–3) previous section), ‘pre-identifying’ (example (4) above and ‘pre-quantifying’ (5–6).<sup>12</sup> These pivot structures prepare the way towards adult modifying attribution, which is based on the **PART-WHOLE** image schema.



**Figure 33.** Development of non-verbal attribution

12. Whether ‘pre-qualifying’ pivots can be assumed is less certain because none of the candidates (e.g. *LITTLE*, *BIG*, *GOOD*, *POOR*, color concepts) occur in a sufficient number of combinations in the pilot corpus to justify the status of pivot.

- Another line of development is represented by ‘pre-circumstance’ pivots (examples in (7) above) and leads to adult circumstancing attribution, which is related to the CONTAINER schema – compare the lower section of Figure 33.

As suggested by the affix *pre* in the labels, they are supposed to indicate semantic-functional tendencies rather than a hard-and-fast classification as proposed by the semantic relations approach.<sup>13</sup> Conversely, the labels provide a somewhat more general description than MacWhinney’s item-based view of pivot structures;<sup>14</sup> in fact, they sketch a compromise between the two positions.

To sum up: By providing this semantic-functional guidance pivot structures are much better capable of rendering a specific speech intention than EALs. This means that the brunt of communicative work is no longer left to non-linguistic strategies, but that ‘language begins to take over’, as indicated in the bottom row of Figure 33. This is an important step on the way to the independent use of symbolic-linguistic means, which culminates in the adult language command.

### 13.2.3 Attribution and caregiver speech (CDS)

Returning from individual stages to more general aspects of attribution in early child speech, the concept-linking approach is also helpful when it comes to explaining the relationship between child language and child-directed caregiver speech (CDS). If one assumes an early command of EALs based on a belong-together relationship, there is no urgent need for the child to simply imitate or – to sketch the opposite position – to fully comprehend and process extensive and demanding grammatical CDS structures.<sup>15</sup> It is sufficient if the child recognizes that a belong-together relationship exists between certain elements of a CDS utterance and if, as a consequence, these elements are stored in the child’s memory in conjunction

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13. Compare the categories proposed by Brown (1973: 193–197) for non-verbal pairs: AGENT + OBJECT (*baby book*), ENTITY+LOCATION (*toy floor*), POSSESSOR+ POSSESSION (*my teddy*). This list was later supplemented by categories like OBJECT+PROPERTY (*little dog*), EXISTENCE+DISAPPEARANCE (*allgone outside*) and RECURRENCE+OBJECT (*more juice*) by Golinkoff and Hirsh-Pase (1999: 151).

14. MacWhinney (1975) proposes to replace, for instance, the generalizing explanatory formula RECURRENCE+OBJECT applied to examples like *more juice*, *more cookie*, etc. by the item-specific formula *more+X* (see also MacWhinney 2015: 28).

15. This suggests a cautious evaluation of the popular method of deducing child language grammars from a comparison of tagged CDS and child utterances – compare MacWhinney (2015: 49–51) for an overview.

with this holistic relationship. This makes it much easier for the child to compose two-word combinations that do not rely on direct imitation, but are memory-based. It also explains why in the pilot corpus memory-based EALs are more frequent than utterances that depend on direct imitation.<sup>16</sup>

One variant of this memory-based approach is that the child begins with a concept first used in a single-word turn and then attaches another concept he/she has memorized as holistically linked to the first concept, thus creating a series of attributions, e.g. *horsie* -> *Dadaw horsie* -> *little horsie* -> *mummy horsie* -> *baby horse* in (8), obviously without being irritated by the partly distracting comments of the caregiver.

(8) (Source: L I)

CHILD: horsie

GRANDMO: *horsie*

CHILD: Dadaw horsie

GRANDMO: *yes – we go to see the horsies, don't we?*

GRANDMO: *give them some breakfast.*

CHILD: little horsie

GRANDMO: *yes – that's the baby horse*

GRANDMO: *he's a foal*

CHILD: mummy horsie

GRANDMO: *that's right*

GRANDMO: *what [/] what's that?*

CHILD: *what's that?*

CHILD: mummy horse

GRANDMO: *and that one is ...*

CHILD: baby horse.

(GRANDMO = grandmother; 'Dadaw' = child's name for grandmother)

However, EALs need not be introduced by single word turns as in (8); the child may combine items recovered from memory that have not been used in the current conversation at all. These word pairs may be quite sophisticated as in (9), where the child reacts to an unwanted situation, i.e. Daddy blaming her for playing with food.<sup>17</sup>

16. Compare Lieven et al.'s observation that items are often more easily available if mentioned by the caregiver in a previous session (Lieven et al. 1997).

17. In the Forrester corpus the child is the first discourse participant to use *horrible*; the only previous mention in the Forrester corpus occurs four months earlier (i.e. two months before the monitored onset samples) when the child's elder sister remarks *Dad, this mozzarella cheese is horrible*.

(9) (Source: F II)

FATHER: *no, playing with food's not funny*

CHILD: hor'ble Daddy

FATHER: *horr'ble Daddy... I'm not a horr'ble Daddy*

CHILD: hor'ble Mummy

Though example (8) and (9) might be regarded as early instances of a 'pre-qualifying' pivot structure (but see fn. 12), they should perhaps rather be understood as instances of a playful use of EALs – both interpretations are possible if the flexible concept of early attribution is assumed.

### 13.3 Verb-containing two-word-plus items as attribution

While the explanation of early non-verbal pairs as instances of attribution seems to be relatively straightforward, this is perhaps less so for the verb-containing pairs singled out as lacking the full mediating function in a VMC. The main reason is that from the vantage point of adult language use one will be strongly inclined to regard verb-containing combinations as elliptical expressions of complete VMCs wherever possible. Compare (10–12), where two-word-plus combinations are collected for one of the most frequent verbal concepts, the concept GO.

- (10) go to my Mommy (E VI) / go to Granny's house (E VI) / go in sandbox (E IV) / going on a swing (E IV) / going in the basket (Th IV)
- (11) go there (L I) / go outside (E I, L III) / go home (A II) / going back home (Th IV) / going right back here (E V)
- (12) go Christmas\_tree (E II) / go shop (A II), / go Sue's house (Th IV) / not go nursery (F IV) / going the box (i.e. things should be put into the box) (Th III)

True enough, the explanation as elliptical VMC may appear quite acceptable for the examples in (10–11). The main reason is that the meaning expressed by the attributive link between the locative preposition and the noun in *to my Mommy*, *in sandbox*, etc. fit in well with the concept GO and so does the lexical meaning of the adverbs *there*, *outside*, *home*, even though the full meaning of the construction and its dependence on an agentive subject are not rendered linguistically.

Yet when one turns to the examples in (12), the picture changes: In these utterances – some of them from the early stage II – the verbal element is combined with a noun expressing the circumstance unaccompanied by a preposition. This well known phenomenon of early child language is often explained by assuming that the child starts by expressing the essential elements of a communicative act

before adding details like prepositions. Yet how should the child be able to decide what the essentials are without fully grasping the complete VMC?

Compared with this view, an explanation along the lines applied above to non-verbal pivot structures should be more convincing. Again the starting point – i.e. the EAL stage – is that the child selects symbolic-linguistic expressions for two concepts (one of them verbal, but not necessarily understood as such); these concepts are experienced as ‘belonging together’, as rooted in the WHOLE-WHOLE image schema and as related to a certain scene – a rather extreme example is *going picture* (E II), which, as suggested by the context, would have to be understood in adult communication as ‘going somewhere in the location of the picture.’<sup>18</sup> Yet the communicative intention (in this example ‘moving to a certain object’) is primarily rendered by non-linguistic means (e.g. a pointing gesture). This and other non-linguistic strategies can rely on a rudimentary PATH schema, which comprises COURSE and GOAL, but not SOURCE<sup>19</sup> and is acquired by the child relatively early in the pre-linguistic period (Mandler and Canovas 2014: 8).

Moving on to the pivot stage, the comparison with non-verbal pivots still holds. Structures with verb-containing pivots can also be seen as representing the stage at which the non-linguistic goal-oriented strategies are superseded by symbolic-linguistic expressions and the non-linguistic means restricted to a supportive role.

As regards pairs with a verbal pivot expressing motion, in particular the concept GO, this means that the rudimentary PATH schema of COURSE-GOAL is no longer primarily rendered by non-linguistic means, but by the two linguistic elements of the pair. Or to put it the other way round: The link between the two linguistic elements is no longer a matter of a holistic belong-together relationship based on the WHOLE-WHOLE variant of the PART-WHOLE image schema; instead the pair expresses a COURSE-GOAL link between the verbal motion concept as pivot and the second element which functions as an often preposition-guided ‘pre-circumstance’ or a goal-directed element.<sup>20</sup> This is the developmental status represented by the examples in (10–11) above, here selectively taken up in (13–14).

18. This prepositionless reference to PLACE rather than GOAL also applies to pairs like *jump rug*, *jump couch*, *jump living-room*, *jump Mummy kitchen* (all B II).

19. The notion of ‘PATH in the narrow sense’ is here replaced by ‘COURSE’ because ‘PATH’ is used for the complex image schema that underlies prototypical VMCs and embraces SOURCE, COURSE and GOAL. Compare Section 8.2.3.

20. This latter interpretation could also be considered for phrasal verbs (*come on*, *get in*, etc.), which were analyzed as verb/ad-verb attribution in Section 8.3.2, but were counted as non-segmented holophrases in the quantitative analysis of the pilot corpus (mainly to avoid the impression that the category of pivot structures is unduly extended).

- (13) go in my sand-box / going on a swing (both E IV)      motion concept + pre-circumstance
- (14) go there (L I) / go outside (E I,) / go home (A II)      motion concept + goal-directed concept

However, being based on the COURSE-GOAL section of the PATH schema (and not on the complete PATH schema inclusive of its SOURCE element), the pivot structures do not yet function as verb-mediated constructions proper, a stage first reached in certain item-based VMCs. Compare Figure 34, where this development is visualized.

What is less certain is whether two-word-plus combinations involving other verbal concepts than MOTION develop in the same way. This concerns a fairly large group of TRANSFER concepts (BRING, GET, DROP, PUT (15)), but also specific action concepts like EAT and DRAW (16).

- (15) bring cup / get my play toy (both E II) / get book (F I) / drop napkin / drop spoon (both E II) / put just there (L II) / have put these (E IV)
- (16) eat cake (A I) / eating lunch (E II) / eating an apple (F III) / draw my paper (E III)

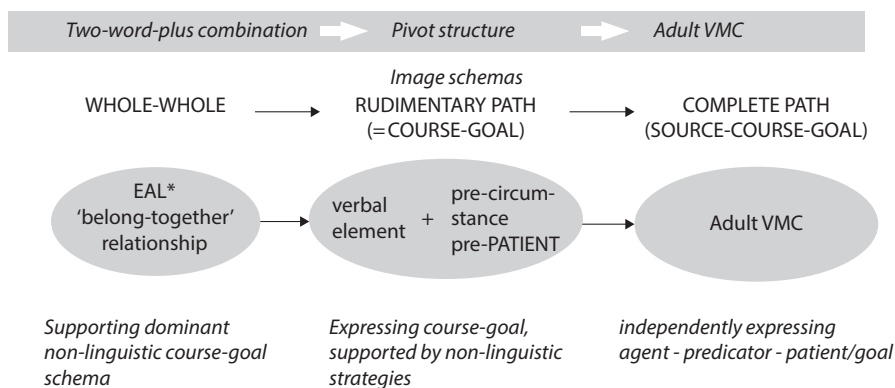


Figure 34. Development of verb-containing two-word-plus combinations

Of course, it is imaginable that the concept TRANSFER is communicated by the respective gestures and that the first instances of *bring* and *get* primarily express the belong-together relationship of EALs. What can be more safely assumed is their status as pivot structures, which means that the rudimentary COURSE-GOAL schema connects verbal concepts like BRING, GET, PUT, DROP, EAT and DRAW with a pre-PATIENT concept (see Figure 34, where this concept is listed as an alternative to pre-circumstance).<sup>21</sup> Yet

21. This analysis not only applies to verb-containing pairs based on individual elements, but can also be seen as an interim stage in the segmentation process in which early holophrases (e.g. *find\_it*, *get\_it*, *have\_it* (all E I)) are involved (Lieven et al. 1997).

as these pairs still lack the subject element (though used in non-imperative contexts), they are rightly assigned to attribution and not to the VMC mechanism.

If early verb-containing pairs are understood as EALs or pivot structures, it is unlikely that the verb carries an explicit TAM function from the beginning, i.e. that the *ing*-form always expresses the progressive aspect and that the plain verb form signals either imperative modality or indicative non-modality. In fact, it is to be assumed that the switch between *go* and *going* in the examples (1–3) above does not necessarily reflect the aspectual difference between the progressive and non-progressive (perhaps habitual) aspect, but rather the *functional indeterminacy* of the early verb forms.<sup>22</sup> Nor does the fact that a plain verb form like *sit down* (B I), *go home* (A II), *stay there* (A III) can be used as a signal of the imperative sentence mode justify this reading as long as it is not required by the context including neighboring caregiver utterances. If one accepts the functional indeterminacy of early verb forms, it is not surprising that one comes across conversations in which the child seems to experiment with the different verb forms as in (17).

(17) (Source E I)

RICHARD: *where is your car going?*

RICHARD: *is it going?*

RICHARD: *does it go far?*

CHILD: no [/] no.

CHILD: car coming.

CHILD: car come.

CHILD: come car.

The interpretation of early verb-containing pairs as instances of attribution is also helpful in dealing with examples featuring *gone*. While in adult grammar *gone* is regarded as past participle and thus a verbal element, the early uses documented in (18) remind of adjectives ('absent') and adverbs ('away') as employed in adult language; the consequence is that examples like *meat gone* and *pram gone* could also be classified as non-verbal pairs.

However, this question of classification need not be decided if one falls back on the basic characterization of attribution as a holistic local relationship between members of a pair, which in the case of *gone* can rely on the early pre-linguistic conceptualization of the notion 'disappearance' (Mandler and Canovas 2014: 6).

(18) *meat gone?* (A II) / *pram gone?* (L III) / *smarties gone* (Th IV) / *grape juice all\_gone* (E II) / *Christmas cookie all\_gone* (E III) /

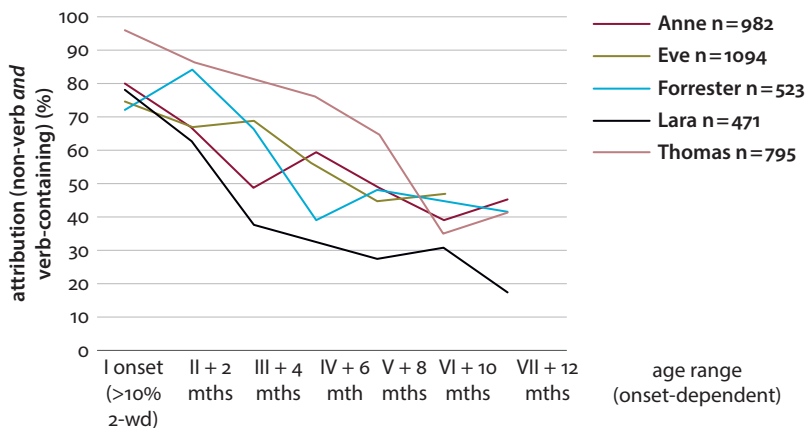
22. In fact, the caregiver model of using activity verbs in the progressive form may influence the child's use of the *ing*-form, but this does not mean that the perspectivizing function is already fully effective.



When the notion of disappearance is replaced by the early conceptualizations of the notions ‘finished’ and ‘down’, the analysis offered for *gone* can also be applied to *done* (19) and to (*all*) *fall down* (20) – in the latter case this requires that *fall* is regarded as a short form of *fallen* and not as a neutral verb form.

- (19) grapes *all done* (Th I) / *done* one (L II) / *all done* box (Th II) / *all done* they (F II) / *all done* now bathtime (L II)
- (20) man *all\_fall\_down* / Heidi *all\_fall\_down* / lady *all\_fall\_down* (all LI) / my toy *fall\_down* (E III)

If one includes the verb-containing pairs discussed so far, this means a noticeable extension of the range of early attribution beyond non-verbal pairs. Compare Figure 35, which assembles the overall numbers of attributions in the pilot corpus and relates them to the total number of two-word-plus combinations. On the whole, Figure 35 confirms the tendencies already documented for non-verbal pairs in Figure 32 (top diagram); indeed it shows that the priority of early attribution is even more pronounced now, covering approximately 73–96% of two-word-plus items at the onset stage. However, it should not be forgotten that the dominance of attribution is restricted to this very onset stage and the development in the ensuing first couple of months. Non-attributive forms of concept-linking, i.e. verb-mediated constructions, take over within a year’s time, though largely item-based. Their rise will be discussed in the following chapter.



**Figure 35.** Proportion of instances of attribution (non-verbal and verb-containing) in two-word-plus combinations

## The emergence of VMCs and copula/modifier interfaces

Before entering into the discussion of verb-mediated constructions (VMCs), it seems necessary to point out once more that the claims made in this and the previous chapter are based on a pilot study, that they only indicate tendencies and invite re-examination in larger field studies. The limitations of the present study become obvious when one considers how early child language ‘melts away’ when individual linguistic phenomena are extracted from the corpus, as documented in Table 22, which lists the ten most frequent verbal concepts drawn from the pilot corpus. Not surprisingly, the list contains the copula *be*, basic verbs of motion and position (*go*, *come*, *sit*), general actions (*do*), verbs expressing possession and transfer of things (*have*, *put*, *get*) as well as the verb *want*; together they account for almost two thirds of the verb-containing items.

While this body of examples has already been selectively tapped to illustrate early non-predicating two-word combinations (e.g. with *go*), it will now be used more exhaustively to supply evidence for their further development into fully-fledged VMCs, mostly by pinpointing first instances of observed ‘constructional achievements’. An important part of this development is the gradual introduction of the subject participant into the constructions, which deserves some preliminary remarks.

**Table 22.** Occurrences of the 10 most frequent verbs in the pilot corpus

Includes use of verbs as second additional element in a turn. For more information on sample figures see ch. 13, Table 20 and footnote 4.

be	821	get	339	put	196
go	526	have	336	sit	149
want	382	do	319	come	133
				see	114
Total:					3315

## 14.1 The role of the subject participant in acquiring VMCs

Although it may sound trivial to claim that verb-argument constructions comprise a subject (of course with the exception of subjectless imperatives), the symbolic-linguistic representation of the subject participant does not seem to have top priority for children in the early stages of language acquisition.

This particularly applies to actions rendered by agent-driven VMCs in adult usage. When first attempting a symbolic-linguistic expression of such concepts, the child seems to be quite happy to refer to the action and to one other element connected with it – without paying attention to its VMC status. When the *PATH* image schema emerges, it is first geared to the *GOAL* element while the *SOURCE* element (and consequently the *AGENT*) is disregarded (Mandler and Canovas 2014: 8–9), as was illustrated for *go* and other verbs in the previous chapter.<sup>1</sup>

The desire to connect an action to an instigating actor arises only slowly and is largely tied to the child's own actions<sup>2</sup>. The subject participant is overwhelmingly rendered by the first person pronoun expressed by *I*, sometimes by *me*, *my* and *mine*; in some corpora this usage is preceded by a phase in which the child employs his/her own name, probably reflecting the caregiver's use of it. The result is a constructional development in which subjectless two-word combinations set the tone and subject-including utterances follow, as shown in more detail for the *put*-constructions in Section 14.2.

In contrast to constructions with *AGENT* participants, VMCs expressing mental attitudes like wishing, liking, knowing seem to require a subject participant more urgently – in this case an *EXPERIENCER* subject – probably because the child connects these actions more strongly with his/her own self than he/she does with physical actions, even those in which the child is involved. This is why constructions with *First Person Pronouns* as *EXPERIENCER* Subjects (henceforth: FPPES) appear earlier and in greater numbers so that FPPES constructions soon outnumber subjectless utterances expressing wishing or liking – compare Section 14.3.

Finally, a third development of VMCs takes a completely different course, for which a semantically filled subject participant is not necessary. Here the starting point are deictic demonstratives that are soon combined with nominal elements in attribution (*that boy*, *that daddy*, *that neenaw* 'tractor' (all from L I) as well as *boy here* (L I), *there dolly* (L II). Later stages are characterized by combinations of *this*

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1. An attributive link that includes the subject participant is not completely excluded though; see next section.

2. For aspects of the general cognitive development of person and self-identification, including an evaluation of Lacan's 'mirror stage' to explain it, see Rochat (2013).

*is/that's/it's/what is*+nominal element, the goal is a wide range of constructions with copula/modifier interfaces; see the discussion in Section 14.4.

## 14.2 The *put*-construction as acquisition model

Like other verbs expressing transfer of things the verb *put* shows two constructional variants: *put* can either be combined with an orientational particle used as 'ad-verb' to create a phrasal verb (*put away, put on, put down*), which can bind a PATIENT participant very much like a simple transfer verb (*put away/remove sth., put down/drop sth.*); in its second variant the *put* element is part of an agent-driven four-element construction (*put sth. on the table, etc.*).

The first construction (which is paralleled by similar uses of *come, get, take, give, etc.* that tend to be acquired later) is based on the attributive link between the verbal concept and an ad-verb, i.e. a particle expressing an orientational image schema (UP-DOWN, IN-OUT – see Section 8.3.2). These verb-particle combinations (or phrasal verbs) are used to render concepts of transfer that are important for the child: the 'away' notion (also expressed by *gone, done, all fall-down* – see Section 13.3), the notion of putting down or putting back some toy, or of putting on a piece of clothing. Although one might imagine that these communicative intentions are first expressed linguistically by the caregiver and only then imitated by the child, this is not the case if one goes by the pilot corpus: In fact, none of the examples supplied for the *put*-constructions in the following has been found to rely on direct imitation of a caregiver utterance; they all seem to be extracted from the child's long-term memory, whether realized linguistically as holophrases, attribution or as VMC.

While a status of unanalyzed holophrase should be assumed for items like *put away* that occur at the onset stage (1), combinations of phrasal verb and postverbal participant (2) qualify for the status of attribution because they definitely link different concepts although the combination still lacks the subject participant to express the AGENT role. Subject introduction, which completes the VMC paradigm, occurs in stage III, first as first person pronoun (3), followed by other pronouns in later stages (4). All in all, the phrasal verb construction can be seen as a model of the three-element (or transitive) VMC, which is omnipresent in adult usage.

- (1) put away, put back (both A I)
- (2) put bird away, put dog away (both E III)
- (3) I can't put it down (A III) / I better put that pencil back (E III)
- (4) you put these one back / can we put her pajamas (=pyjamas) on? (both A VII)

As for the second *put*-construction (agent-driven and four-elements, e.g. *put sth. on the table*), the target VMC is more complex and its acquisition permits a more differentiated view of how VMCs are acquired by children. Indeed, the development of this complex-transitive pattern (to use traditional terminology) can be seen as an *acquisition model of complex constructions*, as presented in Figure 36.<sup>3</sup>

What is the background of this model? Empirically, it is based on the analysis of the 128 instances of the four-element *put*-construction contained in the pilot corpus (including incomplete realizations of the pattern). This material was sifted with an eye on first occurrences of structural variants that might indicate progress or ‘achievements’ in the acquisition process. The label ‘idealized model’ seems appropriate because the empirical basis is rather small and not completely free from deviating examples.

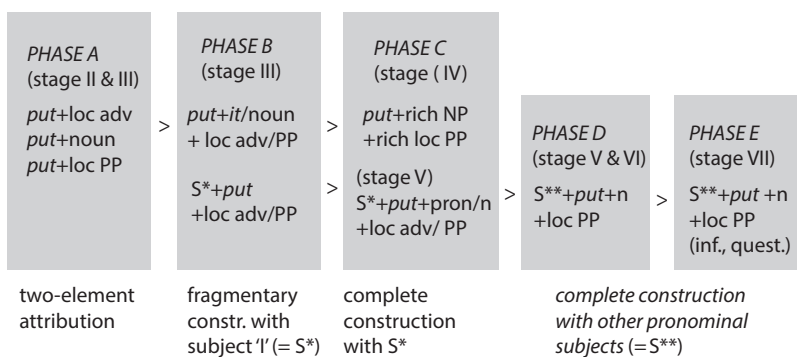


Figure 36. An idealized acquisition model of the four-element *put*-construction

Relating the model to the acquisition stages I to VII (overall period 1;6 to 3;1-year-olds), there are no instances of *put* recorded for stage I (onset stage) and few examples for stage II, of which only one is straightforward (5). The other examples (6–7) are not intelligible at first glance. The reason is – and this becomes clear when the context and the caregiver reaction are considered – that the nouns in these examples denote circumstances rather than PATIENT participants, but without providing clarifying prepositions – compare (6'–7'). In other words, the symbolic-linguistic representation of the communicative act (which is obviously quite clearly rendered by non-verbal means) is still insufficient. What is conveyed by linguistic means is

3. Labels like ‘noun’, ‘loc adv’ and ‘PP’ and also semantic roles like ‘EXPERIENCER’ are used for ease of reading, but should be understood as ‘pre-nouns’, etc. to account for the vagueness, which is characteristic of the denoted items in the early stages of language acquisition. Compare Section 13.3 Figure 33 and the explanations provided there.

that these elements of the utterance somehow ‘belong together’, and this is why they are regarded as instances of attribution and are assigned to *PHASE A* of the acquisition model.<sup>4</sup>

- (5) put just there (L II)
- (6) put head / Lara put head (both L II)
- (6') *compare*: (Lara) put *over* head
- (7) Eve put blocks Mommy (E II)
- (7') *compare*: Eve put building blocks *to* Mummy (for her to put away).

If one goes by the number of examples, stage III with its 40 *put*-examples should be regarded as the real starting point of the four-element *put*-construction. True enough, in a large number of the examples the construction is still incomplete and therefore represents *PHASE A*: In its subjectless variant the construction consists of the verb element and the locative adverb *there* (8) or a preposition-guided nominal phrase denoting the locative *GOAL* (9) – the *PATIENT* participant is still missing. This means that in either case concept linking predominantly relies on local semantic attraction; yet due to the meaning of the adverb or preposition involved, the locative element contributes more to the understanding of the utterance than the postverbally placed nouns in (6–7).

- (8) put there / put right there (both E III)
- (9) put in the pot (F III) / put in my pocket (E III)

What is decisive for the development of the construction is that there are subjectless examples that already feature the complete complementation (*PHASE B* in the model); in addition to the locative adverb or prepositional phrase these examples contain a pronoun functioning as *PATIENT* participant (10). Examples with simple, let alone modified ‘rich’ noun phrases (*PHASE C*) are rare in stage III (11), but are spreading from stage IV onwards (12).

- (10) put it right there (E III) / put it on my Christmas tree (A III)
- (11) put peg on the floor (E III)
- (12) putting my sticky finger on my cheek (E IV) / putting lobster salad in Papa sandwich (E V)

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4. The fact that *Lara* and *Eve* are used as self-referring subjects participants in (6–7) is exceptional in many ways and is obviously not taken up in the following stages, where the self-referring subject participants are always rendered by the pronoun *I*.

Turning to examples with subject participants (bottom row in Figure 36), those occurring in stage III are restricted to *PHASE B*, i.e. they are still fragmentary constructions with a first person 'I' subject and a circumstance that is expressed by an adverb or prepositional phrase, but without a *PATIENT* participant (13–14). The switch to full complementation (and this means the availability of the whole complex-transitive pattern) does not really take place until stage V; it is noticeably delayed compared with subjectless parallels.

(13) I put there (E III)

(14) I put in pocket / I put on the floor (both E III)

That the mixture of fragmentary subjectless and subject-containing examples encountered in (8–14) is not due to negligence in imitating a caregiver model (which is not available in the neighborhood of the items quoted anyway), but reflects the child's independent, yet still only partial command of the construction, is best illustrated by the three dialogues (actually largely infant monologues) in (15–17), which incorporate some of the examples provided in (8–14).

(15) (Source: E III)

CHILD: look Fraser

CHILD: I have two,

COLIN: *you have two?*

CHILD: yep.

CHILD: I put in pocket

CHILD: put in Fraser pocket

CHILD: take out my pocket

CHILD: I put in Fraser pocket

CHILD: in Fraser pocket

CHILD: put in my pocket

COLIN: uhuh.

(Colin Fraser = investigator)

(16) (Source: E III)

CHILD: put on the floor

CHILD: put on the floor

COLIN: *what do you put on the floor?*

CHILD: put peg on the floor

CHILD: I put on the floor

(17) (Source: B III)

COLIN: *okay*

COLIN: *there*

CHILD: box (*arranging dolls in box*)

- CHILD: there  
 CHILD: put there  
 CHILD: I put there  
 CHILD: put the(se) away  
 CHILD: I gotta put these away  
 COLIN: *I think that's okay.*

Starting with (15), the investigator-caregiver, Colin Fraser, does not contribute a single instance of the *put*-construction, neither within the selected dialogue nor in previous turns. This does not keep the child from offering four different variants of the *put*-construction, two of them subjectless and two containing a subject, but all of them restricted to the combination with a postverbal circumstance, i.e. a combination which stills seems to partly rely on the linking potential of attribution. Example (16) is more repetitive in offering three instances of *put on the floor* and it also contains the investigator's interrogative variant of the complete *put*-construction (*what do you put on the floor?*). Whether his contribution encourages the child to include a PATIENT participant in one of her subjectless variants (*put peg on the floor*) or whether this extension mirrors the child's progress in acquiring the construction independently, is difficult to decide. Finally, dialogue (17) is a model sketch of how the *put*-construction arises from single word utterances (*there, box*) and reaches the *put*+circumstance stage (*put there/I put there*). Then it continues in the direction of the phrasal verb construction discussed above, which seems easier to cope with for the child than the four-element VMC, especially when the 'away' notion is to be expressed (*put these away, I gotta put these away*).

As already mentioned, the complete availability of the four-element pattern, i.e. PHASE C, is not reached until stage V, where the construction accommodates several examples with the subject *I* (18–19) and first examples with other pronominal subjects, which represent PHASE D (20).

- (18) me (=I) put these ones there (A V) / I putting them on the floor (E V)  
 (19) I put these books on the pillow (E V)  
 (20) You put you finger on the lady (=toy figure) (E V)

After this constructional 'break-through' further uses are added in the remaining stages, the interaction as second verb with the semi-modals *want to, have to* and *going to* in stage VI (21) as well as cases of interrogative perspectivizing in stage VII (22). As a result the *put*-construction has now reached PHASE E and can be regarded as a fully established item-based VMC.

- (21) I want to put it there (L VI) / You have to put that there (A VI) /  
 I'm going to put them on the table (L VII)



- (22) Shall I put somebody else there? (A VII) /  
Can you put mine there and your cup there? (L VII)

This is not only reflected in isolated examples, but also in the ease with which the *put*-construction is used unsolicited in suitable contexts, such as playing with bricks in (23).

- (23) (Source: A VII)
- CHILD: shall we do some more building?  
MOTHER: *okay*  
CHILD: and do this here.  
CHILD: we put that [/] that steps here.  
CHILD: shall we put these bits here ?  
CHILD: these [//] and the men can get up the steps.  
MOTHER: *oh.*  
MOTHER: *that's a good idea.*

Whether the findings of this acquisition analysis are only relevant for the *put*-construction or whether they support claims that item-based constructions develop into schemas relevant for other verbal concepts, as suggested by usage-based theories (Tomasello 2006: Section 2.3), cannot be decided within this pilot study. The main reason is that four of the corpora do not cover later periods than the first year of the two-word phase, i.e. those periods to which schematization processes are assigned in the literature (Diessel 2013: 358). The one corpus sample that does include later periods (Thomas, which goes on to age 4;7) yields only few and inconclusive examples. True enough, the verbal concepts PUSH, GIVE, and TAKE, which would qualify semantically for the application of an AGENT-PREDICATOR-PATIENT-GOAL schema initiated by *put*, occur in the pilot corpus, and they do so at later stages than *put* (mostly in stages V to VII); yet for each of them the number of examples is so small that one cannot decide if they actually benefit from the *put*-model.

To return to the development of the item-based *put*-construction, the findings of this section may be summarized as follows: Agent-driven VMCs like the *put*-construction are rooted in an attributive link between a verb element and a single nominal (or pronominal) element from which the full availability as VMC is approached only gradually through several intermediate stages. It is at least in this sense that the *put*-construction provides an acquisition model for complex agent-driven VMCs.

### 14.3 The *want*-construction as acquisition model

Compared with *put*, the *want*-construction, which is much more frequent in the pilot corpus (382 counts vs. 196 counts for *put*), differs in two major ways: First, the root of the construction is not only to be seen in an attributive link between the verbal concept and suitable nominal/pronominal elements, but also in the strong and early presence of the connection between the FPPES (first person pronouns as EXPERIENCER subject) and the concept WANT. The second difference is that while the majority of the examples (64%) show the usual developmental stages of a PARTICIPANT-PREDICATOR-PARTICIPANT construction, in the remaining examples (36%) *want* is accompanied by a second verb element instead of a nominal postverbal participant, which points in the direction of the perspectivizing use of *want to/wanna* discussed in Sections 11.2 and 15.4.

To start with the first claim, the strong link between the FPPES and the WANT concept is not yet apparent in the first two stages of the pilot corpus, where – among the relatively small overall number of examples<sup>5</sup> – subjectless variants seem to be dominant, starting with two-word combinations of verb element and postverbal participant. As utterances with *want* often refer to the communicative situation of ‘demanding more of something’, there is an obvious preference for combinations with quantifiers, as they also occur in non-verbal pivot patterns (*some more, more milk*) – compare (24); examples with subjects are rare (25).

(24) *want some more / want some cheese / don't want some* (all F II)

(25) *baby wan dindin (=food)* (F I)

The picture changes radically when one approaches stage III (onset + 4 months) which comprises 44 *want*-examples: Subjectless variants are now suddenly a minority of about 25%, combinations with subject are dominant with a 75% share across all stage III samples. Pragmatically, these constructions typically express the child's spontaneous wish, which is not prepared for linguistically by a caregiver utterance, but on which the child tends to insist – an aspect reflected in the 75% dominance of the first-person pronominal EXPERIENCER subject (FPPES) in the subject-containing examples (26). Other subjects also occur, but only rarely, and judging by the context, they seem to be less spontaneous (27).

(26) *I want pram / I want bricks / I want outside* (all L III) / *I want something else* (E III) / *I want more paper* (F III) / *I want some help* (L IV)

(27) *Fraser want something else / Sue want sugar?* (both E III)

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5. Instances of *want* in the pilot corpus (overall numbers): stage I: 7, stage II: 28, stage III: 44, stage IV: 71, stage V: 81, stage VI: 78, stage VII: 73, total 382.

The significance of the FPPES is underlined by the fact that from stage III onwards the pilot corpus contains instances of *I want* (later also occasionally *I don't want*) used *without* a postverbal participant. As these 'VMC cores' are more frequent with *want* than, for instance, with physical action verbs, they seem to signify that the link between the FPPES and the verbal concept WANT is experienced by the child as a natural, tightly knit combination, which has already been forged at the more basic level. This means that the root is most likely a kind of 'belonging-together' relationship reflecting a PART-WHOLE image schema, which is only later extended into a three-element VMC. In other words, it can be assumed that the combination *I+want* has an attributive background. More generally, this would mean that the VCM core of FPPES and verb element provides a *second attributive root of VMCs* alongside the attributive link between verb and PATIENT participant encountered in physical action constructions.<sup>6</sup>

The claim of an attributive root for the *I want*-construction is supported by the development of the semantically related verbal concept LIKE, which is strongly represented in one of the analyzed corpora (Forrester), but less so in the other corpora. Quite in accordance with the evidence for *want*, the instances of *like* also contain a number of VMC cores consisting of FPPES+verb element; their special characteristic is that – in line with the general use of *like* in the corpus – the variant *I don't like* is even more frequent than its positive equivalent *I like*. If an attributive status is claimed for these VMC cores, it means that the greater structural complexity of the *don't like* variant is irrelevant with regard to its early use.<sup>7</sup>

Returning to the *want*-construction in order to discuss the second major type (*want*+2nd verb element), this use would be classified as *want*+infinitive construction in traditional analysis of adult language (corresponding to VMCs with non-finite interface in concept-linking; see Section 10.2.1). Sifting the pilot corpus one finds that examples of *want*+2nd verb are not only frequent, accounting for more than a third of the instances; the first examples already occur in stage II (28), i.e. before the *want*-construction accepts a semantically filled PATIENT participant – compare examples (26) above. If one further pursues the *want*+verb construction through the pilot corpus, it emerges that it is the second verb element whose mediating capacity is made use of in more elaborate constructions rather than the verb-mediating potential of *want* itself (29).

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6. An even stronger claim for the closeness of the link between the components of the expression could be made if *I want* is regarded as a kind of holophrase.

7. There are two other verbal concepts that are also often represented by VMC cores of FPPES and verb element: the concepts KNOW and THINK. However, the situation is different because *I know/I don't know/I think* are not normally followed by a pronominal or nominal PATIENT participant; if they are not used in isolation, a second VMC (subordinated clause) is added – see Section 15.5.2.

- (28) want find top (E II), I wanna get down (L IV) / I wanna hab it (F II)  
 (29) I wanna *watch jungle book* (F VI) / I want to *sit on your knee* (L VI) / want go to the *play area* (A VII) / I want to *hold her (=sister Amy's) hand* (L VII)

These findings suggest that even at this early stage of language acquisition the *want*-element seems to function as a perspectivizer of the second verb and its complementation, as a semi-auxiliary or semi-modal (see Section 11.2) – a feature the *want*-construction shares with early *going to*- and *have to*-combinations, as it will turn out below (Section 15.4).<sup>8</sup>

Considering these aspects, it is obvious that an idealized acquisition model for the *want*-construction will have to look different from the *put*-model: On the one hand it will include fewer phases simply because fewer participants have to be incorporated into the construction; on the other hand the model will have to take account of the different roots of *want*-constructions (verb-PATIENT attribution and VMC core consisting of FPPES and verb) and also of the diverging goals (three-element construction and the use of *want* as perspectivizer). Figure 37 is an attempt to cope with these different aspects; in addition it indicates at which stage of early language development the variants of the *want*-constructions are introduced in the pilot corpus.

Summing up the acquisition of the *want*-construction from the angle of concept linking, it goes beyond what can be described in terms of VMCs. First there are two attributive roots that have to be considered: the verb-PATIENT link and, in addition, the VMC core consisting of FPPES (i.e. first person pronouns as

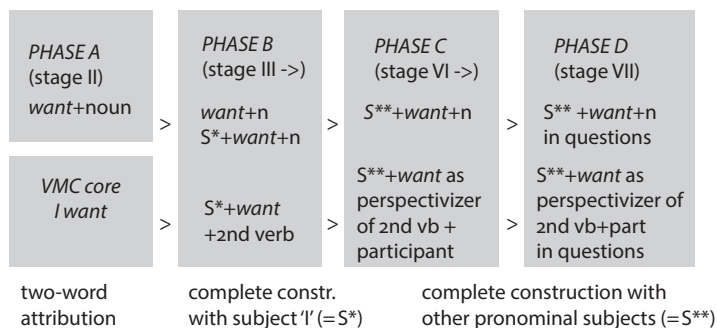


Figure 37. An idealized acquisition model of the *want*-construction

8. Compare Diessel (2013). Though his explanation is based on the traditional analysis of two constructions (main clause and complement clause), his characterization of the plain *want*+infinitive construction (without notional subject) reads like an anticipated description of the perspectivizing interpretation: The sentence meaning denotes a single event, the main clause (= *want*-clause) is formulaic, the matrix verb semi-modal (Diessel 2013: 362, Table 19.3).

EXPERIENCER subject) and verbal concept, which should also be understood as a 'belong-together' relationship. Secondly, *want* is not only used in regular EXPERIENCER-PREDICATOR-PATIENT VMCs, but very early occurs in combinations with a second verb, in which it functions as a perspectivizer. All in all, the concept-linking approach yields a much more differentiated analysis than many traditional descriptions.

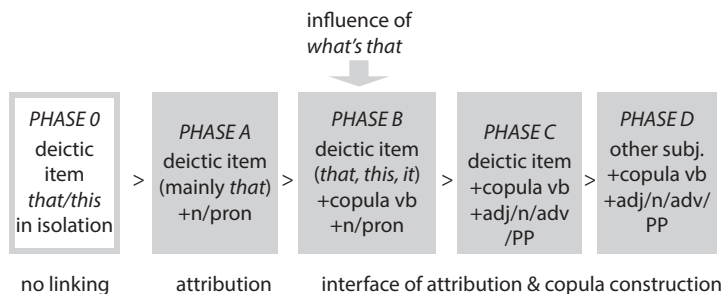
#### 14.4 From deictic attribution to copula/modifier interfaces

The third major line of constructional development in early child language differs from the two models discussed so far because it does not involve a prototypical verbal concept like PUT or WANT; its goal is not the handling of fully-fledged VMCs, but the mastery of the copula/modifier interface, in which the potentials of the *be*-copula and the attributive link between the postverbal element and the subject participant converge (compare Section 8.1.1).

The main root of this acquisition process is the deictic concept expressed by the items *that* and *this*, which first occur in single-word utterances supporting a child's pointing gesture. This is also the reason why isolated uses of *that* and *this* encountered in the pilot corpus will be included in the analysis here – as opposed to the *put*- or *want*-models, where the isolated use of the respective verbal concepts is insignificant. These differences from verbal action constructions are documented in the acquisition model presented in Figure 38.

If one disregards for the moment the top arrow indicating the influence of the *what's that* holophrase and concentrates on the acquisition line, it starts out from the isolated use of *that* and *this* (PHASE 0) and goes on to the non-verbal combinations of demonstrative plus (pre-)nominal or pronoun (PHASE A), which are linked by the local semantic attraction of attribution. Their range extends from expressions of demonstrative item+prop word (*that one/this one*), which are functionally very close to one-word demonstrative items, to the identifying use (examples in (30), repeated from Section 13.2.2) and finally to the possessive use, which is easy to pinpoint where genitive morphology or possessive determiners are involved (31).

- (30) *that* Kathy / *that* pencil / *that* radio (all E I) / *that* daddy (L I) / horsie *that* (E I)
- (31) *that* daddy's / *that* Lara's / *that* Lara hair (all L II) / *that* Fraser's /  
*that* Fraser pencil / *that* coffee Fraser / *that* my box / *that* my books /  
*that* my scissor (all E III)



**Figure 38.** An idealized acquisition model of the copula/modifier interface

*PHASE B* of the model is characterized by the entry of the *be*-copula into the structure in the shape of *that is*+noun. As the copula normally takes the form of the clitic 's, this may seem a small detail; yet against the background of concept linking the introduction of the copula construction is quite a remarkable step: As explained in Section 2.1.2, copula constructions may appear as marginal VMCs, but they are nevertheless constructions with a verb-mediating function and, in addition, they provide the end-focus potential of VMCs.

The introduction of the copula element also widens the range of the deictic items used by the child: While in *PHASE A* the item *that* is dominant, only occasionally replaced by *this* and very rarely by the plural form *those*, the identifying meaning inherent in the copula construction in *PHASE B* makes it possible to use not only these marked demonstratives (32), but to add the pronoun *it* as an alternative (33).

(32) *that* is Lara (L II) / *that's* Eve (E III) / *that* is Daddy jumper (L II), *that's* Anne's plate / *that's* Anne's bottom (both A II) / *this* is dalmatians (A IV) / *this* is Papa (E V)

(33) *it's* Anne (A II, A III) / *it's* Mummy / *it's* mummy there (both L III) / *it's* a cow / *it's* dalmatians (both A IV)

*PHASE C* extends the copula constructions from identified nominal concepts to adjectives expressing qualities so that copula/modifier interfaces with characterizing meaning are produced, primarily with the pronoun *it* (34), less so with the demonstrative items *that* and *this* (35). Apart from adjectives the copula is also linked with locative adverbs (36) and preposition-guided elements, which may express the role of BENEFICIARY (37).

(34) *it* is green (A III) / *it* is broken (Th II) / *it* is stuck (L IV) / *it's* brown (Th IV) / *it's* too muddy (A IV), now *it's* empty (E IV)

- (35) *that's* better (F VI) / *that's* not nice (Th VI) / *that's* funny (Th VII)  
 (36) *it's* there / *it's* gone (both A II) / *it's* upstairs (L IV)  
 (37) *that's* for Amy / *this* is for you (both L VI)

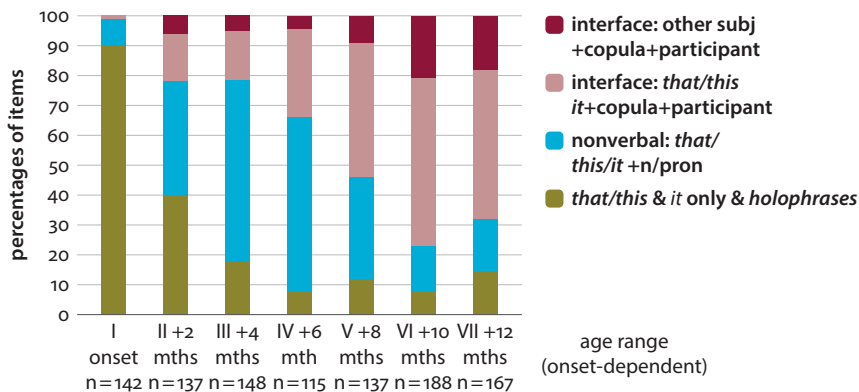
Finally, in *PHASE D* other subject participants are accepted, in particular first and second person pronouns (38), but also semantically substantial nominal elements (39), and this completes the acquisition of the copula/modifier interface in early child language.

- (38) I am not a little baby (F V) / I am asleep (A III) /  
 well, I'm hungry (F VII) / I'm too tired to eat breaket (F VI) /  
 you are on fire, mummy (Th VI) / are you alright, baby? (A III) /  
 we are home (A II)  
 (39) Mummy's back (A II) / Daddy is cheeky (Th III) /  
 tree is brown (Th II) / Molly is frightened (Th III) /  
 yeah when I was a little tiny lion (F VII)

Returning once more to Figure 38, one might wonder why it does not contain any references to the seven acquisition stages represented in the pilot corpus, as the models for the *put-* and *want-*constructions do. The reason is that the development of the copula/modifier interface is very well documented in the pilot corpus (comprising 1034 instances including constructions with *that/this/it-*subjects and other subjects). This means that a quantitative analysis of the distribution tendencies across the acquisition stages can be attempted and presented in separate diagrams. An advantage of this kind of analysis is that it not only shows first instances of attribution and interfaces, but also their relative significance and the correlation between them.

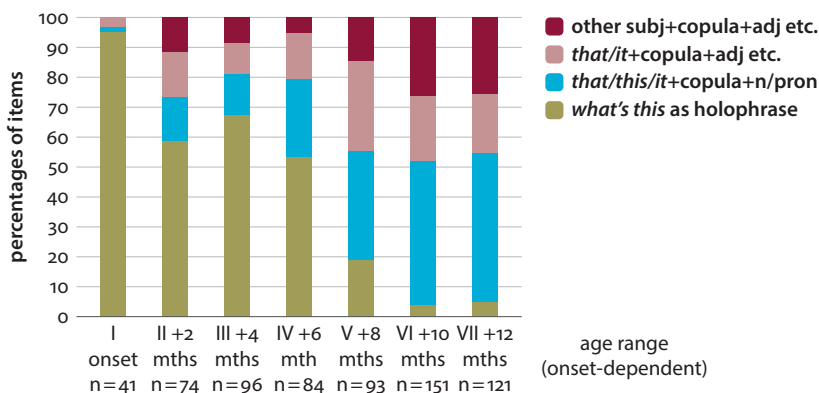
As documented in Figure 39, the onset stage and stage II are dominated by isolated *that-*items (*PHASE 0*, green columns), followed by the dominance of the non-verbal combinations of *that/this*+noun/pronoun (*PHASE A*, blue columns), particularly in stage III and stage IV. Their subsequent decline is compensated for by the rise of interface variants, which combine attribution with the copula construction (*that/this/it*+copula construction; pink columns); these interfaces dominate stage V to stage VII of the pilot corpus, supported by other types of the copula/modifier interface (red columns).

The transition from non-verbal attributive pairs to copula/modifier interfaces may also be supported by a phenomenon that is already indicated in the acquisition model in Figure 38 by the downward arrow: the fact that the introduction of the interface is preceded by a fairly massive use of the deictic holophrase *what's that/what's this*, which may well be motivated by the child's cognitive intentions to explore the world around him/her and ask deictic questions. In terms of structure *what's that/what's this* seems to serve as a model for the use of the structure *that's*+noun/



**Figure 39.** Proportions of one-word items, two-word-plus items and interfaces in the acquisition process of the copula/modifier interface

pronoun and related interfaces in deictic statements. Compare Figure 40, which shows how well *what's that/this* is represented in stage I, II and III (green column); in contrast the use of deictic interface variants (blue and pink colors) is very limited; they only take over from stage V onwards accompanied by a marked decrease of the *what's this/that* model construction.<sup>9</sup>



**Figure 40.** Proportional use of *what's that/this* and copula/modifier interfaces

The acquisition model proposed for the development of the copula/modifier interface can also be applied to the emergence of the *there-* (and *here-*) construction, where a sequential dominance of isolated *there*-items (*PHASE A*), of non-verbal

9. The influence of caregiver language on the rise of the copula/modifier interface is difficult to assess. The structure is massively used by caregivers at all corpus stages, i.e. before it is used by the child but also later, so that direct imitation may, but need not take place.



attributions (*PHASE B*), as in (40), and of interfaces (*PHASE C*), as in (41), can be observed. A characteristic feature encountered in several of the samples of the pilot corpus is the widespread use of expressions like *there you are* (42), a phenomenon comparable to the early use of *what's that/this* and likewise best classified as unanalyzed holophrase and assigned to *PHASE A*.

(40) *there* dolly (B I), *here* Daddy (F II)

(41) *there's* car (L III), *there's* horsey (L VII), *here's* the pencil (A VI)

(42) *there you are*, *there you go*, *here we are*

To sum up at the end of this chapter, the contribution made by concept linking to the analysis of VMCs in early child language can be summarized as follows:

- As the concept-linking analysis shows, item-based VMCs of activity verbs are rooted in the attribution between a verbal element and another element (originally a pre-PATIENT or pre-circumstance), and reach the status of a VMC when an AGENT subject is added, mostly in the shape of a first person pronoun. While this procedure applies to three-element (i.e. transitive) constructions, the process takes longer in the case of four-element constructions (ditransitive or complex-transitive) because a greater number of elements are involved. This process is illustrated for the verb *put* in an idealized acquisition model (Figure 36).
- For verbs of mental attitude (*want*, *like*, *know*, etc.), the roots of VMCs are the same, but alternatively the subject element can be seen as derived from an attributive combination of pre-EXPERIENCER nominal and verb element, labeled VMC core in the acquisition model of the *want*-construction (Figure 37). This model also shows that *want* is one of the verbs that are quite early combined with a second verbal concept, reflecting the development of *want to* into a modality perspectivizer.
- Apart from VMCs based on 'full' lexical verbs like *put* and *want* early child language is characterized by the emergence and widespread use of copula/modifier interfaces (*that/this/it is*+noun/adj), which do not only rely on the verb mediation provided by the copula construction, but also on the attributive link between the deictic element and the postverbal participant, the second footing of the copula/modifier interface (Figure 38).

All in all, the concept-linking approach shows that attribution plays an important role that is not sufficiently recognized in an analysis focused on verb-argument constructions (VMCs). Similar to attribution, the linking mechanisms of perspectivizing is also important for the understanding of early child language, as it will turn out in the next section.

# The development of perspectivizing mechanisms

## 15.1 Concept linking and the notion of partial achievement

What is the benefit of examining early language acquisition not only from the angle of verb-mediated constructions and the preliminary use of attribution, but also with respect to perspectivizing?

While both the traditional and the ‘classical’ constructionist analysis are focused on the mastery of verb-argument constructions (or VMCs) complete with TAM and agreement signals (and possibly signals of negation and interrogation), the concept-linking approach permits a more differentiated view. Compare (1–9), where from the traditional stance (1–4) would pass as acceptable clauses and (5–9) would be regarded as deficient or as containing ‘mistakes’.

Full mastery of VMC and perspectivizing achieved

- (1) I make another train (E V)
- (2) I don't want that bit (L VII)
- (3) Please can we read my new book? (LVI)
- (4) You have to do it on table (L VII)

Full mastery of VMC, but only partial achievement in perspectivizing

- (5) Man get red bicycle (E II)
- (6) I not like big bears (Th V) / I no like it (F I)
- (7) What are your name? (F VII)
- (8) Eve running fast / Eve making tapioca (both E II)
- (9) Mom have to wash it (E III)

In contrast, a concept-linking analysis, while conceding the full acceptability of examples (1–4), regards (5–9) as successful VMCs, but also accepts them as instances of *partial achievement* in terms of grammaticalized perspectivizing. Example (5) is classified as a three-element VMC even though the tense affix is still missing. In (6) negation perspectivizing is indicated by the preverbal position of the *not*-element (though the *do*-periphrases, which would also signal tense, is not yet used). In (7) interrogation is represented by a combination of *wh*-element and verb/subject inversion (in spite of the ‘incorrect’ agreement signal). In the two examples of (8) the

TAM perspective of progressive aspect is signaled by the *ing*-suffix of the verb (but the suitable tense form is again missing). Finally, in (9) *have to* fulfills the function of a deontic semi-modal (but fails to indicate third-person agreement).

One important aspect shared by the examples in (5–9) is that the tense and agreement signal, which seems crucial in adult communication, is missing or ‘incorrect’ by adult standards, whereas the VMC and certain other perspectives are already established. This shows that the temporal priorities of perspectivizing in child language differ from adult usage, and this is no doubt due to the special communicative needs of young infants.

For instance, a child quite early feels the need to express requests (and this is why he/she starts doing so in the pre-linguistic period). Likewise a child wants to assert his/her self by rejecting or refusing something (and this requires some form of negation).<sup>1</sup> Finally, young children have a basic need for information about the things in the world around, which suggests asking rudimentary *wh*-questions. Of the TAM perspectives, temporal deictic grounding seems to receive little attention in early child language, simply because it is taken for granted within the speech situation;<sup>2</sup> in addition it presupposes long and demanding preparation (Behrens 2001). Aspectual distinctions may attract more attention, but are dominated and preceded by the acquisition of modal perspectives, as expressed by the modal auxiliary *can* and especially by the semi-modals *going to*, *get to*, *want to* and *have to*.<sup>3</sup>

What this cursory survey suggests is that in the context of early infant perspectivizing the following issues invite further discussion: the development of negation (to be discussed in Section 15.2), of questions (in Section 15.3) and the perspectivizing of TAM modality (Section 15.4). Section 15.5 will address the potential that partial perspectivizing has for facilitating the child’s ‘backdoor entry’ to non-finite and complex syntactic constructions.

## 15.2 The perspectivizing of negation

If one follows Dimroth’s (2010) overview of research on the development of negation in language acquisition, one finds that investigations in this field have been primarily guided by three criteria: first pragmatic/semantic classification (e.g. into

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1. This seems to tie in with the findings of Austin et al. (2014) that children understand denials of statements before their affirmation.

2. This impression is supported by research suggesting that unequivocal finite verb forms (third-person *-s*) occur relatively late (Gülzow 2003).

3. The type of perspectivizing that is acquired last is adverbial perspectivizing, with its finer distinctions of *MANNER*, *TIME*, *FREQUENCY* as well as *VIEWPOINT*. But compare Section 15.5.2 on the early use of *I think* as a viewpoint perspectivizer.

rejection/non-existence/truth condition-related denial), secondly morphology (distribution of *no/not*) and thirdly clause-external vs. clause-internal position of the negative item. The findings reviewed by Dimroth are impressive in their quantity, and are also largely supported by the analysis of the pilot corpus on hand, but it is not easy to fuse them into a coherent picture of how the expression of negation develops in early child language.

It is here that concept-linking approach offers new possibilities, mainly by contributing three new aspects:

- [1] The general claim that early two-word-plus items are to be understood as attribution can also be applied to combinations with a negative element.
- [2] The full command of *not*-negation is regarded as a phenomenon based on a grammaticalized scope; this scope is variable, i.e. “clause negation” (Qu: 10.55) or “sentential negation” (Dimroth 2010: 51) is not the only goal.
- [3] Partial achievement in terms of scope-based *not*-negation is possible and is communicatively effective.

If these claims are tested against the pilot corpus, it is clear that the most condensed linguistic realizations of negation, one-word turns with the element *no*, necessarily have to be excluded in spite of their frequency.<sup>4</sup> As for two-word-plus items, most of their earliest manifestations can be assigned to the pragmatic/semantic category of non-existence (Dimroth 2010: 46). What is, however, more important from the concept-linking stance is that these two-word-plus combinations not only negate the existence of objects (10), but may also negate location (11)<sup>5</sup> or restrict quantity (12). This already shows that the link between the negative element and the second element of the pair is not yet precise enough to express a specific relationship, but is better regarded as rendering a holistic kind of ‘belonging together’ based on the PART-WHOLE image schema (or its forerunner, the WHOLE-WHOLE schema), as it is characteristic of attribution – compare claim [1] above.

- (10) no boxes (Th II, *original spelling*) / no bus (Th III) / no dolls (E III) / no wee wee (L III) / no bed time (F III) / no juice (Th IV)
- (10') not a dog house (A III) / not Mom (E IV) / not a girl (F V) / and not Sarah (E IV)
- (11) no there (Th II) / no through there (Th III) / no outside (L III)

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4. This frequency is reflected in the two-word stage: Of the 1637 negative items contained in the pilot corpus, there are 928 one-word instances of *no* (56%) plus 27 holophrases such as *oh no dear* and 21 instances of anaphoric *no* in two-word-plus utterances. Instances of isolated *no* (included in Figure 41 as *PHASE 0*) occur at all the seven stages of the corpus (and obviously also in adult language). For an interpretation of *no* in one-word turns see Dimroth (2010: 44–46).

5. There are also quite frequent combinations with TIME concepts, such as *not yet* (A IV, A V) and *not now* (Th IV).

- (11') not here (A III) / not there (E III) / not in the sand pit (F V) / not with Anne (A III)  
 (12) no more (L I) / no more pegs (A III) / no more grape juice (E III)  
 (12') not more letters (Th V)

The fact that in these examples of early child language both *no* (10–12) and *not* (10'–12') are used side by side has puzzled researchers since Klima and Bellugi (1966), yet it is unproblematic from a concept-linking stance because it is in agreement with a holistic interpretation of early negation; this means that the choice of the appropriate negative element is not decisive.<sup>6</sup>

Due to this holistic quality, attribution is also capable of accommodating combinations of negative elements and 'adjectival' quality concepts (13) as well as pairs that involve a verbal concept expressing activity (14) – and it is these last two categories from which the development of negation as scope-based perspectivizing primarily seems to arise.

- (13) not ready yet (E II) / not brown (Th II) / not noisy (L IV) / not hungry (Th V)  
 (14) no go (L II) / no work (Th II) / no see (L II) / not worry (Th V)

Compare the idealized acquisition model for negation in Figure 41. This model not only reflects the assumed sequence of developmental phases towards full perspectivizing in terms of scope-based negation, but also relates its major realizations to the seven stages of the pilot corpus.

To begin with the top row of Figure 41 and skipping the one-word items of *PHASE* 0, the starting point is *PHASE A*, which represents negation as attribution, as explained and illustrated in (10–14) above. The goal of this strand of the acquisition process is the full command of clauses in which the *not*-particle is used as a scope-based perspectivizing tool negating a copula/modifier interface (*PHASE C*). This goal is approached through the intermediate *PHASE B*, which is represented by examples like (15–16).

- (15) that not right (A V) / that not a ball (E V) / that not the daddy Pongo (A IV)  
 (16) I not sad (E V) / you not Fraser (E V) / she not poorly (A III)

As documented in Figure 41, these 'intermediate' examples show the construction pronoun+*not*+noun/adjective, which means that they are already equipped with an element equivalent to the subject participant in VMCs (demonstrative or personal pronoun) while a noun or adjective is placed at the end of the utterance. The *not*-element is inserted in between, i.e. in a position where it may already be regarded as signaling the grammaticalized negation scope affecting the final element (claim

6. This is different when in *PHASE B* and *C* scope-based negation takes over, which is soon restricted to *not*-elements as scope signals – here the analysis of the pilot corpus supports Cameron-Faulkner et al.'s (2007) findings.

[2] above). What examples (15–16) still lack is the *be*-copula, which is needed for the perspectivization of tense and agreement. In this sense, examples (15–16) only represent a partial achievement of perspectivizing (claim [3]).

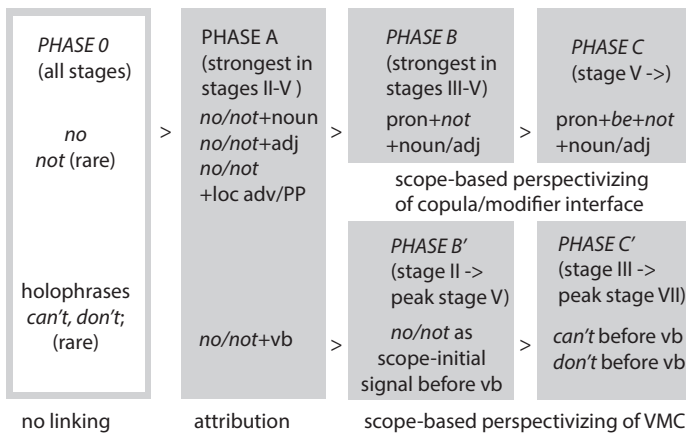


Figure 41. Idealized acquisition model for negation perspectivizing

Full competence of scope-based negation is reached in *PHASE C*, where the copula element serves as an anchor for the scope signal *not*. This is most obvious where the *be*-form is fused with the *n't*-clitic in the contracted form (*isn't, wasn't*) (17), but also seems to be effective where the *be*-form comes before the particle because it is attached to the preceding demonstrative item or pronoun morphologically (18).<sup>7</sup> In either case the scope initiated by the negative particle includes the postverbal element (subject complement in traditional terminology), yet it can also be extended to cover an ensuing circumstance (*in here* in (18)). While in (17–18) the subject element is a deictic demonstrative or the pronoun *it*, (19) illustrates variants of the interface introduced by person pronouns.

- |      |   |                       |              |                         |
|------|---|-----------------------|--------------|-------------------------|
|      | scope of negation   | scope of negation     |              | scope of negation       |
| (17) | it <i>isn't</i> taller  | it <i>isn't</i> Duplo | (both L III) | that <i>wasn't</i> mine |
| (18) | that's not nice (Th VI) / it's not quiet in here (L VII)  |                       |              |                         |
| (19) | I'm not better yet (A V) / I'm not a little baby (F V) / he isn't here yet (L III) / they are not asleep, Mummy (A VII) |                       |              |                         |

7. A first analysis of the pilot corpus does not yield reliable evidence for scope-related differences between the two variants. Their use may be the result of a number of influences (kind of subject, pragmatic/semantic function, etc.), which might also help to answer the question whether or not the *be*-copula is included in the scope of negation.

More widespread than the negation of copula/modifier interfaces is the negation perspectivizing of agent-driven VMCs (it accounts for about two thirds of the examples after *PHASE A*) – compare the bottom row of Figure 41 (*PHASE A* to *B'* to *C'*). Here the attributive combinations of the *no/not*-element and a verbal element (e.g. *no go, no work, no see*<sup>8</sup>) – which represent *PHASE A* and support claim [1] – are followed by the transitional *PHASE B'*. This phase assembles verb-containing constructions whose outstanding feature is that the *no/not*-element precedes the negated elements, a position that may rightly be interpreted as scope-initial. This construction occurs in two variants: as negation of a fragmentary VMC consisting of a verbal and a postverbal element (20) and also in constructions representing the complete VMC structure including the subject participant (21).

- (20)  $\overbrace{\text{no put in Fraser's pocket}}^{\text{scope of negation}}$  (E III) /  $\overbrace{\text{not cook some}}^{\text{scope of negation}}$  (F II)  
 not crash in the tellie (A III) / not go in there (L III) /  
 not close the door (F IV)

- (21)  $\overbrace{\text{Daddy no sit here}}^{\text{scope of negation}}$  (L IV) /  $\overbrace{\text{I not like big bears}}^{\text{scope of negation}}$  (Th V) /  
 this one not fit (Th IV) / he not sitting up (A V) /  
 I not see you any more and Cromer (E V)

The fact that negation is effective in both variants shows that it is not necessary to define the position of the *not*-element with regard to its position in the complete verb-mediated construction of the clause.<sup>9</sup> Negation is communicatively successful if its scope includes the elements selected for negation, prototypically a verbal element and a non-subject participant. In English this means that this scope has to be signaled by the scope-initial placement of the *no/not*-element (claim [2] above).<sup>10</sup>

If perspectivization is not fully achieved in examples like (20–21), this is not due to the position of the negative element, but to the fact that the tense or agreement

8. Repeated here from (14) above.

9. This relativizes the question if the negative element moves from a sentence-external to a sentence-internal pre-verbal position during language acquisition, a query that seems to be based on conflicting definitions of what should count as a sentence in early child language; see Dimroth (2010: 51–54) and fn. 10.

10. There is only a single example in the corpus (out of 230 instances of *no/not*-negation) in which the element *no* occurs before the subject element in non-anaphoric use so that its scope might be seen as including the subject element. Obviously, this example need not be regarded as representative. Compare fn. 9.

perspectives expected from a ‘correct’ adult sentence are not expressed by the verb element, which occurs in the neutral ‘infinitive’ or base form. Similarly, in (22–23) finite tense is not rendered by the *ing*-forms or past participles of the verb element though negation is again successfully expressed.<sup>11</sup> In fact, there is not a single example in the corpus with a distinct finite affix, as hypothesized in (24) by the third-person suffix.

- (22) not having eggs (A IV) / not reading a book (E V) / not going out yet (A VII)  
 (23) no got some chips / no got one (both A III) / not done a poo / not got my blanket on (both A IV)  
 (24) \*Daddy no sits there.

The conclusion to be drawn is that perspectivizing is not fully developed in these examples and that they represent only a *partial achievement of perspectivizing*, which is nevertheless communicatively effective (claim [3]).

But how is full perspectivization achieved and how is negation integrated in it? As documented for *PHASE C'* in Figure 41, this stage is reached when the *not*-element is tied to an auxiliary, mostly *can't*, rarely *won't*, or to a *do*-form as morphological anchor, which at the same time provide the scope-initial signals of TAM perspectivizing – modality and tense in the case of *can't and won't*, tense and agreement in the case of *do*-forms.<sup>12</sup> As illustrated for *can't*, there are still some subjectless variants (25) though the majority of examples are subject-containing VMCs (26).

*scope of negation, modality and tense*

- (25)  $\overbrace{\text{can't find my welly boots}}^{\text{scope of negation, modality and tense}}$  (A IV)  
 can't see it (A II) / can't do it (A V, L VII) / can't wait (F VI)

*scope of negation,  
 modality and tense*

- (26)  $\overbrace{\text{I can't put that on}}^{\text{scope of negation, modality and tense}}$  (A III)  
 he can't sit up (A V) / this one can't work (A V) /  
 I can't see them there (A VII) / I can't remember (F V)

The examples in (25–26) also illustrate that the *can't*-negation combines with a wide range of verbal activity concepts (DO, SIT, FIND, WORK, etc.) and also with mental activity concepts (SEE, REMEMBER), which all agree with the modal meaning of non-ability or non-achievement expressed by the negative form of the modal auxiliary. However, the *can't*-negation does not fit so well with intentions, liking

11. See the remarks on the indeterminacy of early verbal forms in Section 13.3

12. Compare also *haven't/hasn't (got)*, where the negated auxiliary also combines negation with the perspectivizing of tense and agreement.



and knowledge, and this is why in VMCs with *want*, *like* and *know* negation perspectivizing relies on a different preverbal anchor, i.e. a *do*-form – compare (27–29) for a set of examples.

- |  |   |
|--|---|
| <p style="margin: 0;"><i>scope of negation,<br/>tense and agreement</i></p> <p style="margin: 0;">(27) <math>\overbrace{\text{don't want socks on}}^{\text{scope of negation, tense and agreement}}</math> (L V)<br/>I don't want this juice (L VI) / we don't want the dirty ones (A VII)</p> | <p style="margin: 0;"><i>scope of negation,<br/>tense and agreement</i></p> <p style="margin: 0;">I <math>\overbrace{\text{don't want that bit}}^{\text{scope of negation, tense and agreement}}</math> (L VII)</p> |
| <p>(28) don't like daddy (F III) / don't like it (L IV) / don't like that noise (F IV) / I don't like salami (F III)</p>   |   |
| <p>(29) don't know / I don't know (frequent in stages VI and VII)</p>  |   |

What the examples in (27–29) also show is that the use of *don't* is largely item-based. Taken together the examples with *want*, *like* and *know* account for two thirds of the total instances of *do*-supported negation perspectivizing (mostly realized as *don't*, only occasionally as *doesn't* or *didn't*). In addition, just as VMCs with *want* and *like* are supported by the VMC cores *I want* and *I like* (see Section 14.3), *do*-supported negation is occasionally promoted by what might be called 'perspectivizing cores', i.e. isolated instances of the combination *I don't/I didn't* that are found in the samples. The extreme in terms of attachment to a single item is reached in the case of *know*, where the notions of VMC cores and perspectivizing cores combine in (*I don't know* to make up more than 90% of the *know* examples; with regard to their developmental status they may be regarded as unanalyzed holophrases rather than instances of *not*-perspectivizing.

To summarize what has been discussed in this section on the acquisition of negation, the concept-linking approach provides a coherent, yet differentiated picture of this process, which is characterized by:

- a direct acquisition line leading from early combinations of *no/not* with adjectival and nominal concepts to copula/modifier interfaces expressing negation;
- an intermediate, but sometimes persistent use of the preverbal *not*-element as scope signal to render partial achievement of negation perspectivizing in agent-driven VMCs;
- the introduction of auxiliary-supported negation (mainly *can't*, occasionally *won't*) as one final goal;
- the predominantly item-based emergence of *don't*-perspectivizing, supported by perspectivizing cores (*I don't*) and even holophrases (*don't know*).

### 15.3 Interrogative perspectivizing

If one starts out from the obvious distinction between *wh*-questions and *yes/no-questions* (or polarity questions) and focuses on the former, their acquisition in early childhood shows a number of parallels with the emergence of negative perspectivizing, but also differences, as the discussion of *what*-questions will demonstrate.

#### 15.3.1 Questions introduced by *what*

Like negation, which may be understood as an important part of a child's self-assertion as a personality, *wh*-questions seem to fill a child's basic need to inquire about his/her surroundings. More precisely, they indicate that assistance in naming objects and locations is requested, and this request cannot be fully conveyed by non-symbolic means, either gestures or intonation. Again as with negation, this naming request can be rendered by the isolated use of question words, in particular *what*, already in the one-word period, a practice continued during the two-word period. What is, however, much more characteristic is the early use of the tightly knit unanalyzed holophrase *what's that?/what's this?*,<sup>13</sup> which is particularly frequent in the first stages of the two-word period, but also occurs in later stages of the pilot corpus and beyond and was already discussed as a model for the *that/this-is*-interface in Section 14.4.<sup>14</sup>

Against this background the role of attribution differs somewhat from its role in negation: Its primary task is not the combination of the *what*-element with the demonstrative item *that*, but rather the segmentation of the holophrase *what's that?* into its major components (Diessel 2013: 353), i.e. the realization that two elements are involved in the utterance even if their attributive relationship is still experienced as holistic and rather vague – see the notation in (30–30'). As this process probably precedes the creation of combinations with noun elements (31), attribution applies in two acquisition phases (*PHASE A* and *PHASE B*) of the idealized acquisition model provided in Figure 42.

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13. If the holophrase *what's that?/what's this?* is coupled with a vocative form like 'Mummy', it is still regarded as a single constituent. The frequency with which the holophrase is used may be due to its widespread use in caregiver CDS. Compare Lieven's (2015: 2) discussion of the unanalyzability of the phrase as chunk or "entrenched string".

14. The total number of *what*-items in the pilot corpus is 419, of which *what* is used 52 times in isolation. Of the remaining occurrences of *what* in two-word-plus combinations (388 counts), the holophrase *what's that?/what's this?* can muster 191 counts or about one half.

- (30) | what's\_that? | (A I)      **unanalyzed holophrase (PHASE 0)**
- (30') | what | that ? | (F III)      **segmented attributed combination (PHASE A)**
- (31) what his name? / what name this soup? (both B IV) /  
what tie? (F VI) / what food? (Th VII)

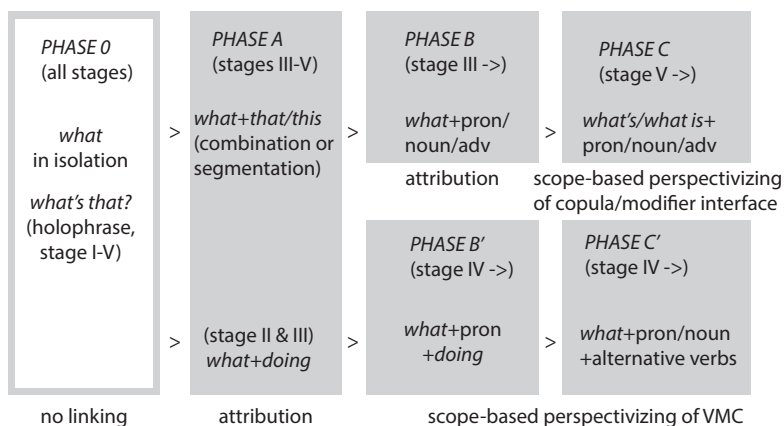


Figure 42. Idealized acquisition model for *what*-perspectivizing

The natural next step in the acquisition process is the application of this interrogative perspective to a copula/modifier interface complete with *be*-element (PHASE C). Alternatively this goal can be reached for *what*-questions by a development of the *what's that?*-holophrase (PHASE 0) that by-passes attribution (PHASE A and PHASE B) and permits a direct segmentation of the holophrase (32) into the components of the interface in PHASE C (32').

- (32) | what's that? | (A I)  
holophrase
- (32') | what | 's | that noise? | (Th V)  
PARTICIPANT copula PARTICIPANT

No matter how PHASE C is reached, the *what*-element can now be seen as the starting point of a grammaticalized scope and thus as a genuine perspectivizing tool. At the same time the copula construction of the copula/modifier interface may contribute the end-focus inherent in all VMCs – compare the annotated example (32'') and the other examples (33–35).<sup>15</sup>

15. The assignment of end-focus in *wh*-questions is, however, not the rule. Compare Section 6.5.6 on the use of *wh*-questions in adult language.

*scope of wh-question*(32'') // *what*'s < **that NOISE?** > // (Th V)(33) *what* is that on the table? (E VI)(34) *what's* that name? (L III)(35) *what's* a womble, Mummy? (Th VI)

Although the *what*-perspectivizing of copula/modifier interfaces is not uncommon, interrogative perspectivizing is more often applied to prototypical VMCs, predominantly to constructions based on the verbal concept DO, i.e. the most general action verb. This is exemplified by the verb-containing variant of *what*-attribution (PHASE A), as represented by *what doing* (36),<sup>16</sup> and also by the first *do*-VMCs (37–39), which are assigned to PHASE B' in Figure 42.<sup>17</sup>

(36) *what*            *doing*? (E II)*scope of wh-question only*(37) *what* I *doing*? / *what* you *doing*? (both E VI)*scope of wh-question,  
TAM and agreement (summarized)*(38) *what're/are* you *doing*? (A IV/A VI)(39) *what* is Fraser *doing*? (E III)

As illustrated by (37), some of the examples still lack the tense signal; yet the majority already show TAM and agreement perspectivizing as indicated by the summarizing scope notation for (38). Most of the subjects are pronouns (38), but a few are nouns (39).<sup>18</sup>

The further development is documented by the examples in (40–42) in which the verb *do* is replaced by more specific action verbs like *eat*, *cook*, *build*, *come* and *talk*. This obviously marks a first step from an item-based to a more general

16. In the pilot corpus this combination occurs in samples E II and E III, but it is also attested in Dabrowska (2000).

17. Deriving VMCs with interrogative perspective from the attributive interpretation of *what+doing* (PHASE A) is not the only explanation possible. Similarly to the treatment of *what's that/what's this?* above, one might classify *what doing?* as a holophrase and assign it to PHASE 0, which would mean that the VMC arises from the addition of a pronominal subject to the holophrase, a development bypassing PHASE A.

18. This finding contrasts with the 'Nomi examples' collected by Dabrowska (2000), which otherwise document a similar development of the construction.

schematic form of *what*-perspectivizing, which prepares the way for the use of grammaticalized interrogative scope over all agent-driven VMCs and is represented in Figure 42 by *PHASE C'*.<sup>19</sup>

- (40) *what* are you eating? (E V)  
 (41) *what* are you cooking? (E V)  
 (42) *what* are you talking about? (Th VII)

In fact there is a third – though minor – pattern that comes into play because it also permits relatively unspecific *what*-questions: VMCs with the verbal concept HAPPEN (*what happened?/what has happened?/what is happening*).<sup>20</sup> Although introduced in the samples at a later stage than the holophrase *what's that?/what's this?*, actually from stage III onwards, it is difficult to decide whether the combinations with *happen* should not be classified as holophrases as well. If they are regarded as segmentable VMCs, they are probably closer to THEME-PREDICATOR constructions than to agent-driven VMCs.<sup>21</sup>

### 15.3.2 Questions introduced by *where* and by other interrogatives

Even if *what*-questions are the most frequent type of *wh*-questions in the pilot corpus, questions introduced by *where* are also quite massively represented (the ratio is 243 counts for *where* to 419 counts for *what*). *Where*-questions basically follow the same acquisition model, which leads from the use of the isolated question word *where* via attributions to the interrogative perspectivizing of both copula/modifier interfaces and agent-driven VMCs – this is why Figure 42 above can be applied by analogy.<sup>22</sup> The differences emerge when one looks at the individual phases of the acquisition process. Unlike *what*, the question word *where* is only rarely used by the child in one-word turns (*PHASE 0* in Figure 42), simply because it is not

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19. *What*-questions with *do*-support are very rare in the corpus, and sometimes only reach partial achievement of perspectivizing: *and what did you do there? / and what did you doed?* (both B V)

20. *What*-questions with *happen* are about half as frequent in the pilot corpus as examples with *do* (22 vs. 39 instances).

21. The fact that the dominant form of the *happen* structure comes with past tense perspectivizing may be due to memorization as part of a holophrase; in addition, the past tense signal is easy to acquire within the *what+happen* structure, as it does not require the *do*-support of past tense questions with *what* as object participant.

22. Compare Section 14.4, where a similar situation is described for the relationship between the acquisition of *there*- and *that*-constructions.

conversationally effective to ask for a location without naming the object referred to. In contrast, attribution, i.e. the holistic semantic attraction between the *where*-element and a conceptually rich nominal concept (*PHASE B*), is frequent – compare (43) – in fact much more frequent than in attributive pairs with *what*, in which the second element is often only a demonstrative item.

(43)

where ○ my toys? (E III)

*where* duck? / *where* Christmas cookies? / *where* my paper? / *where* lollipops?

(all E III) / *where* my spoon? (F VI) / *where* mummy? (F III) / *where* a Papa? (E III)

This shows that the linking mechanism of attribution is particularly important for *where*-questions, paving the way for the scope-based perspectivizing of copula/circumstance interfaces (as introduced in Section 8.1) – compare examples for *PHASE C* in (44).

*scope of wh-question,  
TAM and agreement (summarized)*

- (44) where's the little hair brush? (A VI)  
*where's* pram? (L III) / *where's* the Mummy (A IV) /  
*where's* Fireman Sam? (Th VI) / *where's* your pyjamas? (A VII)

Apart from copula-related interfaces, *where*-questions aim at perspectivizing VMCs just like *what*-questions, both of them within a strictly item-based acquisition process (*PHASE B'* and *C'*). Yet for *where*-questions the verbal base is not the unspecific action concept DO (as with *what*-questions), but the goal-oriented motion concept GO, which is, however, also relatively unspecific.<sup>23</sup> If one goes by the pilot corpus, full mastery of perspectivizing (including TAM perspectivizing) as in (45), takes its time, and is preceded by many instances of partial achievement, in which only the interrogation is signaled, but not the tense perspective (46).

*scope of wh-question, TAM and agreement (summarized)*

- (45) where's mummy going? (A II)  
*where's* this one going? (L III) / *where does this go*? (A VI)

*scope of wh-question only*

- (46) where Fraser go? (E VI)  
*where* that one go? (A IV) / *where* we going? (A V)

23. The only other verbs supporting *where*-VMCs in the pilot corpus are *sit* and *talk* (one instance each).

Interrogative utterances with the verbal element *gone* seem to be more fully developed, perhaps due to the fact that the combinations with *gone* are already familiar from attributive pairs, as discussed in Section 13.3 – compare (47) with (48).

- (47) *where's daddy gone?* (L III) / *where has thunder gone?* (L IV) / *where's the key gone?* (A VII) / *where's the bag gone?* (A VII)
- (48) *meat gone?* (A II) / *pram gone?* (L III) / *smarties gone* (Th IV) / *Christmas cookies all gone* (E III)<sup>24</sup>

Surveying, finally, the remaining *wh*-words and their use in early child language, specificity seems to provide the appropriate explanatory guideline: Since there are fewer persons than things around in the child's environment to ask *who*-questions about, and hardly any groups of persons or things available for selective questions (addressable by *which*), let alone interesting possessive relationships (approachable by *whose*), these kinds of interrogative perspectivizing are rare; quantity- and manner-oriented questions (*how*, *how much*, *how long*) are not documented in the pilot corpus at all.<sup>25</sup>

An exceptional case is the use of the question word *why*, which in the samples ranks third in frequency after *what* and *where*, but is practically restricted to one-word turns.<sup>26</sup> This may reflect the child's desire to express his/her strong interest in the world around long before the informational basis for a specific question is made available in the shape of a VMC to which an interrogative *why*-scope could be applied.

### 15.3.3 *Yes/no*-questions

Though frequent in the register of adult conversation (Biber et al. 1999: 159), *yes/no*-questions are less central in early child language than *wh*-questions. They are introduced fairly late (they do not occur in sizeable numbers until stage V or 8 months after the onset stage) and they make up only a small percentage of interrogative structures (15% in the pilot corpus).


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24. Examples in (48) taken up from Section 13.3.

25. The pilot corpus contains 13 counts for *who*, 6 for *which*, 1 for *whose*, none for *how* and its combinations, as opposed to 419 for *what* and 243 for *where*.

26. The total number of *why*-examples is 70, among them only 2 (unsuccessful) attempts to create complete scope-based questions. The remaining 68 one-word examples mainly occur in B I and F III.

One general cognitive reason seems to be that *yes/no*-questions are more demanding in terms of conceptual content than *what*- or *where*-questions because they presuppose the child's successful conceptualization of an object or scene before they can be asked. A more technical reason is that *yes/no*-questions are signaled by the inversion of a *be*-form, auxiliary or *do*-form and the subject, and this structural tool is only available after suitable constructions (VMCs and copula/modifier interfaces) have been acquired. Up to this point the child has to rely on intonational signals to express *yes/no*-questions, in particular on a rising intonation contour, which can be applied to isolated linguistic items or to two-word plus items (49). Once inversion is available as a scope signal, it will initiate an interrogative grammaticalized scope over a copula/modifier interface or an agent-driven VMC (50–51).

- (49)  this one? / dirty pig? that way? / pram gone?  
(ex 1 & 2: A II, ex. 3 & 4: L III)

*scope of yes/no-question*

- (50)  Is *that* little teddy and mummy? (L V)

*scope of yes/no-question*

- (51)  Is *Amy* sucking her finger or her thumb? (L VII)

If in VMCs the interrogative scope is in most cases signaled by the modal auxiliaries *can* or *shall* (in conjunction with inversion), this indicates that the child is not interested in a neutral decision on an issue, but rather expects an answer with a modal coloring (e.g. of permission or advice), as one would expect from a child/caregiver exchange (52–53).

- (52) Can you help teddy? (L V) / Can you do that for me? / Can I have some paper?  
(both L VII)
- (53) Shall I put the tele on for you? / Shall we play something else? (both L VII)

Examples with *do*-support occur only in the last stages of the pilot corpus and – like negation – they are primarily item-based on *want*, *like* and *know*. Their purpose is to inquire about the wishes or intentions of the conversational partner (54). In other words, they convey a modality reminiscent of modal auxiliaries – a topic further pursued in the following section.

- (54) Do you want come, Alistair? (A VI) / Do you want to read it? (A VII)  
Do you like the high chair? / Do you know what I have? (both L VII)



## 15.4 The perspectivizing of TAM modality

When negation and questions were discussed in the last two sections, it should have become clear that these communicative strategies are applied by children from the earliest stages of language acquisition onwards, at first in the shape of single words (*no, what, where*, etc.) or holophrases (*what's this/what's that?*), later in conjunction with linguistic signals indicating a grammaticalized scope over stretches of VMCs or interfaces.

To go by the pilot corpus, the auxiliary *can* is among the earliest and most frequent scope signals both for negation and questions: indeed, it occurs more often in negative (40%) and interrogative utterances (33%) than in positive statements (27%) – in each case expressing a combination with modality, mostly (non)-ability or (non)-permission. Alongside *can* the auxiliary *shall* is – in fact exclusively – used in questions (combining the notions of interrogation and advice). From the technical angle of perspectivizing, *can't* signals the combination of negation with the TAM perspectives of modality, tense and with agreement; together with the subject participant *can't* also indicates the sentence mode (declarative or interrogative) – compare the summarizing scope notation in (55). In the case of *shall*, TAM and agreement perspectivizing are combined with the interrogative perspective (indicated by subject-auxiliary inversion) – see (56). In both cases this seems to provide a simple and elegant way of fully mastering the requirements of perspectivizing.<sup>27</sup>

- scope of declarative mode,  
negation, TAM and  
agreement (summarized)*
- (55)  $\overbrace{I\ can't\ see\ feathers}^{(Th\ VI)}$

- scope of yes/no-question,  
TAM and agreement (summarized)*
- (56)  $\overbrace{Shall\ we\ do\ one\ of\ these\ jigsaw?}^{(L\ VI)}$

But doesn't this mean that the negative and interrogative bias distorts modality in early child language? Or is it sufficient that the modal auxiliary *will*, which in the pilot corpus is used in positive statements only, turns the tide when it finally gains some strength in stage VII? In fact, the balance in the use of modality perspectivizing is achieved in a different way, i.e. by a phenomenon that was introduced in Section 11.1 as *cross-mechanism grammaticalization*: the development of *want* – and also of *go* and *have* – from VMC predicators governing infinitive constructions

27. The negative form *can't* might be regarded as an unanalyzed holophrase, at least in the earliest stages of the two-word period (Dimroth 2010: 50).

into modality perspectivizers, or for short, semi-modals.<sup>28</sup> Compare Table 23 for an overview of how modal auxiliaries and semi-modals are used as scope signals of modality perspectivizing in early child language.

**Table 23.** Coverage of modality perspectivizing by auxiliary and semi-modal scope signals

Type of perspectivizer	Modal auxiliaries			Semi-modals		
	can	shall	will	want (to)	go(ing to)	have (to)
positive declarative	(X)	–	X	X	X	X
negation	X	–	–	(X)	(X)	(X)
questions	X	X	–	(X)	(X)	–

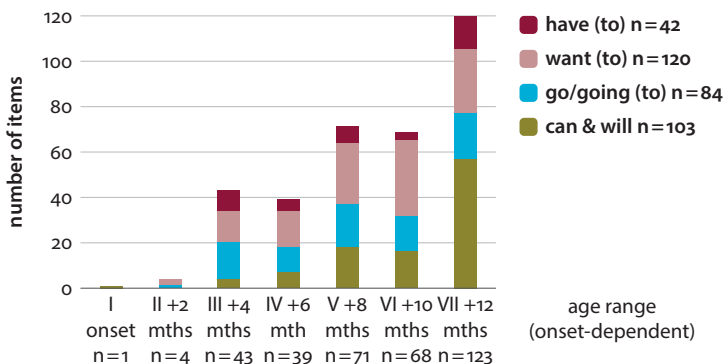
While with regard to *can* and *shall* Table 23 confirms the finding that they are preferred in negative and interrogative perspectivizing, it also shows that the semi-modals based on the verbal concepts GO, WANT and HAVE compensate in the domain of positive (declarative) perspectivizing.

This becomes even clearer when quantitative data from the sample analysis is considered, which show that in 90% of the examples semi-modals occur in positive statements. This finding is complemented by the sequential view of Figure 43, which illustrates that semi-modals are also used massively in positive statements long before *can* – and finally *will* – begin to play a role.

The reason for this frequent early use of semi-modals is twofold: First, semi-modals compensate for the weakness of modal auxiliaries in the domains of intention and desire – the only exception is *will*, which is, however, not evenly spread across the pilot corpus and only later supported by the more suitable auxiliary *would*. A second explanation, connected with the first reason, is the early availability of lexical concepts of goal-oriented motion and intention – the concept GO was found to be dominant in the early acquisition phase of attribution (see Section 13.3), while WANT was characterized as the conceptual foundation of an important EXPERIENCER-controlled three-element VMC (Section 14.3). If these basic concepts of motion and intention are introduced that early, then why should they only be linked to non-verbal participants or locative circumstances (as in *want juice*, *go to the door*, etc.) and not also to another action (e.g. *coming*, *playing*, *sitting down*), expressing that this action is the goal or is simply intended or desired? What makes this option so attractive for young learners is that it seems sufficient for communicative success

28. Similar in meaning to *have to*, the combinations *need to* and *get to* occur occasionally in the corpus samples, e.g. *I need to play balloon* (Th VI), *You need to have that* (A VI), *she's got to sit* (L VII).

if the semi-modal is morphologically recognizable as a signal of modality perspectivizing, even if tense and agreement perspectivizing are not yet properly rendered.



**Figure 43.** Token frequency of auxiliaries and semi-auxiliaries as modality perspectivizers

Against this background it is not surprising that about half the instances of semi-modal perspectivizing contained in the pilot corpus show morphological ‘deviation’ and ‘incorrectness’. As illustrated by the examples in (57–59), the deviation ranges from subjectless combinations of *go/want/have* with the plain form of the second verb to variants that include a subject participant and also a linking element (either *to* or *a*), but lack tense perspectivizing.<sup>29</sup> The range of intermediate forms is largest for the semi-modal *go* mainly because both *go* and *going* are available as verb forms.

*Verb form of semi-modal + plain form of 2nd verb, subjectless*

- (57) go sit that box (A II) / go give dolly bottle (E III) / going play with Becky (E V)  
 / want have some puppies (A IV) / want get down (Th V) / Sue have make  
 more grapefruit juice (E III)

*As above, but with subject participant*

- (58) I go get another pencil (E IV) / I wan go park (F IV) / I have mummy bite /  
 I have close the door (both E IV)

*As above, without tense, but with linking element (‘to’ or ‘a’)*

- (59) I going to kiss you (B VI) / I going a jump (E VI) / Mum have to wash it (E III)

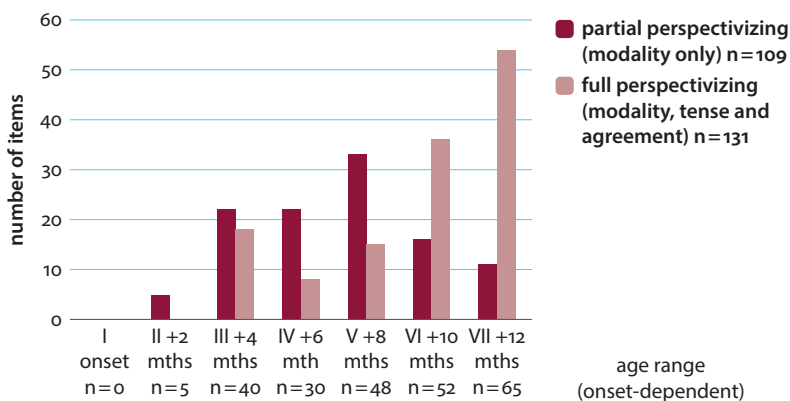
As documented for the later stages of the pilot corpus, the realization of semi-modals progresses towards full perspectivizing (which includes signaling tense and

<sup>29</sup> For a discussion of the acquisition of the linking *to*-element, as it occurs with semi-modals, see Kirjavainen et al. (2009), who treat the topic under the heading of “infinitival-to omission errors”.

agreement) and towards a more adult-like morphology both of the standard forms (60–62) and the contracted non-standard forms *gonna* and *wanna* (60'–61').

- scope of modality, tense and agreement*
- (60) We *'re going to* make a blue house (E VI)
- scope of modality, tense and agreement*
- (60') I *'m gonna* draw football (L VII)
- (61) He *wants to* sit in the front (L VII)
- (61') I *wanna* get out (F VI)
- (62) He *has to* go that side of wall (L VII)

This impression is confirmed by the quantitative findings of Figure 44, which show that partial achievement of perspectivizing by semi-modals has its peak at stage V, but then decreases markedly, while full achievement of perspectivizing rises steeply in the last two stages. All in all it can be said that at stage VII the semi-modals may be regarded as fully grammaticalized perspectivizers.<sup>30</sup>



**Figure 44.** Proportions of modality perspectivizing and full perspectivizing by semi-modals

30. If, however, one follows Hopper and Traugott (2003: 3;89;93), who claim that the grammaticalization process for *going to* is only completed when the semi-modal is used with a verb or subject that is incompatible with the purposive meaning expressed by the lexical verb *go* (e.g. when used with the verbs *hear* and *like*), none of the examples in the pilot corpus meets this requirement since the semi-modals are all connected with verbs of motion or otherwise purposive verbs (e.g. *make*).

Yet, at least in the case of the *want*-construction, this is only half the story: Here the perspectivizing use should not be regarded as the end point of a language acquisition process, but rather as a starting point from which complex VMCs with non-finite constructions are approached by a kind of ‘backdoor entry’.

## 15.5 Perspectivizing and the backdoor entry to complex constructions

### 15.5.1 From modal perspectivizers to object+infinitive constructions

If one follows the widely held opinion that non-finite constructions are clauses and that they are created from simple clauses by way of “clause expansion” (Diessel 2013: 361), their acquisition requires quite an impressive effort from the infant user: After having mastered, let us say, the construction of the matrix clause *Peter wants the book* including its TAM marking, the child must go on to make preparations for the non-finite construction. This means that the second clause (e.g. *Peter reads the book*) must be stripped of its tense signal and have a *to*-element added to be turned non-finite; the subject of the second clause must be dropped if it is identical with the subject of the matrix clause (e.g. *Peter*), so that only one subject is expressed in the resulting ‘expanded’ construction (e.g. *Peter wants to read the book*). If the two constructions have different subject referents, the second referent must be expressed in the object case if it is a personal pronoun (e.g. *Peter wants her (=Susan) to read the book*).<sup>31</sup>

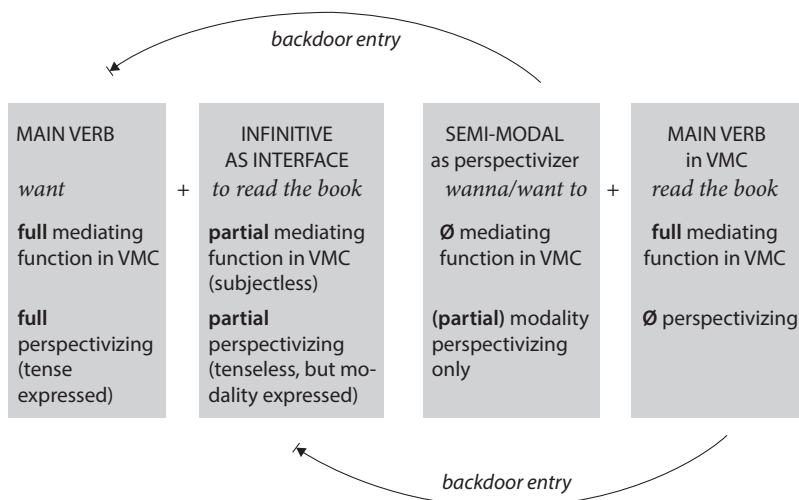
Yet if one chooses what may be understood as a *backdoor entry* to non-finite constructions and starts out from the function of *want* as grammaticalized perspectivizer in a two-verb combination, the situation is different and the acquisition effort seems smaller. Now the *want*-element (including non-standard *wanna* and *wan*) is not regarded as a VMC, but as a modality signal perspectivizing the second verb and its postverbal participant (e.g. *read the book*); consequently the child has to deal only with a single clause in which the decisive information is conveyed by the *read*-VMC. Acquiring the verb+non-finite construction on this basis means that the perspectivizing element (*I want*) is only slowly developed into a matrix VMC with a recognizable subject and a *to*-element as linking tool to bind the second VMC.

In the case of ‘plain infinitives’ (see Section 10.2.1) this goes hand in hand with the realization that the subject of the ‘new’ matrix clause is also relevant for

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31. Admittedly, there are explanations (e.g. Quirk et al. 1985: 16.38) that regard non-finite constructions showing referential identity with the matrix clause simply as subjectless complements, and this would suggest a reduced processing effort.

the ‘new’ non-finite ‘participant’. For infinitives with a notional subject (attributed referent; Sections 10.2.2–3) the effort is somewhat greater because this referent has to be indicated by the object form of a pronoun (*want her to read the book*) or at least by the postverbal position of a noun (*want Susan to read the book*). Compare Figure 45 for a visualization of the backdoor entry.



**Figure 45.** Backdoor entry to *want*-VMCs with non-finite interface (based on Figure 28)

What, however, is the evidence that children actually pursue this course of acquisition? It would mean no less than that the long-term process of cross-mechanism grammaticalization, i.e. of developing verb+infinitive constructions into perspectivizers, is reversed from an ontogenetic point of view. In fact, young children will probably first come across the *want*+verb constructions in caregiver speech where *want* is frequent and most likely used in the grammaticalized function of perspectivizer, and it is in this function that the construction is taken up very early and used in child speech with surprising frequency. First results are often fragmentary variants of the *want*+verb construction, as shown in previous sections and illustrated once more in (63–65).

(63) I *wanna read* it (E V) / I *wan go* upstairs (F IV) / I *wanta get out* (F VI)

(64) she *wansa have* an eggnog (= a drink) (E VI) / I *want sitting* very close (E VI)

(65) I *want have* some marmite (E V)

Yet as discussed above, these ‘incorrect’ variants fulfill their communicative purpose no matter whether the morphological requirements of the non-finite construction (verb form, *to*-element) are fully met or not. They are obviously used by the child as

a kind of ‘testing ground’ for verb+non-finite complement constructions. Semantic elaboration develops slowly and is tied to the second verb (see Section 14.3).

For plain infinitive interfaces their backdoor acquisition is more or less completed within the first year of the two-word phase. At stage VII the construction is available not only with the initially preferred FPPES (first person pronoun experiencer subject) (66), but also with other pronominal and with nominal subjects (67–68), and finally in conjunction with fully developed interrogative and negation perspectivizing (69).

- (66) I want to have that one. (A VII)
- (67) he wants to sit in the front. (L VII)  
who wants to go in my train. (A VII)
- (68) Ginger wants to get in. (L VII)
- (69) do you want to come and see me ?  
I don't want to do that one. (both A VII)

From the angle of reference the backdoor entry is successfully negotiated when the referent is recognized as a ‘shared referent’ related to both the *want*-element and the second-verb VMC. In contrast, the mastery of infinitives with attributed referents (notional subjects) requires the realization that the second-verb VMC and the *want*-perspectivizer have different referents, a process which may extend over a longer period and create awkward intermediate phenomena.<sup>32</sup> Compare the following series of child utterances (70–74), in which *want*-perspectivizing of modality is combined with *do*-supported interrogative perspectivizing.<sup>33</sup>

- (70) do want go home? (Adam 16) / do want walk? (Adam 17)
- (71) do want *he* walk? / do want *he* talk? (both Adam 17)
- (72) do want *me* pull? /do want *me* ride it? (both Adam 17)
- (73) do *you* want *he* walk? (Adam 18)
- (74) do *you* want *me* get out? / do *you* want *me* put hole in? (both Adam 18)

What is obvious is that the first set of examples in (70) represents a rudimentary stage based on a subjectless construction of the verbs *go* and *walk*, in which

32. See Diessel (2013: 356), who also points out the temporal gap between the acquisition of plain infinitive constructions and object+infinitive constructions.

33. Examples (70–74) are taken from samples 16–18 of the Adam corpus, which is part of the Brown corpora and available in the CHILDES collection. The search in this corpus was motivated by Diessel's (2013: 356) example *do want he walk?*, which is, however, interpreted by him in a different way.

both types of perspectivizing are only partially realized (modality indicated by the *want*-element, interrogation by *do*-support). In the examples in (71) a pronominal subject is first added, its subject case morphology signaling that it is understood as a constituent of the second-verb VMC (based on the verbs *walk* and *talk*). This means that at this stage the *want* element is still used as a perspectivizer of the second-verb VMC and not yet as part of a superordinate VMC. This is different in (72), where the referent of the second VMC is already presented in the object case indicating that this VMC is being prepared to be linked to a *want*-construction by means of a PAR interface (participant/attributed referent interface; see Section 10.2.3); still, the referent (i.e. subject) of the *want*-element is not yet expressed. This stage is finally reached in (73), where *want* is used as VMC predicator equipped with a subject referent of its own (*you*); yet this example still marks a transitional stage because the subject case morphology used for the referent of the second VMC in (71) is revived. Finally, the backdoor entry is more or less accomplished in (74), where both referents are expressed in their appropriate morphological form even if the infinitive is not yet introduced by the *to*-element. What should be added is that the construction remains item-based in the Adam corpus for a longer period, being limited to the *do you want me+verb* configuration.<sup>34</sup>

This raises the question if the backdoor entry via grammaticalized semi-modals is restricted to the *want*-construction or whether it can be seen as a strategy supporting the acquisition of other two-verb combinations as well. Sifting the pilot corpus, there are at least two other candidates that might be considered, the combination of *try*+second verb (candidate for plain infinitive) and that of *let*+object+infinitive (candidate for infinitive with notional subject).<sup>35</sup>

True enough, in the case of *try* there is no recognized grammaticalized perspectivizer to start from, but the notion of attempting some action, which is expressed by the *try*-construction, certainly has some modal quality.<sup>36</sup> Infant learners

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34. Unfortunately, the evidence for object+infinitive constructions from the corpora investigated for the pilot corpus is very small (6 instances in all, one of them doubtful), but the transitional stages offered – *want Mummy read it* (A IV) / *I want mum come over there* (L IV) / *because wanted you to play with me* (A VII) / *do you want me to give you?* (L VII) – do not disagree with the finding that *want* undergoes a development from partial perspectivizer to predicator in a full-scale VMC.

35. Other candidates that might be considered are ‘*stop*+gerund/participle’ (3 instances in the corpus) and ‘*start/begin*+infinitive or gerund/participle’ (not represented).

36. *Try* could perhaps be assigned to the category of catenative verbs (Quirk et al 1985: 349) although it is not listed there. Dixon (2005: 98) discusses *try* together with verbs of beginning and daring and puts them close to modals and semi-modals (his class of secondary-A verbs).



therefore might well treat the *try*-element as a perspectivizer and attempt its partial realization with different morphological variants very much like they tend to handle the forms of the semi-modals *want to* or *going to*, at least this is what the incomplete variants in (75–76) and the later examples of full accomplishment (77) suggest.<sup>37</sup>

(75) I *trying* a fix it (E III) / they *trying to* catch him (E V) / I *am trying* get your post (Th V)

(76) I *try write* with him another mustache (write = draw) (E IV) / they *try a* find him (E V)

(77) the girls *try* to find Humm (E V) / little boys *are trying* to get in (Th VII)

The *let*-construction is represented in the pilot corpus primarily in two variants, as *let's*+verb (78) and *let me*+verb (79), the first always, the second sometimes hortative in meaning (Hopper and Traugott 2003: 10–13). Here the contracted form *let's* is today accepted in many applied grammars as a fully grammaticalized first-person plural perspectivizer, which complements second-person imperative forms; as such it occurs frequently in the caregiver speech of the pilot corpus and is therefore easily available for the child as a kind of unanalyzed semi-imperative, as which it serves in adult usage as well. The *let me*+verb variant probably also remains unsegmented initially, but is more suitable for segmentation into 'let-perspectivizer+me+second verb VMC'. Once segmentation is accomplished, this permits the replacement of the pronoun *me* by another pronoun, such as *it* in (80), or by a noun (not documented in pilot corpus) so that it can later develop into a genuine object+infinitive construction.<sup>38</sup>

(78) *let's* take you home (A III) / *let's* watch a video (A IV) / *let's* do this / *let's* play with this (both L VII)

(79) *let me* have some (E III) / *let me* peel it for you (L V) / *let me* do it (L VI) / *let me* see what you have (E VI)

(80) *let it* cool off (E VI)

Before leaving the topic it seems only fair to point out that there are two other types of constructions with PAR interfaces (object+infinitive/object+participle constructions) that are particularly frequent in adult communication, but almost absent

37. To illustrate the involvement of the caregiver/investigator in the acquisition process, there is in fact a series of short exchanges in the E V sample, in which the child uses the *ing*-form of *try* without the auxiliary (e.g. *they trying to find him*) followed by the investigator's repetition of the expression complete with the auxiliary.

38. Or PAR=Participant-Attributed Referent interface; see Section 10.2.3.

from the pilot corpus: causative constructions after verbs like *make* and infinitive/participle constructions after verbs of perception – the only corpus instances are (81–82).

(81) I made my baby sit in high chair (E IV)

(82) see Mum putting the pudding (E III)

However, these examples do not show any sign of being supported by grammaticalized perspectivizers. This suggests that for their acquisition the classical explanation (*make/see* as full VMC predicators combined with a reduced second-verb construction) is more adequate, and this is probably true of the many other verb + non-finite complement constructions that are learned at later stages of the language acquisition process. Seen in this context, the backdoor entry is probably not generally applicable, but is reserved for *want* and perhaps a few other verbs used with infinitives in the earliest stages of language acquisition.

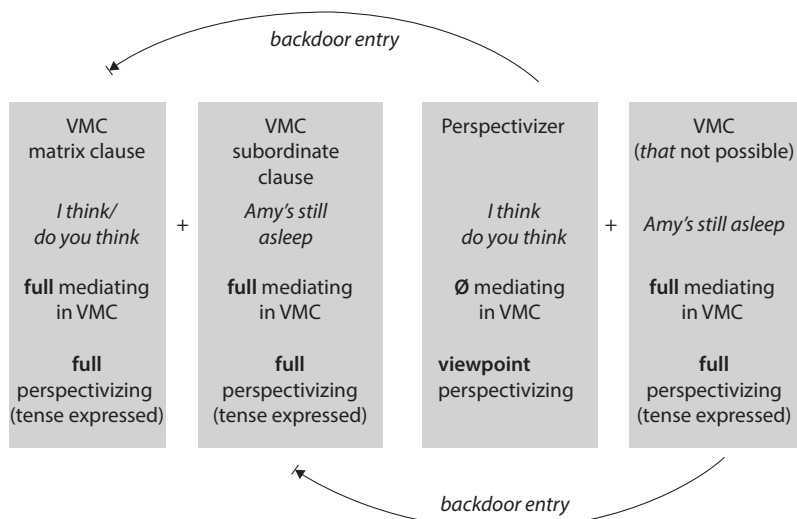
### 15.5.2 From viewpoint perspectivizers to complex sentences

When the use of ‘semi-modals’ like *want to/wanna* as modality perspectivizers was introduced in Chapter 11, a parallel development was discussed with regard to the use of the *I-think*-element as viewpoint perspectivizer (Section 11.3); in both cases this development was assumed to occur along a scalar VMC/perspectivizing interface. The question is if this parallelism also applies to the backdoor entry in early language acquisition, as just described for modality perspectivizers.

In fact, the backdoor interpretation of the *I-think*-construction, as visualized in Figure 46, is in full agreement not only with the material extracted from the pilot corpus, but also with the results of other usage-based investigations<sup>39</sup> and with long-standing findings of discourse analysis, namely that the *I-think*-element should be regarded as an epistemic/evidential/evaluative formulaic fragment rather than as a matrix clause (Thompson 2002; see Section 11.3.1). Compare examples (83–84), which illustrate the perspectivizing use of the *I-think*-element as viewpoint perspectivizer, with the first example marked for scope. *I think* – and also *I say* – occur from stage V (onset + 8 months) onwards, either in pre-VMC (83) or post-VMC position (84).

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39. Compare Diessel & Tomasello’s (2001) finding that early examples of the construction are mono-propositional, (Lieven 2015: 14), who stresses that the matrix clause is formulaic in being restricted to first person singular present tense marking and Diessel (2013: 362), who views *I think* as an “epistemic marker or marker of the illocutionary force that is attached to a complement clause”. See also Diessel (2004) for an overview of the field.



**Figure 46.** Backdoor entry to combinations of matrix clause and subordinate clause (based on Figure 30)

*scope of viewpoint perspectivizer*

- (83)  $\overbrace{i \text{ think } \text{Amy's still asleep}}^{\text{scope of viewpoint perspectivizer}}$  (L VI)  
*I think I have got a mint.* (Th V) /  
*I think it's this one.* (L VI) / *I think it's yours.* /  
*think this is from there* (both L VII)<sup>40</sup>

*scope of viewpoint perspectivizer*

- (84)  $\overbrace{\text{and that is fire engine } i \text{ think}}^{\text{scope of viewpoint perspectivizer}}$  (Th V)  
the elephant has got toys and boxes *I think* (Th V) /  
talk normally *I say* (F VII)

If one relates the examples in (83–84) to cross-mechanism grammaticalization and thus to the VMC/viewpoint interface (see Section 11.3.1), one finds that the direction of the grammaticalization process is again reversed in the backdoor entry. This is clearly reflected in Table 24, where the top arrow indicates grammaticalization while the reverse bottom arrow reflects the learner's acquisition path. More specifically, grammaticalization is best understood as a historical development that leads from a choice of suitable verbs and grammatical morphemes (Column A) to the amalgamation and chunking as formulaic perspectivizers like *I think* (Column C). Conversely, the infant starts out from this perspectivizer and is led to using an ever wider range of locutionary and mental activity/attitude verbs (*tell, suppose, etc.*) for

40. The last example is the only one in the pilot corpus without the subject *I*.

the construction as well as enjoying a freer choice of mostly personal subjects.<sup>41</sup> The result of this linguistic development can be first observed in the last stage of the pilot corpus (stage VII) – see (85–87).

**Table 24.** Grammaticalization and acquisition of *I-think*-statements (based on Table 17)

VMC/viewpoint interface scale for statements		
VMC pole		perspectivizing pole
A	B	C
Introductory VMC with different verbs and semantically rich subject participant	Intermediate position	Introductory element <i>I think</i> as viewpoint perspectivizer
e.g. <i>Flood victims complained</i> (+ <i>that</i> ) + VMC	<i>He/they/noun + say</i> / <i>think/wonder</i> + VMC	<i>I think</i> + VMC
← Backdoor entry in early language acquisition →		

(85) I told you I've got one of these (L VII)  
VMC 1                      VMC 2

(86) I said "I don't like my lolly" (Th VII)

(87) Ginger saying [?] Purdie's sorry (Th VII)

Semantically more substantial examples will follow later and are therefore extracted from the last installments of the Forrester and Thomas corpora, which cover later age periods – compare (88–90).<sup>42</sup>

(88) I'll show you how you draw birds (from F age 3;7)

(89) you said look at all my nice work boss and they said that's not nice work

(90) well I suppose a tree could be struck by lightning  
(both (89–90) from Th age 4;11)

41. The fact that this is a later development is indirectly proved by the data retrieved from the Adam corpus (2;3–4;10) by Kowalski and Yang (2012), who, however, use it to argue against the preference for the formula *I think* in early child language and Tomasello's verb-island hypothesis in general.

42. Compare Brand and Götz (2011), who report on deviations from the standard formula *I think* in the speech of four- and five-year-olds.

What is the benefit of interpreting the child's acquisition of these constructions in terms of a backdoor entry? By explaining early variants of the *I-think*-construction in terms of viewpoint perspectivizing, it can be shown how the child starts out from the familiar linguistic surroundings of simple perspectivizers before he/she explores the more difficult terrain of multiple VMCs (or complex sentences), moving along the scalar interface between perspectivizing and VMCs.

If one finally looks around for other instances of this kind of backdoor entry, one is likely to think of *yes/no*-questions (91) and *wh*-questions (92), for which the same kind of cross-mechanism grammaticalization was observed as for the statements with *I think* (see Section 11.3.2).

(91) Do you think his horse will win the race?

(92) Where do you think we can get advice on gardening tools?

The fact that invented examples are used here already shows what the difference is: Both constructions do not occur in the pilot corpus, i.e. before age three. In addition, *wh*-questions with long distance dependencies are overwhelmingly coupled with the perspectivizers *WH do you think/say*<sup>43</sup>, and therefore do not encourage a development of this expression into a full-scale matrix clause – only this development would qualify them for the backdoor entry.

### 15.5.3 Postscript on relative clauses

On the face of it, relative clauses do not represent a combination of viewpoint perspectivizers and message-carrying VMCs. Yet, as claimed by Diessel and Tomasello 2005 (also Lieven 2015: 13), early examples are also 'mono-propositional', and this view is supported by the handful of examples contained in the pilot corpus – compare (93–95). In these examples the message of the utterance is expressed by the final VMC (*a man have / you can play with / that's real*) in combination with the preceding referent (*something/another rattle/a lorry*). This referent is introduced by a presentational copula/modifier interface (see Section 8.1.1), in (95) simply by the conjunction *and* plus a nominal element (*a lorry*).<sup>44</sup>

(93) it's something *a man have*. (E V)

43. 67 % in the British National Corpus, 94% in the CDS corpus in CHILDES, as investigated by Dabrowska (2013: 634).

44. There is also one more advanced, though fragmentary example with the four-element *put* VMC in the pilot corpus: *and put all the xxx that you need here* (Th VII).

(94) dere's [=there's] another rattle *you can play with* (E VI)

(95) and a lorry *that's real* (Th VII)

As far as the link between the VMC and the referent is concerned, the adult view would be that the examples represent different types of role attribution (AGENT, PATIENT OR RECIPIENT relationship; see Section 3.2.2). Yet the link is not established by differentiating *who/what*-pronouns, but by the multifunctional *that*-element (95) or the Ø-link known from adult contact clauses (93–94). This indicates that a distinct notion of role attribution has not yet evolved, but that the link between the message of the relative clause and the referent is still experienced holistically as an early vague relationship of attribution. For the young child this may well mean that the combination of a semi-formulaic presentational element (copula construction or *and+noun*) with an ensuing VMC is experienced as just another way of preparing for a complex construction (this time relative clauses), just as viewpoint perspectivizers like *I think* pave the way for the acquisition of sentences consisting of matrix VMC and complement VMCs. Yet to investigate these aspects of the backdoor entry more satisfactorily a much larger sample would be needed than was available in the pilot corpus.



## Conclusion and outlook

Of the various aspects of grammatical description discussed in the book only some will be addressed in this final chapter, as indicated by the following headings. However, this very selective view is complemented by the access to the individual chapters provided in Table 25, in which references to key figures and tables are assembled.

### 16.1 Concept linking, traditional grammar, other linguistic approaches

One may ask why traditional grammar has been applied with few changes over centuries while in the last half-century new grammatical models have been proposed about every ten years. One reason seems to be that traditional grammar consists of implementable compromises between many different ways of analyzing language; in contrast, most of the recent alternatives claim a single theoretical foundation on which they try to erect a uniform, comprehensive grammatical system, which invariably provokes criticism and counter models.

The concept-linking approach developed in this book does not simply want to add another contribution to the sequence of linguistic models, this time with the cognitive underpinnings of image schemas. Rather, it claims that the notions of verb-mediated constructions, attribution and perspectivizing are rooted in traditional grammar, and that – together with their interfaces – they are therefore better suited than other linguistic approaches to clarify some of the compromises practiced in traditional grammatical analysis.

Explanations of compromises are spread across PART I and PART II of the book. To start with what is traditionally regarded as syntactic hierarchy (PART I, Chapter 3), a concept-linking analysis shows that this is not a uniform phenomenon, but a multifunctional compromise that feeds on VMCs (simple and complex sentences), on the flexibility of attribution (reaching from complex lexemes to complex sentences with relative and adverbial clauses) and also on a differentiated system of perspectivizing (comprising sentence modes, negation, TAM, agreement and the large range of adverb perspectivizing). As a result, the syntactic hierarchy of traditional grammar appears as a construct of interlocking hierarchies.



Table 25. 'Table of tables': Overview of major figures and tables

	Introductory figures	Summarizing figures/tables
BASICS (PART I)		
Characteristic features of VMCs, attribution, perspectivizing (Chapter 2)	Figure 1 (p. 13)	Table 1 (p. 45)
Hierarchies of concept linking (Chapter 3)	Figure 4 (p. 50)	Table 2 & 3 (pp. 56, 57)
Word order and function words (Chapter 5)	Figure 5 (p. 82)	Table 5 (p. 93)
Topic, comment and focus (Chapter 6)	Figure 6 (p. 96)	Table 6 (p. 117)
INTERFACES (PART II)		
Interfaces: introduction & overview (Chapter 7)	Figure 7 (p. 137)	Table 19 (covers Chapters 7–11) (p. 234)
VMC participant/modifier interfaces (Chapter 8, Section 1)	Figure 8 & 9 (pp. 140, 142)	Table 7 (p. 148)
VMC participant/circumstancing interfaces (Chapter 8, Sections 2–3)	Figure 14 (p. 153)	Table 10 (p. 170)
Attribution/perspectivizing (adverb) interfaces (Chapter 9)	Figure 17, 18, 19 (pp. 178, 182, 191)	Table 11 (p. 184) Table 13 (p. 195)
Non-finite constructions (Chapter 10)	Figure 20, 21, 23, 24 (pp. 200, 201, 205, 206)	Table 14 (p. 211)
Grammaticalization of semi-modals and VMC cores (Chapter 11)	Figure 28, 30 (pp. 226, 230)	Table 16, 17, 18 (pp. 227, 231, 233)
LANGUAGE ACQUISITION (PART III)		
Introduction & overview (Chapter 12)	Figure 31 (p. 239)	
Temporal priority of attribution (Chapter 13)	Figure 33, 34 (pp. 247, 252)	Figure 35 (diagram) (p. 254)
Development of selected VMCs & copula/modifier interfaces (Chapter 14)	Figure 36, 37, 38 (pp. 258, 265, 267)	Figure 39 (diagram) (p. 269)
Development of perspectivizing mechanisms: negation, <i>wh</i> -questions, modality (Chapter 15, Section 1–4)	Figure 41, 42 (pp. 275, 280)	Figure 43, 44 (diagrams) (pp. 288, 289)
Backdoor entry to non-finite constructions & complex sentences (Chapter 15, Section 5)	Figure 45, 46 (pp. 291, 296)	Table 24 (p. 297)

As for word order, the traditional compromise consists in the assumption of a homogeneous clause structure determined by the sequence of subject, predicator and postverbal participants (or S-V-O), which, for instance, provides clause-initial slots, various types of clause-internal slots and clause-final slots for adverbs and adverbials.<sup>1</sup> The multifunctionality of the compromise emerges when – from the angle of concept-linking – three aspects of word order are considered: the serialization of VMC elements, the adjacency principle at work in attribution and the scope-initial position relevant for TAM-carrying auxiliaries and many adverbs (see Chapter 5).

Turning to interfaces as introduced in Part II, Chapter 7, they epitomize grammatical compromise because they denote by definition the interaction between two concept-linking mechanisms that are mutually affected. For instance, this makes it possible to explain the compromise inherent in the traditional labels ‘subject complement’ or ‘predicative adjective’ by regarding them as the linguistic reflection of an interface based on a verb-mediated copula construction with end-focus on the one hand and the semantic attraction between an adjective or noun and the subject element on the other hand (copula/modifier interface; Section 8.1).

A key role in the explanation of grammatical compromise is played by the participant/circumstance interface, which can be applied to postverbal elements that are neither safely identified as objects nor as genuine adverbials in traditional grammar – the result are labels such as ‘prepositional object’ or ‘semi-obligatory complement/adverbial’ (Section 8.2). Unlike valency grammars, which insist on a strictly verb-centered classification, the interface solution is not one-sided, but genuinely tries to explain why a compromise view is necessary to do justice to this frequent phenomenon. The solution lies in the insight that both the verb-mediated linking potential and the semantic attraction contributed by – often preposition-guided – circumstancing are at work. If, in addition, this interface is considered as a scale or cline, it can be explained why either footing (VMC participant, attribution) may exert a different degree of influence depending on the meanings of verbal concept and circumstance as well as the situational context involved.

The participant/circumstance interface is also helpful when it comes to explaining one of the most irritating grammatical phenomena, the so-called object+infinitive construction; here the traditional explanation maintains that the ‘object’ simultaneously functions as complement of the main verb and as notional subject of the infinitive construction.<sup>2</sup> Assuming an interface with the VMC participant as

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1. Compare Greenbaum’s classification in which clause-internal adverb slots are labeled M1-M7 (Greenbaum 1969: 78), and its adaptation by Lenker (2014: 22).

2. The dissatisfaction with this interpretation has obviously contributed to the popularity of explanations in terms of ‘raising’ well beyond generative grammars.

one footing, the other footing can be claimed for circumstancing (i.e. attribution). This is possible if the notional subject is seen as tied to the infinitive construction as an ‘attributed referent’, i.e. as a kind of circumstance expressing ‘with regard to’ and not as a genuine subject; such an interpretation is, for instance, suggested by the English *for*+infinitive construction. Compare Section 10.2.3, where this PAR interface (i.e. participant/attributed referent interface) is discussed in detail.

## 16.2 Temporal priorities in language acquisition

Although a command of the interaction between the concept-linking mechanisms is one of the major goals of language acquisition, early stages of this process can be better understood if the mechanism of VMC, attribution and perspectivizing are regarded separately. On such a view, the most striking finding is that the earliest two-word utterances should be seen as instances of attribution, i.e. as two elements that are experienced by the child as ‘belonging together’. These items only support, but do not fully express the communicative intention, which is primarily rendered by non-linguistic means (Chapter 13). Attribution is therefore to be regarded as the root not only of the adult use of modifying and circumstancing, but also of VMCs and copula/modifier interfaces (Chapter 14). In addition, attribution gives rise to early negative and interrogative perspectivizing (the latter first realized in the shape of *wh*-questions; Chapter 15).

Yet temporal priority is also an issue in the further acquisition of VMCs and of perspectivizing tools. Item-based VMCs with subject participants first emerge with EXPERIENCER subjects in constructions expressing the child’s intentions and preferences (mostly realized as *I want*- or *I like*-constructions), while agent subjects in constructions expressing motion and other activities (*go*, *come*, *put*, *eat*, etc.) follow after these verbal concepts have been introduced in subjectless two-word-plus combinations (Section 14.1). Copula/modifier interfaces first appear with introductory deictic *that* or *this* or with ‘impersonal’ (but pragmatically speaker-related) *it* before personal pronouns or nominal concepts are used as subjects (rich subject variant; Section 14.4). A command of negative and interrogative *wh*-perspectivizing reaches effectiveness at the stage of ‘partial achievement’ before mastery of finite tense and agreement perspectivizing is gained (Sections 15.1–2).

A final piece of evidence of how temporal priorities in early child language differ from the adult approach to grammatical structure is provided by the phenomenon of ‘backdoor entry’ (Section 15.5). Unaware of the functions that infinitive constructions and complex sentences have in adult grammar, young children seem to use *I want* and *I think* as modal or viewpoint perspectivizers of the (second)

VMC before they learn that these ‘chunks’ can be treated as components of a matrix clause in which a non-finite construction or a second dependent finite clause is embedded.

### 16.3 Outlook: Graded transfer claims for cross-linguistic application

Practically every grammatical description is directly or indirectly based on a certain language, but many also come with the claim of universal validity. The first part of this statement certainly applies to the analysis developed in the previous chapters. The concept-linking approach is the result of the author’s long-standing involvement with English grammar: It takes account of the predominance of word order and prepositions rather than case inflection in English, it emphasizes the important role played by non-finite constructions and makes ample use of linearized scope to express sentence modes and also TAM phenomena and adverbial functions.

Whether this kind of concept-linking analysis is suitable for transfer to other languages (henceforth ‘target languages’) still awaits detailed investigation, which could be based on the following graded transfer claims:

- *The weak claim:* The target language can be more satisfactorily analyzed if several grammatical mechanisms are assumed instead of one. This means that the uniformity claim, i.e. that all syntactic phenomena of a language can be accommodated in a single syntactic system or network, is abandoned.
- *The intermediate claim:* The concept-linking analysis of the target language is based on the same major linking mechanisms as in English (verb-mediated constructions, attribution, perspectivizing). However, these mechanisms may be linguistically realized in ways that are different from English.
- *The strong claim:* The concept-linking framework developed for English is applicable to the target language, at least in key areas of grammar.

To fulfill the requirements of the weak claim should not be all that difficult. In fact, this is what happens in most typological cross-language studies of grammatical phenomena, especially in studies of tense, aspect, modality and negation – compare, for instance, Comrie (1976, 1985), Binneck (2012) and Dahl and Velupillai (2013) on tense and aspect, Palmer (1986) on modality, Horn (1989), Dahl (2010), Miestamo (2008, 2013) and Dryer (2013f, g) on negation. As the authors hardly ever try to subordinate their topic to verb-argument constructions, their approach simply means that tense, aspect, modality and negation are regarded as grammatical mechanisms in their own right, whether or not they are regarded as perspectivizing devices. This view is also taken in many other typological studies, i.e. investigations

of adjectives (Dryer 2013b), genitives (Dryer 2013c, Gil 2013), adpositions (Dryer 2013d) and ‘degree words’ (Dryer 2013e), which from the angle of concept linking would be regarded as attribution-based phenomena.

If one wants to test the intermediate claim (transfer of VMC, attribution and perspectivizing, but different realization), a first step could be to evaluate word order effects of concept-linking mechanisms separately in different languages. As far as the relationship between VMCs and attribution is concerned, this means that Greenberg’s (1966) correlations between clause-level word order (SVO, SOV, VSO, etc.) and sequences within the noun phrase (AN vs. NA, RelN vs. NRel, GN vs. NG, PrN vs. NPo),<sup>3</sup> have to be approached with great caution.<sup>4</sup> In particular, the English situation of general VMC dominance and only limited deviation in AN and GN attribution cannot be simply transferred even to closely related languages.

This applies, for instance, to German and Dutch, where – in some cases – VMC dominance in word order seems to give way to the dominance of perspectivizing. As discussed in more detail in Ungerer (in preparation), the rather puzzling verb-second position in these languages can be explained by assuming that – in contrast to English – word order is dominated by the requirements of sentence-mode perspectivizing. This is possible because the verb-mediated relationship between S, V and O in the VMC is sufficiently well signaled morphologically (by noun, pronominal or determiner inflection and verbal suffixes). The dominance of sentence mode perspectivizing in word order means, for instance, that the declarative scope, which is signaled by the sequence of a single non-verbal element and a verbal element, requires the verb’s second position, and that this principle is applied irrespective of whether it causes subject-verb inversion and thus disturbs the VMC-backed S-V-O serialization or not.

Another example for the co-existence, but different realization of concept-linking mechanisms is provided by languages with a rich inflectional morphology, e.g. Finnish or Hungarian (Iggesen 2013) or – compared with English – also Latin. Here it would have to be clarified if apparently homogeneous inflectional paradigms (e.g. case inflections of nouns) should not be understood as ‘compromises of practical grammar’, as ‘mixed systems’ in the sense that these paradigms consist of categories that primarily represent VMC participants (nominative, accusative case) and of categories that primarily render circumstancing attribution (‘locative

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3. Selection of phenomena and abbreviations follow Comrie (1989:87–91). Apart from S, P, O he uses A(djjective), N(oun), Rel(ative clause), G(enitive), Pr(eposition) and Po(stposition).

4. Compare the discussion initiated by Greenberg’s empirical universals (1966) and fuelled by Lehmann’s (1973) and Vennemann’s (1975) generalizations, which have been put into perspective since (Hawkins 1983:31–2, Comrie 1989:99–102, Dryer 1988, Dryer 2013a).

cases' like ablative, inessive, adessive, allative)<sup>5</sup> as well as modifying attribution (genitive case).

Pursuing the strong claim (transfer of the 'English system'), one would not only have to ascertain that the target language invariably makes use of a fixed word order for the serialization of VMC elements as English does. Then one could go on to investigate if elements joined by attribution deviate from this order as in English, thus partially reflecting a conception of word order as adjacency. To capture scope-related word-order in the target language, one would have to find out if perspectivizing signals are used scope-initially; here a positive result seems quite probable for sentence modes and negation (Dryer 2013f, g) while it is less certain to what extent the adverbial scope assumed for English can be transferred to other languages and thus be regarded as a typologically relevant feature (Ungerer 1988: 375–376).

Returning from the cross-language and typological view to the grammar of English, the book should have shown that the concept-linking approach is not only in agreement with the goals of traditional grammatical analysis and explains many of its compromises, but that it can also make a contribution to the ongoing controversy between formalist and cognitive-functional linguistic descriptions: Uniform formalist systems cannot only be challenged by uniform Cognitive and Construction Grammars; the cognitive-linguistic approach also invites and encourages the development of more differentiated, but still parsimonious systems – as represented by Concept-Linking Grammar with its triad of verb-mediated constructions, attribution and perspectivizing.

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5. This list of cases applies to Finnish (<http://www.cs.tut.fi/~jkorpela/finnish-cases.html>; accessed 4 Nov 2015). In Latin the ablative would have to be considered; other Latin cases are used as locatives mostly in combination with prepositions.



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The proposed framework of *concept linking* combines insights of construction grammar with those of traditional functional descriptions to explain particularly challenging but often neglected areas of English grammar such as negation, modality, adverbials and non-finite constructions. To reach this goal the idea of a unified network of constructions is replaced by the triad of verb-mediated constructions, attribution and scope-based perspectivizing, each of them understood as a syntactically effective concept-linking mechanism in its own right, but involved in interfaces with the other mechanisms.

In addition, *concept linking* supplies a novel approach to early child language. It casts fresh light on widely accepted descriptions of early two-word utterances and verb islands in usage-based models of language acquisition and encourages a new view of children's 'mistakes'.

Intended readership: Constructionist and cognitive linguists; linguists and psychologists interested in language acquisition; teachers and students of English grammar and grammar in general.

ISBN 978 90 272 4673 8



9 789027 246738

**John Benjamins Publishing Company**