

Research on morphosyntactic variation reveals that what appears to be competing motivations at first glance turns out to be part of an intricately systematic adaptation to processing demands resulting in a division of labor between both variants. Syntheticity is favored in comparatively easy-to-process contexts. Analyticity is resorted to in cognitively more demanding contexts, thereby mitigating processing effort. This division of labor must have developed some time after the eighteenth century in English.

The historical development of morphosyntactic alternation patterns observed for six synthetic–analytic contrasts raises the question of why, for instance, the English language has not long ago settled the conflict between synthetic and analytic variants by promoting one variant to the detriment of the other. After all, in other areas, the system has established purely analytic rather than synthetic marking, as, for instance, in case marking (with the exception of the genitive). Why did this streamlining not take place in the area of English comparatives, genitives, or subjunctives?

My suggestion is that the English language has, in fact, settled the conflict—in the form of an emergent division of labor. The outcome, that is, that the analytic variant is required in harder to process environments is hardly surprising if we assume that analytic structures are able to mitigate the processing load. It appears to be the case that languages retain morphosyntactic alternations in order to optimally exploit the system.

14

Formal vs. functional motivations for the structure of self-repair in German

MARTIN PFEIFFER

14.1 Spoken language, self-repair, and competing motivations

This study focuses on the syntactic analysis of self-repair in German.¹ Self-repair is a highly frequent phenomenon and is often considered one of the prime examples of the characteristics of spoken language: The traces of speech planning that become manifest in self-repair illustrate its linear progression in time. According to Auer (2009: 2), “the temporality of spoken language can be viewed as both cognitive and interactive, and from at least three perspectives.” The first characteristic of spoken language is its transitory nature, which arises due to the limited working memory capacity of the language users. The second is the synchronization of the streams of consciousness of the speaker and the listener: The production and reception processes occur at (almost) the same time in face-to-face conversation. The third aspect, and for the subject of this chapter arguably the most important, is the irreversibility of spoken language: It is impossible to undo what has been said.

In order to cope with the characteristics of language use in real-time, spoken interaction relies on “basic operations of on-line syntax” (Auer 2009: 4). One of these operations is called retraction. Retractions “refer back in time to already existing syntactic structures which [speakers] reactivate and change” (Auer 2009: 7). The importance of this operation for the organization of spoken language becomes particularly apparent in instances of self-repair, which treat problems in already produced parts of the utterance under way. Self-repairs are defined as repetitions, substitutions, insertions, or deletions of a part of the emerging utterance by the speaker. These basic repair operations, each comprising several sub-operations

¹ I am grateful to all of the participants of the “Conference on Competing Motivations,” November 23–25, 2010, at the Max Planck Institute for Evolutionary Anthropology, Leipzig, for their comments and suggestions. I would like to thank Peter Auer, Theodoros Papantoniou, Robin Kendrick, and three reviewers for helpful comments on earlier versions of this chapter.

which cannot be detailed here (but see Pfeiffer 2014), are the four ways in which the syntactic structure of an utterance can be manipulated.² In this chapter, the focus will be narrowed to substitutions, in other words, the replacement of one part of the emerging syntactic gestalt by another in order to address some problem in the already produced part of the utterance. Figure 14.1 shows a typical instance of substitution:

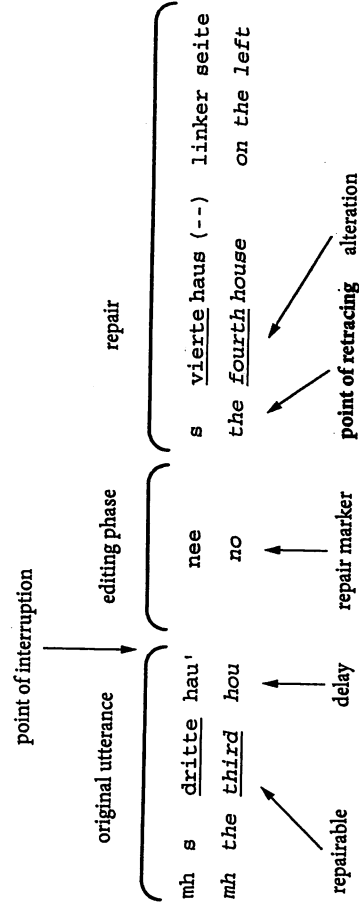


FIGURE 14.1 The three phases of self-initiated self-repair

Source: Illustration and terminology (slightly modified) are taken from Levelt (1983: 45).

This chapter focuses on the third phase, specifically the point of retracting, which is the structural feature of self-repair that is directly linked to “retraction” as one of the basic operations of online syntax. Speakers usually have options when choosing the point of retracting. In Figure 14.1, for instance, the speaker could have retraced directly to the repairable, the adjective *dritte* (‘third’), in order to replace it immediately. However, she selects (the reduced form of) the definite article *s* (‘the’) as the starting point for the repair operation. This observation prompts the research question of the present study: How does the speaker choose the point of retracting? What are the motivations that influence this selection process?

In this chapter, it will be argued that the formation of the language system underlies both formal (internal) and functional (external) motivations, and that the interplay between these two types of motivations plays a crucial role in selecting the point of retracting. This point of view is based on the competing motivations model developed by Du Bois (1985), which argues that grammars should be seen as “adaptive systems, i.e., both partially autonomous (hence systems) and partially responsive to system-external pressures (hence adaptive)” (Du Bois 1985: 344). On the one hand, the structure of language is organized by formal regularities internal to the language system. On the other hand, language use underlies various functional constraints that in turn influence the language system as well. This influence of external functional motivations is reflected in, for example, the process of grammaticalization. The aphorism “grammars code best what speakers do most” coined by

² As the focus of this chapter will be on the process of retraction, mere pauses and hesitation markers that are seen as instances of self-repair in Conversation Analysis (cf. Schegloff et al. 1977) will not be considered here.

Du Bois (1985: 363) expresses this view and assumes an important relationship between the functions of language use and the form of the language system.

Let us now approach self-repair from this perspective. Self-repair is both part of the organization of spoken language and partly organizes spoken language itself. If there are competing formal and functional motivations at work that shape the language system, we can assume that this is not restricted to “grammar” in its traditional sense, but also concerns the phenomenon of self-repair as a part of the structure of spoken language. If we adopt the competing motivations model in our analysis of self-repair, the constraints imposed on the repair system by the language-specific grammar can be seen as formal motivations. On the other hand, the interactional and cognitive constraints self-repair is subject to must be adapted to in order for it to function for the speaker (e.g. quick error correction) and the recipient (e.g. easy processability); these can be seen as functional motivations.

The main objective of this study is to apply the competing motivations model (Du Bois 1985) in order to explain the organization of retractions in self-repair. It would go beyond the scope of the present paper to develop a model that includes all the formal and functional motivations that play a role in structuring self-repair in German; therefore, this chapter will develop a model that will focus on one formal and one functional motivation within one syntactic constituent, namely the prepositional phrase. An exhaustive treatment of competing motivations in self-repair will be a project for further empirical research (cf. Pfeiffer 2014).

The following section will first give a theoretical overview of different strands of research on self-repair in general and on studies on the syntax of self-repair in German more specifically.³ This will be followed by an analysis of several instances of substitutions in German prepositional phrases and a subsequent discussion of the competing formal and functional motivations that shape their syntactic structure. Finally, the last section will emphasize the importance of a competing motivations model for explaining the structure of self-repair.

14.2 Research on the syntax of self-repair

In the study of repair in spoken language, there are three main strands of research. In Conversation Analysis, repair is perceived as a functional resource for dealing with problems in speaking, hearing, and understanding (cf. Schegloff et al. 1977; Schegloff 1979). In psycholinguistic research, in contrast, the main interest is directed not towards the functions repair fulfills, but towards the cognitive processes it reveals. From this point of view, self-repair tells us something about, for example, monitoring processes (e.g. Levelt 1983; Postma 2000) and the influence of frequency effects on the point of interruption (cf. Kapatinski 2010). The third strand of research, Interactional Linguistics, shares with Conversation Analysis a common interest in interaction. However, interactional linguists have a stronger interest in the explanation of linguistic structure as a resource for the accomplishment of interac-

³ Research on the prosody of self-repair will not be considered in this overview. For an analysis of intonational aspects in German, cf. Pfeiffer (2012).

tional tasks (cf. Selting and Couper-Kuhlen 2000; Couper-Kuhlen and Selting 2001). Adopting such a point of view, recent comparative studies have shown that the syntactic organization of self-repair is shaped by the different morphosyntactic structures characteristic of different languages (cf. Fox et al. 1996; Fox et al. 2009; Birkner et al. 2010, 2012), for example morphological complexity, word order, strength of bonds between constituents, and extent of grammatical marking.

The first studies on syntactic aspects of self-repair in German were carried out by Uhmman (1997a, 1997b, 2001, 2006). Uhmman's (2001) "Extended Head Rule" claims that the structure of self-repair in German is determined by a purely syntactic property, namely the functional head immediately c-commanding the repairable. To simplify somewhat, Uhmman's basic assumption is that speakers who carry out self-repair in German start, depending on the respective phrase, with the determiner, preposition, or finite verb directly preceding the repairable. However, Pfeiffer (2010) shows that the Extended Head Rule encounters several theoretical and empirical problems. It seems that, in order to explain the structural diversity in self-repair, we must consider not only syntactic, but also functional, motivations.

However, it is yet largely unknown to what extent functional (interactional and cognitive) motivations compete with the formal (grammatical) motivations mentioned above in determining the syntax of self-repair in a specific language. This question will be addressed in the empirical part of this chapter (Sections 14.4 and 14.5).

14.3 Data

This chapter attempts to explain how selection of the point of retracing works in a particular syntactic domain, namely the prepositional phrase in German. This syntactic constituent was chosen for this study because it exhibits considerable grammatical marking. On the one hand, the preposition determines the case of the nominal phrase. On the other hand, the nominal phrase is marked according to number, gender, and definiteness. Syntactic constituents that are grammatically "heavy" (i.e. those that are marked by several grammatical categories) are particularly likely to exert a syntactic influence on the point of retracing in self-repair and, therefore, to make visible the role of formal motivations (cf. Birkner et al. 2010, 2012).

This study is based on a self-repair corpus comprising a total of 2,574 instances that were collected from audio-recorded everyday conversation, informal interviews, and psychotherapeutic interaction in German.⁴ For the present study, only substitutions of the noun within prepositional phrases were included, amounting to a collection of eighty instances. Other types of substitution within the prepositional phrase, for instance, substitutions of the determiner which occur very frequently

⁴ For a syntactic and functional analysis of the entire corpus, see Pfeiffer (2014). I would like to thank Peter Auer and Margret Selting (principal investigators) as well as Peter Gilles and Jörg Peters (team members) for giving me permission to use their informal interview data from the DFG-funded research project "Dialektintonation" which was carried out at the Universities of Freiburg and Potsdam from 1998 to 2005. I am also grateful to Karin Birkner and Fabian Overlach for kindly providing me with psychotherapeutic conversations and interview data.

within German prepositional phrases (cf. Birkner et al. 2012: 1428f.), were excluded. The reason for this restricted focus is that an additional option for retracing in substitutions of the noun does exist. While substitutions of determiners within prepositional phrases include only two possible points of retracing (i.e. the determiner and the preposition), substitutions of the noun in prepositional phrases have more heterogeneity regarding the point of retracing, as there is the additional option of going back directly to the noun to replace it immediately.⁵ In turn, more structural variety may help isolate the formal and functional motivations that influence the selection of the point of retracing within a certain syntactic constituent. Thus, substitutions of the noun within prepositional phrases were chosen for the present study, although this group is among the rarer types of repair within the corpus. Due to this rarity, I do not claim representativity for the quantitative distributions presented here. Nevertheless, preliminary suggestions for modeling the interplay of competing motivations in self-repair will be made and can be verified and extended by future research based on more data from various syntactic domains.

14.4 Data analysis

Analysis is divided into two main sections. The group of semantic repair, which comprises the three subgroups semantic elaboration, semantic error repair, and unclear semantic repair, will be analyzed first, followed by examples of phonological repair. Analysis will demonstrate a clear difference with regard to the retraction patterns between these two groups, while each group, taken alone, will be shown to be structurally homogeneous.

Before analysis of individual examples is shown, the quantitative distribution of the point of retracing in the different types of repair is presented (Table 14.1).

TABLE 14.1. Distribution of the point of retracing in the different types of repair

	Semantic elaborations	Semantic error repair	Unclear semantic repair	Phonological repair
P	22 (71%)	20 (100%)	8 (80%)	1 (5%)
Det	3 (10%)	0 (0%)	0 (0%)	0 (0%)
Noun	4 (13%)	0 (0%)	2 (20%)	18 (95%)
Conj	2 (6%)	0 (0%)	0 (0%)	0 (0%)
Total	31 (100%)	20 (100%)	10 (100%)	19 (100%)

⁵ Also, as the adjective occurs before the noun in German, there is the additional possibility of retracing to the adjective before substituting the noun. However, as adjectives occur rarely in the corpus, this theoretical possibility is neglected here. Moreover, in all types of substitutions, there is the theoretical option of retracing to an earlier syntactic constituent before the prepositional phrase, which occurs rarely as well.

When substituting the noun in a prepositional phrase, speakers retrace back to different points within the emerging syntactic structure. In my data, the constituents used as points of retracing are prepositions (P), determiners (Det), nouns, and conjunctions or subjunctions (Conj). Theoretically, while the adjective position is a possible destination of retracing as well, speakers in my collection did not use it as such. As can be seen, there is a strong tendency in the three subgroups of semantic repair to retrace to the preposition, in other words, to repeat the preposition (and the determiner) before carrying out the substitution of the noun. In these examples, the noun is not a frequent destination of retracing. Conversely, in the group of phonological repair, there is a strong preference for retracing directly to the noun in order to replace it immediately. In contrast to the group of semantic repair, the preposition is not a frequent point of retracing in this data. The difference between phonological repair and semantic repair with respect to the point of retracing is highly significant ($\chi^2(1) = 46.03$; $p < 0.01$; $\phi = 0.78$), whereas the difference between the three different types of semantic repair is not significant with regard to the point of retracing. These initial observations will be illustrated with several examples in the following sections.

14.4.1 Semantic repair

The group of semantic repair includes all examples in which the originally produced noun is substituted by a noun with a different meaning ($n = 61$; 76%). This category comprises three subgroups: semantic elaborations, semantic error repair, and unclear semantic repair. The group of semantic elaborations treats problems of lexical or terminological inappropriateness or problems of referential imprecision. This type of self-repair differs from semantic error repair, which treats “real” lexical errors.⁶ The examples in the corpus were categorized as semantic elaborations when both the replaced and the replacing expression could be interpreted as “true” in the specific context of the utterance. This means that both the original and the repaired version of the noun can be used and make sense in the respective semantic context (but the substituting noun is more exact). When the repairable is not a correct alternative in the respective context, the example was categorized as an instance of semantic error repair. At times, primarily due to early interruption of the repairable, it was unclear whether an alteration of the noun was a semantic elaboration or a semantic error repair. These examples were categorized as unclear semantic repair.

14.4.1.1 Semantic elaborations The group of semantic elaborations represented by examples (1)–(4) is the largest subgroup of the collection ($n = 31$; 39% of the collection). In most examples, speakers retrace to the preposition when elaborating on the noun ($n = 22$; 71%; see Table 4.1).

⁶ The distinction between semantic elaborations and semantic error repair in the present chapter is similar to the terminology introduced by Levelt (1983: 52–4). According to Levelt’s terminology, the examples in Section 14.4.1.1 would be categorized as instances of appropriateness-repair (A-repair). He differentiates this type of repair that aims at, for example, ambiguity reduction, or at appropriate and coherent terminology from instances of error-repair (E-repair) that correct errors, such as semantic or phonological errors.

In the conversation just before extract (1), fro3a complains about the undisciplined behavior of certain people in public and identifies foreigners and their children as one of the main causes of this problem. In l. 04, the wife of fro3a, fro3b, initiates and carries out self-repair (transcription follows GAT 2, cf. Selting et al. 2009, an asterisk marks the point of interruption; interlinear glosses are provided only for the lines that contain the self-repair):

- (1)
- 01 fro3b: =des het aber noch ganz Andere (.) äh:
[gründe und URsachen;
but there are other reasons and causes as well
- 02 fro3a: [ha jo des ach och GOTT
[<<dim> da könnst ja noch.>]
oh for sure that oh my god of course there are
- 03 fro3b: und kann_ma au jetzt nit uff_s]
AUSland,*
and you can’t PTCL PTCL on the.N.SG
foreign.countries.N.SG
and you can’t (put the blame) on foreign countries*
- >04 äh: oder uff die **AUSländer-**
uh or on the.PL **foreigners.M.PL**
uh or on foreigners
- 05 fro3a: jaja aber die (.) die lErne doch des von UNsere;
sure but they learn it from our (kids)

Starting at l. 01, the wife disagrees with fro3a’s point of view and argues for a more comprehensive consideration of the problem. From l. 05 on, fro3a tries to mitigate the rigor of his earlier xenophobic remark.

In l. 04, fro3b initiates self-repair after the noun *AUSland* (‘foreign countries’). This repair initiation becomes perceivable for the recipient by the use of the repair markers *äh*: (‘uh’) and *oder* (‘or’). She retraces to the (dialectal form of the) preposition *uff* (‘on’), repeats the preposition, and substitutes the original noun with the new noun *AUSländer* (‘foreigners’). As the new noun differs from the repairable in number and gender, the determiner, which carries the grammatical marking of nominal phrases in German, must be substituted as well (s ‘the.N.SG’ → *die* ‘the.PL’). Thus, the retraction must go back at least to the determiner. However, the speaker does not select this minimal span of retracing, but instead uses the preposition as a starting point for carrying out self-repair. In the substitution in l. 04, fro3b elaborates on who exactly cannot or should not exclusively be blamed for the observed problematic behavior. Both nouns, the original one and the new one, seem adequate in this context, but fro3b decides to talk about persons (*AUSländer* ‘foreigners’) instead of using the broader and more abstract concept of *AUSland* (‘foreign countries’). Therefore, this example can be categorized as an instance of semantic repair, more specifically as a semantic elaboration.

While, in the first example, the noun was completed prior to repair initiation, the speaker sometimes interrupts the repairable in semantic elaborations, as in the following example. In extract (2), P84 talks about his professional skills:

(2)

- 01 P84: wobei i sag beWUSST, =
I deliberately say
->02 =i bin **in meinem gschä'** in meinem JOB, (--)
I am in my.N.DAT busine.N in my.M.DAT job.M
I am in my busine* in my job
03 äh (-) i bin DURCHschnitt, =
uh I am average

In l. 02, P84 initiates self-repair by interrupting the noun, most probably the noun *gschäft* 'business,' with a glottal stop. The speaker retraces to the beginning of the prepositional phrase, repeats the preposition and the determiner (*in meinem* 'in my'), and substitutes the interrupted noun *gschä'* ('busine') with *JOB* ('job'). In this example, the form of the determiner does not change (because the masculine dative and the neuter dative form of the definite article are homomorphous in German). Interestingly, just as in example (1), the speaker does not select the more economic option of retracing directly to the repairable. As this instance of self-repair shows, an interruption of the repairable in semantic elaborations is generally also accompanied by a retraction to the preposition (see Section 14.5.2 for a more detailed discussion of the point of interruption).

In example (3), the speaker selects the minimal span of retracing and goes back directly to the noun. This point of retracing is quite rare in semantic elaborations ($n = 4$; 13%; see Table 14.1). In this extract, k07 talks about a citizen's movement that provides flood protection:

(3)

- 01 k07: un:d ähm: (-) die haben ne broSCHÜre rausgegeben;
and uh they have published a leaflet
->02 **bei welchem wAsser*** (.) hOchwasserstand sie ihr auto
wo HINsetzen können,
at which water high-water level you your car
where park can
on where you can park your car, at which water* high-water level

In l. 02, k07 interrupts her utterance after the first part of a compound noun, retraces to the noun slot, substitutes the first part of the compound noun *wasser* ('water') with the more precise noun *hOchwasser* ('high-water'), and then continues with the last part of the compound noun *stand* ('level'). In two of four cases of retraction to the noun, the speaker elaborates on the repairable by adding a specifying first component to it, thereby producing a compound. In these instances of self-repair, the syntactic form of the nominal phrase does not change, as it is determined by the last part of the compound noun. Although the last part of the compound noun (*stand* 'level') is not delivered phonetically before the speaker initiates repair, it is already projected by the original utterance, as the simple noun *wasser* would not be possible in this context. Apparently, in these particular instances of specification, the

speaker can use the more economic option of retracing directly to the noun instead of going back all the way to the preposition.

14.4.1.2 *Semantic error repair* The second type of semantic repair is the group of semantic error repairs ($n = 20$; 25% of the collection). In this type of self-repair, we find only retractions to the preposition (see Table 14.1.):

(4)

- 01 i-fro1: wann isch_en_s kirchenpatrozinium **in her'** *
when is PTCL the church's patron saint day **in her**
in ZÄHringen,
in zähringen
when is the church's patron saint day in Her* in Zähringen

In this example, i-fro1 starts producing the noun *her'* (most likely the beginning of *herdern*, a part of the city of Freiburg). After having interrupted the noun, the speaker retraces to the preposition, repeats it, and replaces the repairable with the noun *ZÄHringen*, a name that refers to another neighborhood of Freiburg. Note that in this example, too, the speaker selects the preposition as a point of retracing, though she could have retraced to the noun instead. This structure corresponds to the general preference for retraction to the preposition observed in semantic elaborations.

In the following extract, k10a describes the location of a building in *hohenLIND*, a neighborhood of Cologne. In ll. 02 and 03 he refers to a landmark that the recipients can use as a starting point for his description:

(5)

- 01 k10a: von von von hohenLIND?
from from from hohenlind
02 **von der pfarREI',***
from the.F parish.F
starting from the parish*
->03 äh **von: unserm KRANkenhaus** aus-
uh **from our.N hospital.N** PREP
uh from our hospital

Apparently, the first referent in l. 02 (*pfarREI* 'parish') is not accurate and needs correction. After initiating repair with a glottal stop, the speaker retraces to the beginning of the prepositional phrase and replaces the original nominal phrase *der pfarREI* ('the parish') with *unserm KRANkenhaus* ('our hospital'). In addition to the semantic difference between the substituted and the substituting noun, the new nominal phrase contains a possessive article and is altered in gender. In this example, just as in examples (1) and (2), a retraction to the determiner would be possible, but is ignored in favor of a retraction to the preposition.

14.4.1.3 *Unclear semantic repair* While most examples could be clearly identified as instances of either semantic elaboration or semantic error repair, some cannot be clearly identified due to the speaker breaking off the noun early ($n = 10$; 12%).

In example (6), ko7 talks about immigrants who arrived in Cologne in the 1970s and the possibilities they had to learn German:

(6)

- 01 ko7: die ham nie gele:rnt äh: die: SPRAche.
 they have never learned uh the language
 ->02 (ja dann) die jingen nich **in die ro'* in die**
 (PTCL then) they went not **to the ro to the**
Abendschule,
evening school
 they didn't go to the ro* to the evening school

In l. 02, ko7 interrupts the noun after the first two phonemes *ro*, repeats the preposition and the determiner, and substitutes the repairable with *Abendschule* ('evening school'). It is unclear whether *ro* is the beginning of, for example, an evening school's name, which would mean that this self-repair is a semantic elaboration, or the beginning of an erroneous lexical item, which would mean that the example should be classified as semantic error repair. However, the group of unclear semantic repair does not differ from the other two categories with respect to the point of retracing—it includes predominantly retractions to the preposition ($n = 8$; 80%).

14.4.1.4 Summary: Semantic repair Within the group of semantic repair, the vast majority of examples ($n = 50$; 82 %) exhibit a retraction to the preposition before carrying out the replacement. This result confirms earlier studies (Uhmman 2001, 2006; Pfeiffer 2010; Fox et al. 2009; Birkner et al. 2010, 2012) that have revealed a strong tendency for retracing to the preposition when carrying out self-repair within the prepositional phrase in German. This finding can, in line with the studies mentioned above, be ascribed primarily to two grammatical features of the prepositional phrase:

1. The preposition in German—which always requires a complement phrase, usually a nominal phrase—governs the complement noun phrase by determining its case (genitive, dative, or accusative) (Gallmann 2006: 848); and
2. The tendency of the preposition and the determiner in German to cliticize (e.g. *bei dem* 'at the' → *beim* 'at.the').

Both features, but in particular the process of cliticization, make evident the strong bond between the preposition and its complement in German. This bond partly explains why there is a strong preference for speakers of German to begin with the repetition of the preposition when carrying out self-repair in prepositional phrases. When selecting the point of retracing, speakers regularly ignore the determiner as a possible starting point (cf. Uhmman 2001, 2006), respecting the bond between the preposition and the nominal phrase. This is in contrast to other languages, such as English, in which retraction to the determiner within the prepositional phrase seems more common (cf. Fox and Jasperson 1995: 102–3), while speakers tend not to retrace to the preposition (cf. Fox et al. 2009: 285). The weaker bond between the preposition and its complement in English also becomes obvious in preposition stranding, namely the occurrence of "stranded" prepositions separated from their complements

(e.g. *what are you looking at?*). This phenomenon does not occur in German (Takami 1992: 252). As the analysis in this section suggests, speakers ignore not only the determiner, but also the noun as a possible point of retracing in semantic repair in prepositional phrases. This shows the strong formal motivation for maintaining the syntactic unity of the prepositional phrase when selecting the point of retracing.

As shown, there are examples of semantic repair in which the speaker does not retrace to the preposition, but to other constituents within the emerging syntactic structure. This illustrates that other motivations play a role in determining the point of retracing, for instance the motivation for minimizing the span of retracing in certain types of specification (see example (3)), which are outside the scope of this chapter.

14.4.2 Phonological repair

In this section, some examples of phonological repair ($n = 19$; 24%) will be analyzed. In this type of repair, the repairable usually contains a slip of the tongue, in other words, a phonological error. When initiating repair, speakers usually break-off the noun that contains the phonological error. Thus, with respect to the point of interruption, phonological repairs are similar to examples of unclear semantic repair. However, these two categories can be distinguished quite easily, as the phonological contrast between the repairable and substituting noun is much stronger (i.e. they consist of different phonemes) in instances of unclear semantic repair.

When speakers carry out phonological repair, they usually retrace directly to the word that contains the error (cf. Uhmman 2006; Pfeiffer 2010, 2014). This general tendency also holds true for retractions in phonological repairs of nouns in prepositional phrases. Consider the following extract (7), in which Sbr tells a story about her ex-boyfriend who did not want to remove his shoes and clothes at the beach because he did not like sand.⁷

(7)

- 01 Sbr: Angezogen, =ne,
 completely dressed
 02 weil ja SAND [war; =ne,]
 because there was sand
 ->03 Jrg: [<<f, all> aber doch nich] mit der bul'*
BUNDFaltenhose;>
 but PTCL not with the **plean**
pleat-front trousers
 but not with the **plean*** pleat-front trousers

In l. 03, Jrg's astonished exclamation contains an instance of phonological repair. He initiates repair by cutting off the repairable *bul'* ('plean'), retraces to the beginning of the word, and substitutes the erroneous beginning of the compound noun with its phonologically correct form *BUNDFaltenhose* ('pleat-front trousers').

⁷ It is quite difficult to "translate" repairables containing phonological errors into another language. In order to reflect the phonological characteristics of the error in the object language, I tried to replicate the anticipation of phonemes in the English translation.

In the following example, the instance of phonological repair has a similar syntactic structure. In this extract, hho4 talks about some of his former classmates who had come to Hamburg with refugee treks during the Second World War:

(8)

- 01 hho4: äh es waren auch schon VIEle aus- (-)
uh there were also quite a lot from
02 die also NICH aus hamburch kamen-
who did not come from Hamburg
->03 die also **durch die FLÜCKlich'*(-) FLÜCHTlingstrecks**
°h nach hamburch gekommen sind.
who *PTCL through the reku* *refugee treks*
to hamburg have come
who have come to Hamburg with reku* refugee treks

In l. 03, he cuts off the repairable that contains two phonological errors (*FLÜCKlich' reku*), retraces to the beginning of the noun, and replaces the repairable with the correct form of the noun (*FLÜCHTlingstrecks* 'refugee treks').

The next example, in which ddo1a recounts how they lost touch with a Polish exchange student, is the only one in my collection in which the speaker retraces to the preposition when carrying out phonological repair:

(9)

- 01 ddo1a: der is aber nIischt wieder ge [KOMmen;]
but he did not come back
02 i-ddo1: [mhm,]
PTCL
->03 ddo1a: [desis::] °him **fa'*** äh im **SANde** verloofn;= ne,
it COP into ra uh into sand run.off.PTCP PTCL
it ran off into fa* into sand / we lost touch
04 i-ddo1: [mhm:],
PTCL

In l. 03, ddo1a initiates repair by interrupting the phonologically incorrect form of the noun *fa*, repeats the cliticized form of the preposition and the determiner *im* ('into'), and substitutes the incorrect form of the noun with the correct one (*SANde* 'sand'). The point of retracing in this example, which deviates from all other phonological repairs in my collection, can be explained by the fact that *im Sande verlaufen* ('to lose touch') is a fixed collocation. Thus, a specific motivation may be at work here: Speakers seem to respect the bond between parts of a collocation when carrying out retractions in self-repair.

However, in the vast majority of phonological repairs in my corpus ($n = 18$; 95%), the point of retraction is the repairable, that is, the noun that contains the slip of the tongue. This is quite surprising, given the strong motivation for retracing to the preposition in semantic repair. How can these retractions to the noun be explained? The findings suggest that there is a functional motivation that is respon-

sible for this retraction pattern. In phonological repair, the substituting noun and the substituted noun have the same syntactic form. In semantic repair, however, the new noun often does not correspond to the repairable in gender, number, and/or definiteness, and changing these syntactic categories can affect the form of the determiner. Consequently, as the syntactic categories of the noun are not altered in phonological repair, there is no need to go back to the beginning of the nominal or prepositional phrase. Instead, given that the syntactic form of the nominal phrase is already clearly established in the mind of the speaker, there is a strong motivation to retrace directly to the noun, selecting the minimum span of retracing and aiming for maximum efficiency. This functional motivation has an interactional basis: It helps the speaker convey an utterance in the desired form as quickly as possible to the recipient.

14.5 Discussion

In the first part of the discussion, the main findings of the data analysis will be integrated into a competing motivations model for the structure of self-repair within prepositional phrases in German. With these theoretical implications in mind, the second part will critically discuss an alternative hypothesis.

14.5.1 Formal vs. functional motivations

Following Du Bois (1985), this chapter argues that an adequate explanatory model for the syntactic structure of self-repair cannot be based on purely language-internal features, but must recognize the interaction of competing formal (grammatical) and functional (cognitive and interactional) motivations. In his influential paper on competing motivations, Du Bois (1985: 347) states: "No theory of discourse and grammar will ultimately be adequate, I believe, without an explicit theory of the competition and systematic reconciliation of external and internal motivations." To show that this assumption holds true for the domain of self-repair as well, the following three questions must be answered:

1. What are the external and internal motivations in self-repair?
2. What do they compete for?
3. How are they reconciled?

First, as was explained above, two competing motivations have been identified thus far. The external (functional) motivation has to do with efficiency: Speakers tend to resolve trouble in their utterance as quickly as possible. The functional motivation "carry out self-repair as quickly as possible" has an interactional and a cognitive facet. On the one hand, it works toward quickly resolving conversational trouble and adhering to the social norm of errorless pronunciation. On the other hand, in order to achieve this interactional task, the speaker relies on monitoring processes that enable a quick detection and treatment of the problem. The internal (formal) motivation has to do with the grammatical characteristics of the prepositional phrase in German, that is, the strong bond between the preposition and its complement. It is reflected in the

tendency to retrace to the preposition and can be paraphrased as "respect the syntactic unit prepositional phrase." As was indicated earlier, these motivations are only two of the numerous motivations that potentially influence the point of retracing in German. In the model outlined here, both the functional and formal motivation (and all the other motivations that potentially influence the structure of self-repair) are thought to operate simultaneously, with varying strengths, whenever the need for self-repair arises.

Second, the motivations compete for the point of retracing, which is a "limited good" in Du Bois' (1985: 354) sense: There can be only one point of retracing for each retraction carried out. When the functional motivation outweighs the formal motivation, the speaker retraces directly to the repairable. When the formal motivation is stronger than the functional motivation, the retraction goes back to the preposition.

Third, it is the type of repair that resolves the conflict between the competing motivations. This means that the strength of each motivation varies according to the type of problem that needs repair: The functional motivation is stronger for the treatment of phonological repairables, and the formal motivation is stronger for resolving semantic trouble. In phonological repair, the syntactic categories of the nominal phrase are not affected during the self-repair operation. Therefore, the speaker can retrace directly to the repairable to carry out self-repair with maximum efficiency, and need not go back to an earlier point within the syntactic structure. In this type of repair, the preponderance of the functional motivation causes the speaker to retrace to the repairable in nearly all cases.

In semantic repair, by contrast, the formal motivation is stronger, which leads to a retraction to the preposition. This enables the speaker to embed the repair operation within the larger syntactic constituent, which may help the listener process the replacement of an element within the emerging utterance. Some instances of semantic repair involve an alteration of cliticization of the preposition and the determiner, which forces the speaker to retrace to the preposition ($n = 8$; 13%). In other cases, the replacement of the noun causes an alteration of the syntactic categories of the nominal phrase (number, gender, or definiteness, without involving an alteration of cliticization), which affects the form of the determiner. In these examples ($n = 9$; 15%; see example (1)), the speaker must retrace at least to the determiner in order to substitute the whole nominal phrase, but need not go back all the way to the preposition. However, the strong bond between the preposition and the determiner leads to a retraction to the preposition in eight out of nine cases. In the examples of semantic repair in which no grammatical category is altered ($n = 44$; 72 %), even a retraction directly to the noun would be possible. However, despite this possibility, speakers retrace to the preposition in 77% of these instances as well (compared to 82% for all the instances of semantic repair).

So why do speakers—against the motivation of carrying out repair as quickly as possible—go back to the preposition in most of these cases as well? Obviously, factors other than the two motivations presented above must be involved. Two explanations would be compatible with each other and with the competing motivations model discussed thus far. First, we have observed that a high percentage of retractions to the preposition (77%) occur in instances of semantic repair in which

the syntax of the self-repair does not force the speaker to go back further than the repairable. This suggests that the mere *possibility* of changing either the (de)cliticization of the preposition and the determiner or the syntactic form of the determiner (or both) implicated in semantic repair leads to the self-repair structure that involves a retraction to the preposition. This retraction pattern is analogous to "obligatory" cases in which speakers are forced to go back to the beginning of the prepositional phrase. Second, an additional functional motivation may be at work here. It might be that speakers generally need more time in semantic repair compared to phonological repair due to the planning processes involved in retrieving the correct semantic concept to be conveyed. The larger span of retracing, then, would provide the speaker with additional planning time. However, this functional (cognitive) motivation would not imply that formal motivations are to be excluded from the model. Only formal motivations can explain why it is exactly the preposition (and not, for example, the determiner or a constituent preceding the preposition) that speakers select when retracing to an earlier point within the emerging syntactic gestalt.

14.5.2 Alternative hypothesis: The point of interruption

As the examples in Section 14.4.2 indicate, speakers interrupt the repairable in 16 out of 19 instances of phonological repair (84%). This gives rise to an alternative hypothesis that runs counter to the competing motivations model presented above, namely that it is the point of interruption (and not an interplay of competing motivations) that determines the point of retracing. Tables 14.2 and 14.3 show the distribution of the point of interruption across the different types of repair.

TABLE 14.2. Distribution of the point of interruption in the different types of repair

	Semantic elaborations	Semantic error repair	Unclear semantic repair	Phonological repair
In repairable	12 (39%)	9 (45%)	10 (100%)	16 (84%)
After repairable	14 (45%)	8 (40%)	0 (0%)	3 (16%)
In delayed word	0 (0%)	2 (10%)	0 (0%)	0 (0%)
After delayed word	5 (16%)	1 (5%)	0 (0%)	0 (0%)
Total	31 (100%)	20 (100%)	10 (100%)	19 (100%)

TABLE 14.3. Distribution of the point of interruption in semantic and phonological repair

	Semantic repair	Phonological repair
In repairable	31 (51%)	16 (84%)
After repairable	22 (36%)	3 (16%)
In delayed word	2 (3%)	0 (0%)
After delayed word	6 (10%)	0 (0%)
Total	61 (100%)	19 (100%)

Speakers can break-off the utterance at different points in the emerging structure: within/after the repairable or within/after a *delayed word*, which is defined as a word that is produced after the repairable and before the point of interruption (see Figure 14.1).

When carrying out self-repair, speakers might adhere to the following simple rule: If a word is interrupted, retrace to the nearest constituent boundary. Or, from a different angle, it might be self-interruption that marks an error. This corresponds to Levelt's (1983: 63) pragmatic hypothesis for the interruption of error repairables: "it is all right to interrupt a word which needs total replacement because it is erroneous, but it is not good practice to interrupt a correct word which only needs further specification." In Levelt's data, error repairables (i.e. lexically and phonologically incorrect words) tend to be interrupted more frequently (23%) than inappropriate words (7%). However, Table 14.2 shows not only that phonologically erroneous words are often interrupted (84%), but also that the speaker interrupts the noun in 39% of cases of semantic elaboration. Additionally, there is no significant difference between semantic elaborations and semantic error repairs (39% vs. 45%) with regard to the point of interruption. Moreover, 15 out of 16 (94%) phonological repairs that interrupt the repairable retrace directly to the noun, but only 5 out of 31 (16%) semantic repairs that interrupt the repairable involve a retraction to the noun. All these findings, which indicate that it is indeed the type of repair (and not the interruption of the repairable) that has a crucial influence on the point of retracing, support the competing motivations hypothesis.

Nevertheless, there is a significant difference between phonological repair and semantic repair with respect to the point of interruption ($\chi^2(1) = 6.85$; $p < 0.01$; $\phi = -0.33$). The tendency to interrupt the repairable is stronger for phonological repair than for semantic repair (84% vs. 51%, Table 14.3). Conversely, in only 16% of phonological repairs is the noun completed prior to repair initiation, whereas this is the case for 49% of semantic repairs. A significant difference is also shown to exist between semantic error repair and phonological repair ($\chi^2(1) = 4.13$; $p < 0.05$; $\phi = -0.34$). On the cognitive level, speakers seem to detect phonological errors more quickly than semantic errors, which is indicated by a higher number of interruptions of the repairable in phonological repair compared to semantic error repair (84% vs. 45%, see Table 14.2). This suggests that the speaker's monitor (cf. Levelt 1983, 1989; Postma 2000) reacts to phonological errors in a special way: It detects them immediately and creates instructions for quick adjustment, that is, it aims to correct them as quickly as possible.

14.6 Concluding remarks

In this chapter it was argued that, contrary to Uhmann (2001, 2006), the structure of self-repair is not shaped by syntactic features alone, but also by functional motivations from interaction and cognition. Following Du Bois (1985), a competing motivations model was suggested to explain the point of retracing in substitutions of the noun in prepositional phrases in German. This model is preliminary, as it is based on a relatively small number of examples in only one syntactic context. However, the

explanatory value of this model gives reason for confidence in its ability to explain the syntax of self-repair by integrating competing motivations from grammar, interaction, and language processing. On a more general level, this type of model can help shed light on the low-level organization of retractions as basic operations of online syntax (Auer 2009). In the long run, research in this area might also contribute to developing a theory of spoken language that takes into account the interrelation of grammar, interaction, and cognition (cf. Günthner 2007 on the need for a theory of spoken language, its possible value, and suggestions for its realization).

Overall, the findings in this chapter suggest that competing motivations, besides their importance for grammaticization in general (cf. Du Bois 1985), are also crucial to the formation of the repair system, which operates within and is constrained by a language-specific grammatical framework, but additionally adapts to the interactional and cognitive needs of participants engaged in self-repair.

14.7 Appendix

Transcription conventions (GAT 2, Selting et al. 2009)

[]	overlap and simultaneous talk
[]	
°h	inbreath of appr. 0.2–0.5 sec. duration
(.)	micro pause, estimated, up to 0.2 sec. duration appr.
(-) / (-)	estimated pauses of appr. 0.2–0.5 / 0.5–0.8 sec. duration
und_äh	assimilations within units
äh	hesitation marker
hehe	syllabic laughter
hm, mhm	continuers, monosyllabic tokens
hm_hm, aha	continuers, bi-syllabic tokens
(solche)	assumed wording
->	refers to a line of transcript relevant in the argument
=	fast, immediate continuation with a new turn or segment (latching)
: / ::	lengthening, by about 0.2–0.5 / 0.5–0.8 sec.
'	cut-off by glottal closure
SYllable	focus accent
sYllable	secondary accent
?	rising to high (final pitch movement of intonation phrase)
,	rising to mid (final pitch movement of intonation phrase)
-	level (final pitch movement of intonation phrase)
;	falling to mid (final pitch movement of intonation phrase)
.	falling to low (final pitch movement of intonation phrase)
<<f>>	forte, loud (with scope)
<<all>>	allegro, fast (with scope)
<<dim>>	diminuendo, increasingly softer (with scope)

Competing Motivations in Grammar and Usage

Edited by

BRIAN MACWHINNEY,
ANDREJ MALCHUKOV, AND
EDITH MORAVCSIK

OXFORD
UNIVERSITY PRESS

OXFORD

UNIVERSITY PRESS

Great Clarendon Street, Oxford OX2 6DP
United Kingdom

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide. Oxford is a registered trade mark of
Oxford University Press in the UK and in certain other countries

© editorial matter and organization Brian MacWhinney, Andrej Malchukov, and
Edith Moravcsik 2014

© the chapters their several authors 2014

The moral rights of the authors have been asserted

First Edition published in 2014

Impression: 1

All rights reserved. No part of this publication may be reproduced, stored in
a retrieval system, or transmitted, in any form or by any means, without the
prior permission in writing of Oxford University Press, or as expressly permitted
by law, by licence, or under terms agreed with the appropriate reprographics
rights organization. Enquiries concerning reproduction outside the scope of the
above should be sent to the Rights Department, Oxford University Press, at the
address above

You must not circulate this work in any other form
and you must impose this same condition on any acquirer

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data

Data available

Library of Congress Control Number: 2014930786

ISBN 978-0-19-870984-8

As printed and bound by
CPI Group (UK) Ltd, Croydon CRO 4TY

Links to third party websites are provided by Oxford in good faith and
for information only. Oxford disclaims any responsibility for the materials
contained in any third party website referenced in this work.

Contents

<i>Preface</i>	vii
<i>Notes on contributors</i>	viii
<i>List of figures and tables</i>	xiv
<i>List of abbreviations</i>	xviii
1 Introduction <i>Edith Moravcsik</i>	1
Part I. Competition in Syntax: Grammatical Relations and Word Order	
2 Resolving alignment conflicts: A competing motivations approach <i>Andrej Malchukov</i>	17
3 Animate object fronting in Dutch: A production study <i>Monique J. A. Lamers and Helen de Hoop</i>	42
4 Patterns in competing motivations and the interaction of principles <i>John A. Hawkins</i>	54
5 Why move? How weight and discourse factors combine to predict relative clause extraposition in English <i>Elaine J. Francis and Laura A. Michaelis</i>	70
6 A statistical model of competing motivations affecting relative clause extraposition in German <i>Jan Strunk</i>	88
7 Competition in argument interpretation: Evidence from the neurobiology of language <i>Ina Bornkessel-Schlesewsky and Matthias Schlewsky</i>	107
8 Competition all the way down: How children learn word order cues to sentence meaning <i>Caroline F. Rowland, Claire Noble, and Angel Chan</i>	127
9 Competing motivations in children's omission of subjects? The interaction between verb finiteness and referent accessibility <i>Mary E. Hughes and Shanley E. M. Allen</i>	144
10 Competing cues in early syntactic development <i>Grzegorz Krajewski and Elena Lieven</i>	163
Part II. Competition in Morphosyntax and the Lexicon	
11 Conflicting vs. convergent vs. interdependent motivations in morphology <i>Wolfgang U. Dressler, Gary Libben, and Katharina Korecky-Kröll</i>	181

12 On system pressure competing with economic motivation <i>Martin Haspelmath</i>	197
13 Apparently competing motivations in morphosyntactic variation <i>Britta Mondorf</i>	209
14 Formal vs. functional motivations for the structure of self-repair in German <i>Martin Pfeiffer</i>	229
15 Six competing motives for repetition <i>John Haiman</i>	246
Part III. General Issues and the Extension of the Approach	
16 Motivating competitions <i>John W. Du Bois</i>	263
17 Competing motivation models and diachrony: What evidence for what motivations? <i>Sonia Cristofaro</i>	282
18 Where do motivations compete? <i>Frederick J. Newmeyer</i>	299
19 Politeness distinctions in personal pronouns: A case study on competing motivations <i>Johannes Helmbrecht</i>	315
20 Or constructions: Monosemy vs. polysemy <i>Mira Ariel</i>	333
21 Sentence grammar vs. thetical grammar: Two competing domains? <i>Gunther Kaltenböck and Bernd Heine</i>	348
22 Conclusions: Competition across time <i>Brian MacWhinney</i>	364
<i>References</i>	387
<i>Index</i>	439

Preface

The chapters in this book form a subset of the papers given at the conference on competing motivations held on November 23–25, 2010 at the Max Planck Institute for Evolutionary Anthropology in Leipzig. We are very grateful for the stimulating, friendly, and comfortable setting that the MPI provided for the meeting. Special thanks are offered to Bernard Comrie, Head of MPI's Department of Linguistics, for his hospitality and support, to Claudia Bavero, who took care of the local arrangements, and to the many volunteers who helped the conference run smoothly.

We are grateful to John Davey, Editor in the Humanities and Social Sciences Department of Oxford University Press, to our in-house Editor Julia Steer, Production Editor Kate Gilks, and our proofreader Michael Janes for their conscientious and friendly assistance, and to the two anonymous reviewers at OUP for their very thorough and insightful comments.

The book has been a team effort: each contributor has provided comments on at least one chapter; we much appreciate all their work. Our special thanks go to Wolfgang U. Dressler, John A. Hawkins, and Fritz Newmeyer, who were instrumental in the formation of the basic concept of the volume.

Flanked by a brief introduction and a concluding chapter, the studies are grouped into three parts: syntax (grammatical relations and word order), morphosyntax, and general issues. Within each part, topically germane papers are next to each other. There are numerous other conceptual connections among the studies but these are too complex to be reflected in a linear arrangement; some of these connections are taken up in the introduction and especially in the concluding chapter.

Brian MacWhinney
Andrej Malchukov
Edith Moravcsik