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## REANALYSIS INVOLVING REBRACKETING AND RELABELING: A SPECIAL TYPE\*

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**ABSTRACT** Reanalysis is a mechanism that plays an eminent role in (explaining) morphological and syntactic change. In this paper, I consider a special type of reanalysis that consists of two distinct processes – namely, relabeling (category shift) and rebracketing (restructuring) – and investigate its particular features. First, I show that this type of reanalysis is not reducible to other kinds of changes, in contrast to many other cases treated as reanalysis in the literature. Second, I try to demonstrate that structural ambiguity is the necessary trigger for this type, whereas semantic change is, at most, a side effect and mostly absent. Third, I treat the question of whether relabeling and rebracketing occur without each other. Fourth, I argue that reanalysis of this type happens during language acquisition and, fifth, that this kind of reanalysis always involves grammaticalization.

### 1 INTRODUCTION

Reanalysis is a mechanism that plays an eminent role in morphological and syntactic change. Restricting myself to syntactic change, I will mainly discuss changes caused by reanalysis that are rather complex and involve relabeling (category shift) as well as rebracketing (restructuring). A classical definition of reanalysis in this sense stems from [Harris & Campbell \(1995: 61\)](#), who define reanalysis as “a mechanism which changes the underlying structure of a syntactic pattern and which does not involve any immediate or intrinsic modification of its surface manifestation. [... It concerns] at least (i) constituency,

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(ii) hierarchical structure, (iii) category labels, and (iv) grammatical relations". Let me provide an example to illustrate what this means. According to Ebert (1978: 12, 30), Lehmann (2013), and many others, the development of the German complementizer *um* 'for' from a preposition was due to reanalysis of this kind. In the source structure (1 a), the PP *um Wasser* 'for water' is a prepositional object of the verb *ging* 'went'. The infinitive *zu holen* 'to fetch' is a further determination ("nähere Bestimmung", Ebert 1978: 30) of the nominal object that could be added optionally (1 b). In this structure, an ambiguity arose because the noun *Wasser*, though syntactically dependent from the preposition *um* 'for', forms the logical object ("logische Objekt") of the infinitive at the same time. This ambiguity gave rise to reanalyze the structure as given in (1 c):

- (1) a. *er ging [um Wasser]*  
       he went [for water]
- b. *er ging [um Wasser] [zu holen]*  
       he went [for water] [to fetch]
- c. *er ging [um Wasser zu holen]*  
       he went [for water to fetch]

This reanalysis concerns all four aspects of Harris & Campbell's definition. Constituency and hierarchical structure changed because the boundary between the PP and the *zu*-infinitive was lost (or shifted leftward, respectively). The grammatical relations changed as well, since the noun *Wasser* was now selected by the infinitive and no longer by the preposition, which in turn changed its category from preposition to complementizer. From a more technical perspective, reanalysis of this kind primarily consists of relabeling (i.e. category change) and rebracketing (constituency change), whereas the changes in hierarchical structure and grammatical relations are consequences of the two other changes. Therefore, I will assume that reanalysis on the syntactic level consists of relabeling and rebracketing (see also Hopper & Traugott 2003: 39). Note that this is the kind of reanalysis which the Neogrammarians called *Gliederungsverschiebung*. They were the first to identify it as a mechanism of syntactic change of its own (Weiß 2019).<sup>1</sup>

<sup>1</sup> It needs to be stressed that the concept of reanalysis was not introduced in the 1970s (as seems to be often assumed, cf. Fanego 2004, Whitman 2012), but has a much longer history. The process as such was firstly described as a mechanism of syntactic change by Holzmann (1875) and later became known under the term *Gliederungsverschiebung* (i.e. syntactic rebracketing). Syntactic rebracketing occurred very regularly in historical German grammars (cf. Ebert 1978:

Thus, this paper is structured as follows: Section 2 introduces the problem with reanalysis involving rebracketing; Section 3 deals with syntactic rebracketing, showing that it is a special kind of reanalysis; Section 4 discusses the question of whether relabeling and rebracketing may occur without each other; Section 5 argues for language acquisition to be the locus where reanalysis of this kind happens; Finally, section 6 explores the relation of reanalysis and grammaticalization. Section 7 draws a short conclusion.

## 2 THE PROBLEM WITH REANALYSIS INVOLVING RELABELING AND REBRACKETING

There is a fundamental problem with reanalysis involving relabeling and rebracketing (i.e. *Gliederungsverschiebung*). Many, if not most, examples traditionally analyzed as rebracketing have been obviously misanalyzed as such and should have been better analyzed as involving other mechanisms or relabeling alone. This can be illustrated with the above-mentioned example of the *um...zu*-infinitive in German. Since Paul (1920: 121), it is standard to explain its emergence with rebracketing, and most researchers followed him (cf. Ebert 1978: 30). However, Middle High German (MHG) and Early New High German (ENHG) examples like (2 a, b) – quoted in Greisinger (2014: 24, 25) – cast doubt on the traditional explanation.

- (2) a. *umbe daz einiu ir lōnes vergaꝛ*  
           for that one her wages-GEN forgot  
           ‘because one denied her wages’
- b. *um daß sie von Hieronymus nicht gesehen würde*  
           for that she by H. not seen would  
           ‘so that H. would not see her’

Prepositions normally select nominal complements, but it seems that the preposition *um* ‘for’ could also select propositional complements, and these complements could have the form of *that*-clauses (as in 2 a, b) or of infinitival complements (as in 1 c). In Old High German (OHG) and MHG times, there are other prepositions attested that take *that*-clauses as complement, e.g., *āne daz* lit. ‘without that’ (Schrodt 2004: 159), *bis daz* lit. ‘until that’ (Weiß 2019), or *duruh daz* lit. ‘through that’ (Schrodt 2004: 166). Thus, *umbe daz* is not a peculiar case in this respect. Prepositions taking infinitival complements are a

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12) since the Neogrammarians (e.g., in Paul 1920, Dal 1978, or Stolte 1962) and experienced a kind of renaissance in the 1970s with publications such as Langacker (1977) or Timberlake (1977).

little bit more unusual, but at least *āne* ‘without’ and, later, *(an)statt* ‘instead’ show the same behavior (Behaghel 1928: 69, 72; Greisinger 2012, 2014). If we take the ability to select propositional complements in the form of expanded infinitives as point of departure, then the development of *um...zu*-infinitives did not involve rebracketing. It was never the preposition *um* that selected the respective noun (e.g., *Wasser* in 1 b above), but the infinitive. Wilmanns (1906: 130f.) already proposed such an explanation, but it could not prevail against the standard analysis. The same holds for other developments traditionally attributed to syntactic rebracketing (cf. Whitman 2012 or Weiß 2019 for further examples). I will return to this point in sect. 4.

Since the 1970s, the concept of reanalysis has been widely used to explain morpho-syntactic changes. Reanalysis in the sense of relabeling (category shift) appears as part of the grammaticalization process when, for instance, content words develop into functional ones (like verbs developing into modal or auxiliary verbs). Additionally, reanalysis corresponding to Harris & Campbell’s (1995) definition – that is, not only involving relabeling, but rebracketing as well – plays an important role in research on historical syntax (cf. Harris & Campbell 1995 or Traugott 2011).

On the other hand, there have always been objections to the concept of reanalysis. Whitman (2012), for example, argues from a generative perspective against the assumption that rebracketing plays an important role in syntactic change. He questions the “basic idea [...] that various factors, primarily global ambiguity, cause language learners to misparse the input, assigning a bracketing different from the one associated with the grammar of the previous generation” (Whitman 2012: 69). I think Whitman (2012) is completely right when he states that many changes that were attributed to rebracketing are better explained as relabeling and/or changes in the feature equipment of the respective items. As I tried to show with the case of the *um...zu*-infinitive in German, many of the cases attributed to syntactic rebracketing in the non-generative tradition are probably better explained without it (for further examples cf. Weiß 2019). Whitman (2012) himself refers to, among others, the development of English modal verbs which Lightfoot (1979) explained as rebracketing, but which is nowadays analyzed in another way. As premodal verbs they were merged in  $V^\circ$  and then raised to  $T^\circ$ , but as modal verbs they are merged already in  $T^\circ$ . This is why it is not necessary to assume rebracketing (see Whitman 2012: 70 for further details). In van Gelderen’s (2004) economy-based system, it is Late Merge that triggered this development. Other changes like the development of complementizers out of interrogative pronouns are instances of developments of specifiers to heads, and

they follow from van Gelderen's (2004) *Head Preference Principle*.<sup>2</sup> Therefore, it seems that there is hardly any need to assume rebracketing in order to explain syntactic change.

### 3 SYNTACTIC REBRACKETING AND ITS TRIGGERS

However, there are developments that are clearly best explained as syntactic rebracketing. In the following, I will present and discuss a special type of syntactic change that involves both components of reanalysis as defined above, that is, relabeling and rebracketing.<sup>3</sup> A case in question is the development of the German complementizer *weil* 'because' (cf. Weiß 2012b, 2019). It emerged in MHG times from the source structure *all die wîle daz* 'all the time that' where the noun *wîle* 'while, space of time' took a relative clause (3a). The relative clause could have a complementizer such as *daz* 'that' or could be without one (cf. 3b). At the same time, the nominal part that embeds the relative clause could have a reduced form: The quantifier *all* could be absent, and the determiner appeared as a proclitic attached to the noun (3c). This reduction eventually led to a state where only *wîle* remained (cf. 3d):<sup>4</sup>

- (3) a. *alldiewil das ich uwer pflegen sol*  
 all-the-while that I you care shall  
 'as long as I shall care for you' (Prosalancelot 224, 27)
- b. *al die wîl du bî mir bist*  
 all the while you at me.DAT are  
 'as long as you are with me' (Parzival 485, 9)
- c. *Dwil ich off ertrich on sunde nit enmocht*  
 the-while I on earth without sin not NEG-could  
*gewesen*  
 been  
 'because I could not live on earth without sin'  
 (Prosalancelot 40, 35f.)

2 For example, in German dialects, complementizers introducing relative clauses emerged from interrogative pronouns. Attested are *wo* 'where', *was* 'what', and (marginally) *wie* 'how' (Weiß 2013).

3 I will not discuss other types of changes that have been analyzed as reanalysis (as, for example, the development of the *going-to-future* in English, cf. Garrett 2013 and others).

4 If not mentioned otherwise, all examples from Middle High German are quoted after the *Mittelhochdeutsche Begriffsdatenbank/Middle High German Conceptual Database* (MHDBDB) that is online available and contains a large number of annotated MHG (and ENHG) texts.

- d. *di here cristenhait ... sal loben ... Wile ummer*  
 the noble christianity ... shall praise ... while always  
*diese werlt gestet*  
 this world persists  
 ‘the noble christianity has to praise, as long as this world exists’  
 (Leben V7780)

For cases like (3 d), it is plausible to assume that *wîle* is no longer a noun but a complementizer that introduces a temporal clause. The structural development of the complementizer *weil* can be described as in (4 a-c) (following Weiß 2019):

- (4) a.  $[_{DP} (al) \text{ die } [_N \text{ wîle } [_{CP} \text{ daz/und/so}]]] \rightarrow [_{DP} \text{ die } [_N \text{ wîle } [_{CP} \emptyset \dots]]]$   
 b.  $[_{DP} \text{ die } [_N \text{ wîle } [_{CP} \emptyset \dots]]] \rightarrow [_{DP} \text{ d}' [_N \text{ wîle } [_{CP} \emptyset \dots]]]$   
 c.  $[_{DP} \text{ d}' [_N \text{ wîle } [_{CP} \emptyset \dots]]] \rightarrow [_{CP} \text{ wîle } \dots]$

This development consists of both components that we claimed above to be necessary for syntactic reanalysis. The first component is relabeling, because the lexical item *wîle* changed its category from noun to complementizer. The second component is rebracketing, because the clause boundary shifted to the left to include the lexical item *wîle* that was part of the main clause in the source structure. The development of *weil* shows special features that are interesting when we try to understand the nature of reanalysis. Some researchers (e.g., Detges & WALTEReit 2002, De Smet 2009, Garrett 2013) claim that semantic changes are necessary to trigger reanalysis. For example, after having investigated the development of gerund constructions with *worth* and *worthwhile*, De Smet (2009: 1743) explains that “[g]radual semantic change in the old source construction is essential for the new uses to become possible at all” (De Smet 2009: 1743). The development of *weil* from noun to complementizer clearly does not meet this requirement. The whole complex expression [*al di wîle [daz + S]*] was an adverbial adjunct with temporal meaning. It did not change after the grammaticalization of *weil* as complementizer – the *weil*-clause still was an adverbial adjunct with temporal meaning. That *weil* introduces causal clauses in New High German (NHG) is the result of a change which occurred much later. In a minimalist framework, the only change of a ‘semantic’ feature that we can observe (or reconstruct) is a change in the [time-]feature from a purely semantic feature to an interpretable phi-feature (see van Gelderen’s 2008 treatment of English *after*). Phi-features include grammatical features like person or number, that is, features

that have a semantic content but are spelled-out morphologically (overtly or covertly).<sup>5</sup> They enter in an agreement relation and keep the derivation going (so to speak). This kind of ‘semantic change’ is probably not that meant by [De Smet \(2009\)](#) and, additionally, it is not the trigger for reanalysis, but rather a consequence of it. Therefore, we can conclude that no semantic change is necessary to trigger this kind of reanalysis (that is not to say that semantic changes cannot trigger reanalysis of a different kind).

On the structural level, a consequence of the grammaticalization of *weil* is that the item is now merged in C° and is no longer the head of a nominal expression that embeds a relative clause. This structural change was independent of any preceding semantic change whatsoever. The only trigger for this reanalysis seems to have been the fact that a structure like [DP [N *wîle* [CP  $\emptyset$  ...]]] was ambiguous, and this structural ambiguity gave rise to reanalyze it as [CP *wîle* ...]. In [Weiß \(2019\)](#), I argue that this reanalysis is prompted by a principle called simplicity preference ([Roberts 2007](#)) that guides language acquisition and makes first language acquirers assign a simpler structure to a string if there is no clue that prevents them from doing so. If the exposure to occurrences without complementizer exceeds a critical threshold, first language acquirers are forced (or prompted) to reanalyze the underlying structure in such a way that the selecting item becomes the head of the selected clause. These language acquirers would then merge the reanalyzed item in C°, that is (so to speak) ‘one head earlier’, thus giving the impression that the clause boundary shifted to the left to include the previously selecting head. Reanalyses of this kind are instances of changes motivated by the *Early Merge Principle* (see [Weiß 2019](#) for more details), and they result in a simpler structure than the source structure has been.

In the case of *weil* developing into a complementizer, the structural ambiguity is the result of two changes in the surface structure. The first one is the phonological reduction of the article that eventually vanished completely, leaving the noun *wîle* alone. Consequently, the noun *wîle* lost a nominal characteristic (that is, being accompanied by an article). The second one was made possible by the stylistic option to leave out the original complementizer. These two changes on the surface structure gave the impression that it is the item *wîle* that introduces the temporal clause, thus giving rise to the reanalysis of the underlying structure.

On the other hand, utterances including the respective expressions could exhibit additional clues which could be interpreted in such a way that the respective item gained features characteristic for complementizers. For ex-

<sup>5</sup> Phi-features also include, among others, purely formal features like case or categorial features like N or V. For a more detailed treatment and discussion of phi-features, see [Kerstens \(1993\)](#).

ample, in German since OHG times, pronouns tend to appear in the so-called Wackernagel position (WP), that is, the position that immediately follows the left sentence bracket (LSB) or the C° position respectively. Pronouns thus follow the finite verb in main clauses or the complementizer in embedded clauses (Weiß 2018). In the WP, pronouns appear in a reduced or clitic form, and they form a prosodic unit with the host in LSB/C°. A reflex of this is that sometimes scribes wrote complementizer and pronoun(s) together as one word – an example of this is *oberz* ‘when he it’ in (5 a). Interestingly, clitic pronouns not only attach to complementizers in C°, but also to items in the SpecCP if C° is phonologically empty. This is, for instance, the case with free relative clauses introduced by *wh*-pronouns (5 b). Judging from their behavior in modern dialects, *wh*-pronouns are to locate in SpecCP, because in the dialects, so-called doubly filled Comps (DFC) are possible. This means that the complementizer *dass* ‘that’ can be optionally present in embedded *wh*-questions and free *wh*-relative clauses (Weiß 2013, 2017). This kind of DFC is occasionally attested already in MHG texts; see (5 c):

- (5) a. *oberz willeclîchen tuot*  
 when-he-it willingly does  
 ‘when he does it voluntarily’ (Iwein, l. 1924)
- b. *swaz in den kirchen vindent*  
 what-they in the churches find  
 ‘what they find in the churches’ (Alexander (R. v. E.), l. 17410)
- c. *vernaemen, / wem daz her ze solde / daz bilde*  
 hear / whom that he to wage / the picture  
*geben wolde*  
 give would  
 ‘[they] hear who he wanted to give the picture as reward’  
 (Der Trojanische Krieg (TRO), l. 48688ff.)

If an overt complementizer is absent, pronouns in the WP attach to (nearly) any material to their left. This could even be the head noun that embeds the relative clause the pronouns are part of. (6 a-c) represent examples with *die/der wîl* from three different MHG texts.

- (6) a. *die wîler under in saz*  
 the while-he among them sat  
 ‘while he sat among them’ (Iwein, l. 6302)

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- b. *die wîl 't got alsus hât vorsien*  
 the while it God all-so has planned  
 'while God planned it so' (Alexius (Fassung K) (AXK), l. 115)
- c. *Der wilez dem manne wole get*  
 the while-it the man-Dat well go  
 'while the man is fine'  
 (Der Jenaer Meißner, Lied 1, Stanza 6, l. 7)

That pronouns cliticize onto the noun *wîle* gives it the 'flavor' of being a complementizer. The same holds for a preposition like *seit* 'since' that also developed into a complementizer; see (7 a-c):

- (7) a. *seidu mich chenst so wol*  
 since-you me know so well  
 'since you know me so well' (Der Münchner Oswald, l. 1240)
- b. *sitt sô grôze gâbe gîst*  
 since-you so big gift give  
 'since you give such a big gift' (Ortnit, Stanza 118, l. 1)
- c. *sîts ir sô smerzent*  
 since-they her so hurt  
 'since they hurt her so'  
 (Friedrich der Knecht, Lied 20, Stanza 6, l. 8)

Prepositions like *sît* 'since' developed into a complementizer in a similar way as the noun *wîle* did (Weiß 2019). In the source structure, the preposition took a demonstrative pronoun as its complement, and the demonstrative pronoun in turn embedded a relative clause (see 8 a). The demonstrative pronoun as well as the relative clause complementizer could be omitted as a stylistic option (cf. 8 b, c):

- (8) a. *sît des, daz ich von lande schiet*  
 since the.GEN that I from country departed  
 'since I departed from the country'  
 (Tristan 4119, cf. Schrodtt 1988: 17)
- b. *sît daz ich von lande schiet*  
 since that I from country departed  
 'since I departed from the country'  
 (Tristan 4119, mss. W, N, O, cf. Schrodtt 1988: 17)

- c. *sît ich von lande schiet*  
 since I from country departed  
 ‘since I departed from the country’  
 (Albrecht von Johansdorf, MF 92,7)

In the case that the demonstrative pronoun and the complementizer were both absent, the surface order was ambiguous, and the ambiguity increased since the preposition could serve as clitic host (as in 7 a-c), because to host clitics is a behavior that complementizers normally show (and finite verbs in main clauses). This may certainly have promoted the reanalysis of the preposition as complementizer, see (9):

- (9)  $[_{PP} \textit{sît} [_{CP} \dots]] \rightarrow [_{CP} [_{C^\circ} \textit{sît}] \dots]$

The trigger in both cases presented so far was a structural ambiguity that was the result of existing variation on the surface and of additional syntactic phenomena. This was obviously sufficient to trigger reanalysis of the respective items as complementizer. In both cases, semantic changes were not necessary or involved in the process of reanalysis. The condition that made reanalysis to occur was mostly phonological in a broader sense. Another, yet slightly different, example is supplied by *als* ‘as, when, than’ (Weiß 2019). The lexeme *als* – as a conjunction initially used in comparative constructions (e.g., *größer als* ‘greater than’) – emerged through contraction of *al so* ‘all/fully as’ (Jäger 2018: 138). In this case, the original complementizer did not vanish, but became part of the new complementizer. Originally, the *so*-clause was a relative clause embedded under the nominal head *al* (10 a, b):

- (10) a.  $[_{DP} \textit{al} [_{CP} [_{C^\circ} \textit{so} [ \dots ] ] ] ] ]$   
 b. *thie wega ríht er imo ubar al, so man héreren*  
 the ways prepare he him over all so one master.DAT  
*scal*  
 shall  
 ‘He prepared him the ways all over, as one should do for his  
 master’ (Otfrid I,3,50)

In (10b), *al* must be nominal because it is the complement of the preposition *über* ‘above’. However, there is also another source construction for the emergence of *als*: In (11 a), *al* is a kind of adverbial strengthener of an equative clause, but it is part of the matrix clause, and it embeds the following equative clause introduced by *so*. Since *al* and *so* often were adjacent to one another, both were eventually contracted and reanalyzed as one word already at the

time of OHG (11 b). Note that also in this developmental scenario, the equative clause is embedded under *al*, so that the emergence of *als* involves the clause boundary between the head *al* and the *so*-clause being shifted in such a way that *al* became part of the *so*-clause (12) (cf. also Jäger 2018: 457ff.; 2019: 8).

- (11) a. *bi namen uuéiz ich thih ál só man sinan drút*  
 by name know I you.ACC all so one his master  
*scal*  
 shall  
 ‘I know you well by name, as one should know his master’  
 (Otfrid V, 8, 38)

- b. *Niman en was also gut also iob*  
 No-one neg was as good as Job  
 ‘Nobody was as good as Job’ (Lil 4,3)

- (12)  $[_{XP} \mathbf{al} [_{CP} [_{C^{\circ}} \mathbf{so} [ \dots ] ] ] ] > [_{CP} [_{C^{\circ}} \mathbf{also} [ \dots ] ] ]$

In the source structure represented by (11 a), the embedding lexeme *al* is an intensifier, and it maintained this function after being reanalyzed as part of the new complementizer, because *also* seems to have been originally a strengthened form of *so*. Semantic bleaching of *al* only occurred later, as more reduced forms such as *alse* or *als* evolved. In this case, too, semantic change obviously was not the trigger of reanalysis, but a consequence of it or at most a side effect (A. Jäger, p.c.).

A plausible factor that triggered the univerbation of a matrix-internal head with the complementizer of the clause that the head embeds is of prosodic nature. Syntactic and prosodic boundaries do not always converge, and this can set off rebracketing. As we have seen above, pronominal clitics can search and encliticize onto a host that is outside their clausal domain, thus ignoring the boundaries set by the syntactic structure. The same behavior occurs in German, for instance, with definite articles within PPs (Weiß 1998: 75): They cliticize onto the preposition thus seemingly leaving their syntactic domain, viz. the DP, see (13 a, b):

- (13) a. *in'd Uni*  
 in-the university  
 ‘to the university’  
 b.  $[_{PP} [_{P^{\circ}} \mathbf{in}] [_{DP} \mathbf{d} \mathbf{Uni}]]$

In cases where the noun begins with a vowel – such as *Uni* ‘university’ in (13 a) – it can even take a glottal stop as onset (Weiß 1998: 75). That is not the case when the DP occurs without being embedded in a PP, because then the definite article procliticizes onto the respective noun – as in *d’Uni* – and both form together a prosodic unit. In the former case, the prosodic unit consisting of the preposition and the clitic article even gave rise to grammaticalized merged forms such as *am* (*an + dem*, lit. *on + the-Dat*). It is a new word that is used with superlatives (e.g., *am größten* ‘the biggest’), and it can no longer be separated into a prepositional and an article part.

The behavior of clitic articles is thus further evidence that prosodic boundaries that diverge from syntactic boundaries can trigger structural rebracketing. The emergence of new complementizers through univerbation seems to follow the same pathway. It is plausible to assume that, for instance, *al so* first merged at the phonological level and that the univerbation at the phonological level caused rebracketing – the shift of the clause boundary to the left – as well as relabeling of the new word as complementizer. Further examples are the Italian conjunctions *affinché* and *finché*: *affinché* goes back to *a fine che* lit. ‘to the purpose of that’ and *finché* to *fin(o) (a) che* lit. ‘until to that’ (Zingarelli online, s.v. *affinché* and *finché*). It is plausible to assume that in their case as well, the reanalysis started on the phonological level where they formed a prosodic unit that then gave rise to rebracketing and relabeling.

To summarize so far, we have seen that reanalysis consisting of relabeling and rebracketing is a particular type of reanalysis that can have at least three types of triggers. First, the surface string as such can be structurally ambiguous. This was the case with prepositions like *seit* ‘since’ when they select for a clausal complement. This clause could have the form of a relative clause embedded under a d-pronoun (14 a) or what seems to be an ordinary *that*-complement clause (14 b). Whether this is the case or not is not relevant for our purpose. The important fact is that the complementizer of the *that*-clause could be dropped for stylistic reasons (see above) thus giving rise to an ambiguous structure as in (14 c):

- (14) a. *sît des, daz ich von lande schiet*  
 since the.GEN that I from country departed  
 ‘since I departed from the country’  
 (Tristan 4119, cf. Schrodtt 1988: 17)
- b. *sît daz ich von lande schiet*  
 since that I from country departed  
 ‘since I departed from the country’  
 (Tristan 4119, mss. W, N, O, cf. Schrodtt 1988: 17)

- c. *sît ich von lande schiet*  
 since I from country departed  
 ‘since I departed from the country’  
 (Albrecht von Johansdorf, MF 92,7)

The ambiguity of a surface string as in (14c) is the result of the absence of an overt complementizer, which gave the impression that the preposition introduces the following clause. Note that the end position of the finite verb is strong evidence for the embedded status of the clause. Second, the behavior of other words in the clause could even strengthen the structural ambiguity of the surface string. This is the case when pronominal clitics encliticize onto the preposition, see (7a-c) above, here repeated as (15a-c):

- (15) a. *seidu mich chenst so wol*  
 since-you me know so well  
 ‘since you know me so well’ (Der Münchner Oswald, l. 1240)
- b. *sitt sô grôze gâbe gîst*  
 since-you so big gift give  
 ‘since you give such a big gift’ (Ortnit, Stanza 118, l. 1)
- c. *sîts ir sô smerzent*  
 since-it her so hurt  
 ‘since it hurts her so’  
 (Friedrich der Knecht, Lied 20, Stanza 6, l. 8)

Third, a mismatch between prosodic and syntactic structure can trigger rebracketing. The example presented above was *als* ‘as’ that emerged as result of the univerbation of *al* with the complementizer *so* (see 10, 11, 12 above). It obviously occurs in many languages that nominal heads embedding a relative clause merge with the complementizer (or marker) of the relative clause to form a new complementizer (see Weiß 2020). An example comes from the E1 dialect of !Xun (Northern Khoisan; Namibia) (Heine & König 2015): the noun *tcí* ‘thing’ together with the relative suffix *-à* developed into the complementizer *tcá* (see 16):

- (16) !Xun, E1 dialect, Northern Khoisan:  
*tcí* ‘thing’ + relative suffix *-à* -> *tcá*
- mí tsà’á tcá hã kòh gù dshàú*  
 1SG hear COMPL N1 Past take.SG wife  
 ‘I heard that he got married’ (Heine & König 2015: 285)

This development seems to have occurred in many languages (see [Heine & Kuteva 2007](#): 231ff. for further examples from Ik, a language of northeastern Uganda). In particular, many complementizers that introduce adverbial clauses show this special morphological construction. In these cases, an adverbial use of a prepositional phrase (PP) or a preposition contains or selects a relative clause introduced by a relative complementizer that then can develop into a new adverbial complementizer together with (parts of) the PP or the preposition. The Italian conjunctions *affinché* and *finché* represent such developments: *Affinché* goes back to *a fine che* lit. ‘to the purpose of that’ and *finché* to *fin(o) (a) che* lit. ‘until to that’ ([Zingarelli](#) online, s.v. *affinché* and *finché*).

Reanalysis consisting of rebracketing and relabeling does not conform to the traditional understanding in all aspects since it involves, contrary to the definition given for example by [Harris & Campbell \(1995\)](#), a certain kind of modification of the surface string. Such modifications give rise to structural ambiguity – the slightly changed surface string could be assigned two underlying structures – and this structural ambiguity then triggers reanalysis (as standardly assumed in generative syntax, cf. [Lightfoot 1979](#), [Roberts & Roussou 2003](#), [Alexiadou](#), this volume). As mentioned above, it is plausible to assume that language acquirers tend to opt for the simpler structure that thus becomes part of the grammar, whereas the older structure gets lost.

However, what we do not observe in most cases presented so far is an involvement of semantic change. The respective words that developed into complementizers did not change their meaning to set reanalysis in motion. In the case of *weil* ‘while’, the change from a temporal to a causal meaning occurred much later and was completely unrelated to the process of reanalysis (or grammaticalization) as such. At least in all cases where adverbial complementizers emerged, a change in the meaning is obviously not necessary for reanalysis to get started. However, this does not mean that semantic change cannot be associated with this type of reanalysis. There are cases where the noun developing into a complementizer loses its meaning. As [Heine & Kuteva \(2007\)](#): 230 show, a main source of complementizers are nouns with a generic meaning such as PERSON, THING, PLACE, TIME, or MANNER. An example just mentioned (see 16 above) comes from the E1 dialect of !Xun (Northern Khoisan; Namibia) ([Heine & König 2015](#)) where the noun *tcí* ‘thing’ together with the relative suffix *-à* developed into the complementizer *tcá* ‘that’. In such cases, the original meaning ‘bleached out’ completely in the process of grammaticalization, but it is hard to decide whether this semantic bleaching is the trigger or the result of the reanalysis. The only thing we can say for sure is that semantic bleaching and categorical reanalysis

are concomitant in these cases. Therefore, semantic change can accompany rebracketing, but it is not a necessary precondition for it. In many cases, it is even completely absent.

Reanalysis involving relabeling and rebracketing shows some further unusual properties. First, Roberts (2007: 131) claims that diachronic reanalysis “is associated with parameter change”. His example is the French question marker *ti* which developed through contraction of an epenthetic /t/ with the pronoun *il* ‘he’. The reanalysis of this contraction as question particle is a symptom (or epiphenomenon) of an underlying parametric change – “the loss of subject-clitic inversion in main-clause yes-no questions” (Roberts 2007: 131). However, the type of reanalysis discussed here is not associated with an underlying parameter change whatsoever. There are no changes in other parts of the grammar of which the cases of reanalysis treated above could be epiphenomena. In this respect, reanalysis involving relabeling and rebracketing differs from diachronic reanalysis as defined and discussed by Roberts (2007), although it meets two other important conditions. In both types, the source structure is structurally ambiguous, and the reanalyzed structure is simpler than the source structure (cf. Roberts 2007: 131). Diachronic reanalysis in the sense of Roberts (2007) and reanalysis involving relabeling and rebracketing are thus different processes which nevertheless have some properties in common.

Second, Roberts & Roussou (2003: 208) distinguish two types of reanalysis: upward and downward reanalysis. Upward reanalysis produces functional items, concerns only single items (and not a whole class of items), is accompanied by phonological and semantic reduction, and involves category change, whereas downward reanalysis (e.g., the loss of V-to-T movement in English) lacks all of these properties (see also Alexiadou, this volume). Reanalysis involving relabeling and rebracketing clearly is an instance of downward reanalysis (cf. Weiß 2019), which, however, shows (nearly<sup>6</sup>) all of the properties that Roberts & Roussou 2003 claim to be characteristic for upward reanalysis. The reanalysis of *weil* as complementizer concerns a single item (and not a whole class), involves category change, and produces a functional item – and it is nevertheless an instance of downward reanalysis. The crucial point here is probably that the criteria claimed by Roberts & Roussou (2003) as distinguishing between upward and downward reanalysis are more appropriate for defining cases where reanalysis involves grammaticalization at the same time (see also section 6 on the relation between reanalysis and gram-

<sup>6</sup> Note that many cases discussed above (e.g., *weil*, *seit*) show no signs of reduction with respect to their phonological shape and/or meaning, but some cases do (e.g., *als*), so this seems to be no necessary characteristic of reanalysis.

maticalization). Another type of downward reanalysis that meets these criteria consists of spec-to-head developments triggered by van Gelderen's (2004) *Head Preference Principle*.

#### 4 REBRACKETING WITHOUT RELABELING AND VICE VERSA

Syntactic reanalysis as understood here always consists of relabeling and rebracketing. To simplify somewhat, rebracketing means to assign a new underlying structure to a surface string and relabeling a new category to an item. Relabeling and rebracketing are thus clearly distinct processes, but an interesting question is whether both are always concomitant. At least concerning relabeling, the question is easy to answer: Many syntactic changes only involve relabeling, but no rebracketing. There are mainly two types of changes that belong to this category. First, developments motivated by van Gelderen's (2004) *Late Merge Principle* (LMP), and second, developments motivated by her *Head Preference Principle* (HPP). Typical changes triggered by LMP are, for instance, the development of lexical verbs into modal verbs or auxiliaries in English. As lexical verbs, they merge in  $V^\circ$  and then move to  $T^\circ$ , whereas as modals/auxiliaries, they merge immediately in  $T^\circ$ , thus saving a step in the derivation. The HPP triggers changes from phrases to heads as happens when a demonstrative or wh-pronouns develops into a complementizer. These changes do not involve rebracketing either. Therefore, it is obvious that relabeling can occur without being accompanied by rebracketing.

The more interesting question then is whether rebracketing occurs without relabeling. In the cases studied above, the two are always concomitant, but in principle it should be possible to have rebracketing alone. A possible example of rebracketing without relabeling is the emergence of a possessive construction where the possessor is case-marked with dative – a construction that is very widespread in dialectal and colloquial German (Zifonun 2003; Weiß 2008, 2012a, 2019). Paul (1919: 326) explained its origin as rebracketing (in the German original *Gliederungsverschiebung*):

Anderen Ursprungs ist der Ersatz des Gen. durch den Dat. mit Possessiv-Pron. Er beruht auf einer Gliederungsverschiebung. Der Dat. stand ursprünglich in keiner direkten Beziehung zum Possessivpron., sondern war von einem Verbum abhängig. Der Übergang lässt sich veranschaulichen an einem Satze wie *er hat dem Bürgermeister sein Haus angezündet*. Hier könnte man *dem Bürgermeister* noch von *hat angezündet* abhängig machen, ebenso aber mit *sein* verbinden. Wann sich zuerst

die Auffassung verschoben hat, lässt sich nicht sicher feststellen.

[The substitution of the genitive case by the dative case with possessive pronoun is of a different origin. It is based on a shifting of a constituent boundary. Originally, the dative case was not directly connected with the possessive pronoun but was dependent on a verb. The change can be demonstrated by a sentence such as *He set fire to the mayor his house*. Here one could make *the mayor* dependent on *set fire*, but also connect him with *his*. It cannot be ascertained when the notion has changed first. (my translation)]

The dative-marked possessor-NP was originally an indirect object (or, in other cases, a so-called free dative, e.g., a *dativus pertinentiae* or a *dativus ethicus*), but it did not constitute a phrase together with the direct object which includes a possessive pronoun (cf. 17 a). Both, however, were eventually reanalyzed as a phrasal unit as indicated in (17 b):

- (17) a. *er hat [dem Bürgermeister] [sein Haus] angezündet*  
he has the.DAT mayor his house lighted  
'he lit the house of the mayor'
- b. *er hat [dem Bürgermeister sein Haus] angezündet*

This is the traditional explanation, one which can be found in the literature until today. If true, it would make the emergence of the possessive dative an example of a development with rebracketing, but without relabeling, because source and target structure (cf. 17 a, b above) differ only in that the boundary between dative and accusative DP vanished. However, as shown in Weiß (2012a), the emergence of this construction is primarily due to the development of possessive pronouns from genitive attributes (note that they were originally genitive forms of personal pronouns) via adjectives to determiners. In this developmental scenario, no rebracketing is required (for further details, cf. Weiß 2012a).

Another example is the *was für (ein) N*-construction, whose emergence is also traditionally explained as rebracketing (Ebert 1978: 12). According to the traditional explanation, the source structure consists of two separate phrases with the meaning 'what instead of N' (cf. 18 a). After the reanalysis as a single phrase (i.e. rebracketing), the meaning changed, but the categories remained the same (18 b):

- (18) a. [was] [für Geld]  
 what for money  
 ‘what instead of money’
- b. [was für Geld]  
 what for money  
 ‘what kind of money’

However, the traditional explanation seems to be wrong, because recent investigations have made another origin more plausible. It is the continuation of a construction where *was* ‘what’ takes a genitive attribute (e.g., MHG *was steines* ‘what stone.GEN.SG’, quoted after [Hobich 2019](#)) and *für* ‘for’ was introduced after the loss of the genitive in German dialects at the beginning of the ENHG times (cf. [Hobich 2019](#) for further details). The difference from the traditional explanation is that *was* and *für* (*ein*) *N* formed a single constituent from the beginning, so no rebracketing is needed to explain its development.<sup>7</sup>

To conclude this section: It seems that no example traditionally explained as rebracketing without relabeling does, in fact, involve rebracketing. This is the case with the emergence of the possessive dative and of the *was für* (*ein*) *N*-construction, but also with *um-zu*-infinitive mentioned at the beginning (see examples 1 and 2). However, this does not mean that such cases are excluded for principled reasons. I cannot imagine any reason why rebracketing without relabeling should not occur. I leave it for further research to explore whether such cases exist at all, and, if not, why they are excluded.<sup>8</sup>

## 5 SPEAKER’S AND HEARER’S CONTRIBUTION TO REANALYSIS

There has been an extensive debate about the question of who is responsible for reanalysis. While generative linguists claim that the hearer, especially the language acquirer, executes reanalysis, functional linguists take the adult speaker and hearer to be responsible for reanalysis (see [Detges, Waltereit, Winter-Froemel, and Wolfsgruber, this volume](#)). The latter often refer to examples like *hamburger* where it is clear that the restructuring from [*ham-*

<sup>7</sup> The development of the *was-für*-construction was in fact more complex than described in the main text because it involved some DP-internal reorganizations (such as, e.g., the shift from *was* to *N* with respect to the head of the construction, cf. [Hobich 2019](#)).

<sup>8</sup> A possible case are word order changes such as the change from object > verb order to verb > object order that took place in the history of English (and many other languages). In Old English, the basic object verb order was often disguised through DP-extrapolation and verb (projection) raising. This has the consequence that “the underlying SOV order changed to SVO” ([van Kemenade 1987: 177](#); see also [Roberts 2007: 181–188](#)). Thanks to Thomas Strobel for pointing to this possible example.

*burg*]+[*er*] to [*ham*]+[*burger*] must have been made by adults (see Hopper & Traugott 2003).

With respect to the special type of reanalysis studied in this paper, both adult speakers and language-acquiring hearers make their own contribution. As shown in section 3, the precondition for reanalysis of this kind to get started is structural ambiguity. It is (so to speak) the task of adult speakers to utter structurally ambiguous surface strings. One example I presented above was the development of the complementizer *seit* ‘since’ from a preposition. In MHG, several different surface manifestations with (presumably) the same underlying structure are attested: with a pronominal complement heading a relative clause (19 a), only with a relative clause introduced by a complementizer (19 b), or without one (19 c, d).

- (19) a. *sît des, daz ich von lande schiet*  
 since the.GEN that I from country departed  
 ‘since I departed from the country’  
 (Tristan 4119, cf. Schrodt 1988: 17)
- b. *sît daz ich von lande schiet*  
 since that I from country departed  
 ‘since I departed from the country’  
 (Tristan 4119, mss. W, N, O, cf. Schrodt 1988: 17)
- c. *sît ich von lande schiet*  
 since I from country departed  
 ‘since I departed from the country’  
 (Albrecht von Johansdorf, MF 92,7)
- d. *seidu mich chenst so wol*  
 since-you me know so well  
 ‘since you know me so well’ (Der Münchner Oswald, l. 1240)

The last two options are ambiguous for a hearer, especially (19 d) where the subject pronoun encliticizes onto *seit*. A child exposed to utterances like (19 c, d) more frequently than to utterances like (19 a, b) may be prompted to reanalyze *seit* as complementizer and use it as such in its own utterances. The proper act of reanalysis is thus executed only by the hearer, whereas the speaker’s part consists of producing structurally ambiguous surface strings. It is, furthermore, much more plausible that such reanalyses are made by language acquirers and not by adults. Though Hopper & Traugott (2003: 44) are right when they claim “that people continue to develop language skills throughout their lives, and also to innovate”, it is very unlikely that adults may reanalyze content words like verbs or nouns as complementizers. The

creation of new grammatical structures and markers seems to be restricted to first language acquisition, and adults are often even unable to adopt such innovations as Senghas (1995, 2003) has shown with respect to the Nicaraguan Sign Language (see also Weiß 2001, 2005 on the role of language acquisition in language change).

To summarize this section: We can say that the first language acquirer is the executor of reanalysis proper, that is, the one who assigns a new category to lexical/semi-functional items and a new structure to surface strings that s/he encounters in her/his primary linguistic data. On the other hand, the adult speaker's part is to produce structurally ambiguous utterances, but s/he does not contribute to the process of reanalysis (of this kind).

## 6 REANALYSIS AND GRAMMATICALIZATION

The last topic that I want to discuss briefly is the relation of reanalysis and grammaticalization. Both are sometimes held to differ at least with respect to directionality (see Detges, Waltereit, Winter-Froemel, & Wolfsgruber, this volume). Heine & Reh (1984) and Haspelmath (1998) claim that grammaticalization is unidirectional, but reanalysis is not. Haspelmath (1998), who uses the term reanalysis mainly in the sense of rebracketing, even goes so far as to argue that both are "disjoint classes of phenomena" (Haspelmath 1998: 315), that is, rebracketing does not involve grammaticalization nor grammaticalization rebracketing. A case of rebracketing without grammaticalization, which Haspelmath (1998: 324) mentions, is the reanalysis "of a prepositional phrase with *um* [cf. ex. (1, 2) above] as belonging to a following infinitival clause at some point in the history of German". In this special case, however, the development of a complementizer out of a preposition necessarily involves relabeling of a lexical/semi-functional item as a functional one and, hence, grammaticalization – as it does in many other cases.<sup>9</sup> As discussed in section 4, rebracketing without relabeling obviously occurs much more rarely, if at all, than Haspelmath (1998) assumes. His claim that "no element changes from a lexical item to a grammatical item" (Haspelmath 1998: 325) is not corroborated by the examples he presents. The only example he mentions where no relabeling may be involved is the German possessive dative construction (cf. 17 a, b above, and Haspelmath 1998: 325), but the emergence of this particular construction involved no rebracketing either and followed another path as Paul (1919: 326) and many others following him assumed (see section 4).

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<sup>9</sup> However, as mentioned above, this special development does not involve rebracketing.

An example of grammaticalization which Haspelmath (1998: 329) mentions is English *while*, which in his analysis only involves a category change from N > Comp. However, this analysis is wrong because English *while* developed in the same way as German *weil*, which is as “an abbreviation of Old English *thā hwīle the* ‘the while that’” (OED, s.v. *while*). Therefore, there must have happened much more than relabeling in the course of the development of the complementizer *while*. Since the grammaticalization of *while* involves a change in the constituent structure (i.e. rebracketing), Haspelmath’s (1998: 315) claim that both are “disjoint classes of phenomena” cannot be correct. To be honest, morphological reanalysis as exemplified by *hamburg+er* → *ham+burger* does not involve any kind of grammaticalization. This may be the reason why some researchers believe that grammaticalization and reanalysis are completely distinct phenomena.

However, this does not hold for the type of reanalysis discussed in this paper: The development of complementizers from verbs, nouns, or prepositions is an instance of grammaticalization. Lehmann (2015: 13) defines “grammaticalization as a process which may not only change a lexical into a grammatical item, but may also shift an item ‘from a less grammatical to a more grammatical status’, in Kuryłowicz’s words.” According to this definition, the type of reanalysis discussed in this paper necessarily involves grammaticalization, since it comprises the change of lexical or semi-functional lexemes into grammatical ones. Simultaneously, reanalysis of this type involves rebracketing, i.e. a change in the constituency. Therefore, such developments belong to both classes of changes that Haspelmath (1998) claims to be disjoint classes of phenomena. Additionally, the supposed difference in directionality between reanalysis and grammaticalization is not existent either. All of the changes presented above are irreversible: We know of no cases where a complementizer emerged from a lexical/semi-functional item and developed back again. Such developments seem to occur in no language.

## 7 CONCLUSION

The topic of this paper was a special type of syntactic reanalysis that consists of two separate changes – namely, rebracketing (restructuring) and relabeling (category shift). Specifically, I dealt with the emergence of complementizers from lexical or semi-functional items like nouns or prepositions, and I demonstrated that their development involves both relabeling (N/P > C) and rebracketing. The structural change consists of a shift of the clause boundary to the left, because the item that develops into the complementizer of the clause did originally not belong to this clause. The trigger that enables reanalysis is ambiguity, especially structural ambiguity, whereas semantic change

virtually plays no role for this type of reanalysis. This structural ambiguity leads language acquirers to reanalyze the respective surface string, that is, to assign it a simpler structure. I further discussed to what extent relabeling and rebracketing occur independently of each other. Whereas relabeling without rebracketing is a very common phenomenon, rebracketing without relabeling seems hardly to exist at all. Examples mentioned in previous research turn out, on closer inspection, to involve no rebracketing. The locus of reanalysis of this kind, as is shown in section 5, is first language acquisition. It is thus the first language acquirer who assigns a new category to lexical/semi-functional items and a new structure to surface strings that s/he encounters in her/his primary linguistic data. Finally, I considered the relation between reanalysis and grammaticalization. In the cases dealt with in this paper, reanalysis always results in grammaticalization. Therefore, although it is sometimes claimed, it cannot be true that reanalysis and grammaticalization are completely different.

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