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Pronominal Adverbs in German: A Grammaticalization Account

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Pronominal adverbs in German, which consist of *da* ‘there’, *hier* ‘here’, or *wo* ‘where’ as first element and a preposition as second element, like *davor* ‘before’, *hierbei* ‘hereby’, *worin* ‘wherein’, have often been explained by a movement of the first element out of the complement position of the preposition. This article points out some of the problems of movement analyses and presents an alternative account based on the diachronic development of pronominal adverbs. It is argued that the pattern after which pronominal adverbs are formed can be traced back to the univerbation of two adverbs with spatial meaning. This is accompanied by processes often associated with grammaticalization, such as semantic bleaching, phonological reduction, and a loss of separability in the standard variety. Some of the reduced forms are obligatory in phrasemes and particle verbs, thus constituting a split which can occur during grammaticalization. The reduction of the first element of pronominal adverbs and a doubling of the first element can be seen as part of a grammaticalization cycle.

Keywords: preposition stranding; univerbation; pronominalization; spatial deixis; West Germanic; grammaticalization cycle

1. Introduction

Pronominal adverbs in German consist of one of the adverbs *da* ‘there’, *wo* ‘where’, or *hier* ‘here’ as first element and a preposition as second element (for example, *davor* ‘before’, *danach* ‘thereafter’, *worauf* ‘whereon’, *womit* ‘wherewith’, *hierunter* ‘hereunder’, *hiermit* ‘herewith’, etc.). Between the first and the second element, /r/ can occur (as in, for example, *darauf* ‘thereon’, *worunter* ‘whereunder’), which can be seen as an epenthetic consonant from a synchronic point of view.

Pronominal adverbs (PAs) pose some questions concerning their internal structure because they contain an adverb which occurs to the left of the preposition. This has been explained by the replacement of an NP-pronoun by *da*, *hier*, or *wo* and a movement of this element in front of the preposition.



It is the aim of this article to present an alternative account and show that a diachronic perspective can shed a different light on the characteristics of PAs, which exhibit a number of properties that grammaticalization theory can account for. A special focus will be on the nature of the second element in PAs. It will be argued that, from a diachronic point of view, the internal structure of PAs can be explained by a process of univerbation of adverbial phrases expressing spatial deixis. It will be argued that PAs originate from two separate local adverbs forming an adverbial phrase. The univerbation of these two elements is accompanied by several processes generally associated with grammaticalization. There is a semantic bleaching of the spatial meaning, a concomitant development of metaphorical meanings and a strengthening of textual functions of PAs, a phonological reduction of the first element, as well as a loss of syntactic separability of the two elements in the standard variety. From a diachronic point of view, the separate occurrence of the two elements of PAs is a remnant of earlier stages which is preserved mainly in colloquial language and dialects in northern Germany. The phonological reduction of PAs can be compensated for by a doubling of the first elements, thereby showing characteristics of a grammaticalization cycle. Moreover, some reduced forms can no longer be replaced by full forms in certain contexts. This is a split which is typical of grammaticalization processes.

First, the class of German PAs will be characterized in section 2. In section 3, movement analyses of PAs for Dutch and German are reviewed and some of their problems and shortcomings will be pointed out. Section 4 investigates the nature of the second elements of PAs. Section 5 shows that the order of elements and the elements involved in PAs naturally follow from a process of univerbation of the adverbial phrases that the PAs originate from. The concomitant processes typical of grammaticalization are pointed out in section 6, which comprise semantic bleaching, phonological erosion, as well as a decreasing syntactic separability. Section 7 shows that further reduction may lead to splits between full and reduced forms which are typical of grammaticalization. In section 8, it is argued that doubling of the first element is a result of a weakening of this element. Weakening and subsequent strengthening constitute a grammaticalization cycle. The main conclusions are summarized in section 9.

2. Pronominal Adverbs and Their Variants

PAs in German contain the adverbs *da*, *wo*, and *hier* ('there', 'where', and 'here') as the first element and an element which is a preposition, as in Table 1. The prepositions in PAs are so-called "primary prepositions" which form a closed class of very old prepositions (cf. Table 1).¹

¹ Prepositions that are counted among primary ones by Di Meola (2000:211) but do not occur in PAs are *bis* 'until' and *ohne* 'without'. They have no spatial meanings. *Darohne* occurred sporadically but is no longer in use. This also applies to PAs with *ob* and *wider* which had spatial meanings but are rather archaic now and only used with nonspatial meanings.

Table 1. Pronominal adverbs in German

	<i>da(r)-</i>	<i>wo(r)</i>	<i>hier</i>
<i>an</i> 'at'	daran	woran	hieran
<i>auf</i> 'on'	darauf	worauf	hierauf
<i>aus</i> 'from'	daraus	woraus	hieraus
<i>bei</i> 'near'	dabei	wobei	hierbei
<i>durch</i> 'through'	dadurch	wodurch	hierdurch
<i>für</i> 'for'	dafür	wofür	hierfür
<i>gegen</i> 'against'	dagegen	wogegen	hiergegen
<i>hinter</i> 'behind'	dahinter	wohinter	hierhinter
<i>in</i> 'in'	darin/darein	worin/worein	hierin/hierein
<i>mit</i> 'with'	damit	womit	hiermit
<i>nach</i> 'after, to'	danach	wonach	hiernach
<i>neben</i> 'beside'	daneben	woneben	hierneben
<i>nebst</i> 'beside'	danebst	wonebst	–
<i>ob</i> 'because of'	darob	worob	–
<i>über</i> 'over'	darüber	worüber	hierüber
<i>um</i> 'around'	darum	worum	hierum
<i>unter</i> 'under'	darunter	worunter	hierunter
<i>von</i> 'from'	davon	wovon	hiervon
<i>vor</i> 'before'	davor	wovor	hiervor
<i>wider</i> 'against'	dawider	–	–
<i>zu</i> 'to'	dazu	wozu	hierzu
<i>zwischen</i> 'between'	dazwischen	wozwischen	hierzwischen

The first element is often called an R-pronoun, following van Riemsdijk (1978), who coined the term “because they all have an r-sound in their phonological form (*eR*, *daaR*, *hieR*, *waar*)”, as Zwarts (1997: 1092) states with reference to Dutch. German PAs are also called prepositional adverbs (“Präpositionaladverbien”) because the second element is a preposition as a free lexeme. The term pronominal adverb refers to the function of PAs as proforms and will be used here, since it is well established.

Like pronouns, PAs have anaphoric and cataphoric functions. In contrast to pronouns, which substitute nominal phrases, PAs are proforms for prepositional phrases (PPs). They are adverbs since they are uninflected and can have adverbial functions. Like other adverbs in German, they can occur in the so-called pre-field, in the first position of verb-second clauses.

PAs are used as proforms for full PPs, but there are several restrictions regarding which kind of PPs they may substitute. They can only be used for inanimate referents (see Helbig 1974:133).²

- (1) a. Er sitzt auf dem Sofa/**darauf**.
 he sits on the sofa/thereon
 'He is sitting on the sofa/on it.'
- b. Er wartet auf seine Freundin/***darauf**.
 he waits on his girlfriend/ thereon
 'He is waiting for his girlfriend/*thereon.'

Moreover, they often cannot be substituted for many adverbial PPs (see Helbig 1974:133, Krause 2007):

- (2) a. Er wartet auf dem Bahnsteig/??**darauf**.
 he waits on the platform/thereon
 'He is waiting on the platform/??thereon.'
- b. Sie wohnt in der Stadt/***darin**/dort.
 she lives in the city/*therein/there
 'She is living in the city.'
- c. an Weihnachten ('at Christmas')/***daran**
- d. im nächsten Jahr ('next year')/***darin**

The reason for this may be that adverbial PPs can be substituted by adverbs like *dort* 'there', *dann* 'then', *damals* 'at that time', etc. This is not possible for PPs in the function of a prepositional object, which can only be substituted by PAs or, in the case of animate referents, by the respective preposition plus a pronoun.

PAs are a common phenomenon of West Germanic languages. They occur in German, Dutch, and Frisian, as well as in English.³ However, they are far more frequent in German than in English. Whereas in English PAs (*thereby*, *thereupon*, *thereout*, *thereinto*, *therein*, *hereby*, *whereby*, etc.) have a somewhat archaic and formal touch and are sometimes seen to be characteristic of legal language, in German they are stylistically neutral and can fulfill more functions than in English. Besides being a proform of PPs, they also occur as correlates of subordinate clauses (adverbial clauses and sentential prepositional objects), which is not the case in English.

- (3) a. Wir warten **darauf**, dass das Wetter besser wird. (prepositional object)
 we wait thereon that the weather better becomes
 'We are waiting for the weather to become better.'
- b. Er braucht viel Geld **dazu**, um seine Hobbies zu finanzieren.
 he needs much money thereto, in-order his hobbies to finance
 'He needs a lot of money in order to pay for his hobbies.'

² See Krause (2007) for a discussion of exceptions to this rule.

³ See Hoekstra (1995, 2016) on PAs in Frisian.

The PAs with *da* are by far the most frequent PAs and have received the most attention. The PAs with *wo* as first element are used as interrogative as well as relative adverbs. They may occur in questions if it is presupposed that the substituted noun does not refer to a person (Helbig 1974:133). In these cases, the use of a preposition with an NP-pronoun is considered to be colloquial:

- (4) a. **Worauf**/auf was wartet er?
 whereon/on what waits he
 'What is he waiting for?'
 b. ***Worauf**/auf wen wartet er?
 what-on/on whom waits he
 'Who is he waiting for?'

PAs with *hier* are sometimes seen as stylistic variants of *da*-PAs and are far more restricted in their use.⁴

Some PAs are also sentence connectors ("conjunctive adverbs") which establish various relations to the preceding sentence, such as causal, conditional, concessive, and adversative relations. In contrast to conjunctions, they can occur in the pre-field and they do not trigger verb-final position. Sometimes it is not possible to distinguish clearly between a pronominal use (which may be substituted by a full PP) and the conjunctive use relating to the preceding sentence. In (5) *darum* establishes a causal relationship between the two clauses and may not be replaced by a full PP.

- (5) Er hat kein Geld, **darum** geht er nicht aus. (conjunctive adverb)
 he has no money, therefore goes he not out
 'Since he has no money, he does not go out.'

What makes PAs especially interesting are their variants: on the one hand a splitting of the two components, which is often seen as a form of preposition stranding (6a), and on the other hand a doubling of the first part which may occur adjacent to the PA or at a distance (6b and c).

- (6) a. **Da** will er nichts **von** hören.
 there wants he nothing of hear
 'He wants to hear nothing about it.'
 b. **Da** will er nichts **davon** hören.
 there wants he nothing thereof hear
 'He wants to hear nothing about it.'
 c. **Da drauf** würde ich mich nicht verlassen.
 there thereon would I REFL not rely
 'I would not rely upon it.'

As will be shown in sections 6.3 and 8, a diachronic perspective can provide an explanation for these phenomena.

⁴ See Marx-Moyse (1979) for a comparative study of PAs with *hier* and *da*.

3. Movement Analyses

Within generative grammar, a number of analyses have been proposed which derive PAs by movement of a pronoun out of the complement position of a preposition to the left of the preposition. Since some of the influential analyses have been developed for Dutch, we will briefly review them here. This is not the place for an in-depth description of the analyses for Dutch, but some basic assumptions will be pointed out. Subsequently, movement analyses for German PAs will be dealt with in more detail.

3.1 Pronominal Adverbs in Dutch

In his treatment of PAs, van Riemsdijk (1978) distinguishes neuter pronouns and their R-variants. The neuter pronouns are *et* 'it', *dat* 'that', *dit* 'this', *wat* 'what', *iets* 'something', *niets* 'nothing', *alles* 'everything'. The R-pronouns comprise *er* 'there', *daar* 'there', *hier* 'here', *waar* 'where', *ergens* 'somewhere', *nergens* 'nowhere', *overal* 'everywhere', and bear a feature [-human]. Van Riemsdijk proposes a filter which prohibits neuter pronouns from appearing in the complement positions of prepositions (**op het*). A transformational rule turns neuter pronouns into R-pronouns which can escape this filter by moving into a special specifier position. This position also functions as an escape hatch for moving the R-pronoun out of the PP (*er op*).

The R-pronouns may occur within the PP in a specifier position of the preposition (7a) or move out of it (7b).

- (7) a. dat hij gisteren **er** **op** wachtte (ex. from Zwarts 1997: 1092)
 that he yesterday there on waited
 'that he waited for it yesterday'
- b. dat hij **er** gisteren **op** wachtte
 that he there yesterday on waited
 'that he waited for it yesterday'

The fact that not all prepositions allow this movement is explained by the presence or absence of this special specifier position.

Some shortcomings of this approach have been pointed out by Bennis (1986). One is that the correlation between [-human] pronouns and R-movement is not as strong as suggested by van Riemsdijk, since for example neuter pronouns like *alles* 'everything' or *niets* 'nothing' as well as *dat* 'that' may occur to the right of prepositions. Moreover, R-pronouns are not automatically [-human] but may refer to persons in certain instances.

What distinguishes prepositions which allow this kind of movement in Dutch from those that do not allow it has been a matter of some debate. Koopman (1993) suggests that those allowing it are spatial prepositions and that the R-pronouns are checked in the specifier position of a functional head, the PlaceP:

- (8) [_{PlaceP} *er* [_{Place} [_{PP} in[+place] _{DP} e]]]

Zwarts (1997) points out that there are clear counterexamples of prepositions with spatial meanings but no R-pronouns, like *beneden* 'beneath', *benoorden* 'north of',

beoosten ‘east of’, *bewesten* ‘west of’, *bezijden* ‘beside’, *bezuiden* ‘south of’, *halverwege* ‘halfway’, *nabij* ‘near’, *richting* ‘in the direction of’, *rond* ‘round’, *te* ‘at’, *via* ‘via’. He also proposes a movement analysis and starts from the observation that only certain prepositions, which he calls type A prepositions, allow for this kind of preposition stranding. Whereas type A prepositions are “real prepositions,” that is simple lexemes, type B prepositions are more complex and do not allow for the kind of movement by R-pronouns. What Zwarts calls type A prepositions are essentially “primary prepositions,” whereas type B are secondary prepositions which are more recent and derived from elements of other word classes (see, for example, Diewald 1997).

Zwarts assigns the type B prepositions the following structure with a lexical head of unspecified category:

- (9) [PP P [LP L [DP . . .]]]

This complexity distinguishes type B prepositions from type A prepositions that are simply Ps. The complexity can be due to several reasons: type B prepositions may be derived from other word classes like nouns and may be due to univerbation or conversion.

(10) Type B prepositions (Zwarts 1997)

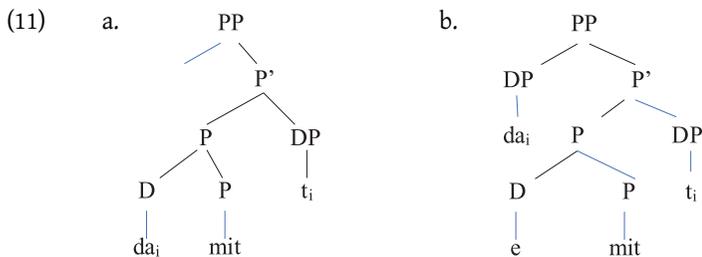
- a. P + N: *inzake* (‘on the subject of’, from *zaak* ‘case’), *vanwege* (‘because of’, from *weg* ‘way’), *naargelang* (‘in proportion to’, from *gelang*)
- b. *be* + N + *en*: *benoorden* (‘north of’, from *noord* ‘north’), *bezuiden* (‘south of’, from *zuid* ‘south’)
- c. N + *ens*: *krachtens* (‘on the strength of’, from *kracht* ‘strength’), *namens* (‘in the name of’, from *naam* ‘name’), *tijdens* (‘during’, from *tijd* ‘time’)
- d. affix *-s*: *middels* (‘by means of’, from *middel* ‘means’)
- e. conversion from nouns: *richting* (in the direction of, from *richting* ‘direction’), *halver wege* (‘halfway through’)

Additionally, there are prepositions that are derived from present and passive participles like *betreffende* (‘concerning’, from *betreffen* ‘concern’), *ongeacht* (‘regardless’, from *achten* ‘respect’). Also borrowed prepositions are counted among type B prepositions.

To sum up briefly: the analyses sketched here for PAs in Dutch assume that PAs involve movement of a pronoun out of the complement position of the preposition into a specifier position or a position outside the PP. Moreover, these analyses also try to explain why an NP-pronoun is substituted by an R-pronoun and why only R-pronouns can undergo this movement.

3.2 German Pronominal Adverbs

For German, several authors analyze PAs as being derived by movement of an R-pronoun. Gallmann (1997) suggests that *da* may be either incorporated into the preposition (11a) or moved to the specifier of the preposition (11b).



The structure in (11a) contains a clitic which may be further reduced (*d-r*) and provides the basis for a doubling of *da*, which will be discussed in section 8. In (11b) the pronoun projects to a phrase that can be moved. This is the basis for preposition stranding, which will be discussed in section 6.3. Fleischer (2002) agrees with the main points of this analysis but objects that it cannot be extended to PAs with *wo*, which cannot move and can only occur incorporated into the preposition.

Müller (2000) treats PAs in German as a repair phenomenon within an optimality theoretical framework. This theory starts from the basic assumption that there are several alternatives for realizing an expression. From an input (in the case of syntax essentially a list of lexemes) several output candidates are produced by a generative component of grammar. These candidates are evaluated in relation to a number of universal constraints that are ranked language-specifically and may be violated. The optimal candidate violates the fewest high-ranking constraints. Repair phenomena arise when very high-ranking constraints necessitate the violation of faithfulness constraints⁵ in the optimal output, which can only be a last resort in order to fulfill even higher-ranking constraints (Müller 2000:148). Among these faithfulness constraints is ECON, an economy principle stating that syntactic movement is to be avoided, and SEL, which means that lexical selectional restrictions of the input must be fulfilled in the output.

PAs are conceived of as a repair phenomenon that solves two conflicting tendencies which Müller (2000:139) refers to as the “Wackernagel-Ross-dilemma.” Unstressed pronouns occur in the so-called Wackernagel position at the beginning of the middle field after the left sentence bracket, which is a position for unstressed elements (PRON-KRIT constraint). According to a constraint going back to Ross (1967), an element which is assigned a case by a preposition may not be moved out of the PP (PP-BAR constraint). The formation of PAs resolves this conflict because they contain an R-pronoun which has no case and as a result is not subject to PP-BAR nor to PRON-KRIT. As Müller states, the dilemma can be solved in this way, albeit at a cost: SEL is violated since the R-pronouns do not fulfill the selectional restrictions of the prepositions involved. To give an example, the candidate in (12a) with a preposition and pronoun violates PRON-KRIT, and the candidate in (12b) with a pronoun in the Wackernagel position violates PP-BAR. Both violations are avoided by the candidate with the PA in (12c):

⁵ Faithfulness constraints are violated if the output candidate differs in some characteristics from the input.

- (12) a. ?Hans hat gestern den ganzen Tag auf es gewartet. (*PRON-KRIT)
 John has yesterday the whole day on it waited
 'Yesterday John waited for it the whole day.'
- b. *Hans hat es gestern den ganzen Tag auf gewartet. (*PP-BAR)
 John has it yesterday the whole day on waited
- c. Hans hat gestern den ganzen Tag **darauf** gewartet. (*SEL)
 John has yesterday the whole day thereon waited

A catch-all term like *da*, an “Allerweltsproform” as Altmann (1981) has called it, is assumed to be suitable for this repair strategy, because it is flexible in its functions. We will come back to this assumption in the next section.⁶

For the movement of *da*, Müller considers two different explanations. One is a morphological principle operating word-internally. By moving *da* into the first position, the status of PAs as PPs is preserved due to the right-hand head rule. The other explanation he considers is that *da* has to move because it does not fulfill the selectional restriction of the preposition. However, both explanations are not convincing. As far as the formation of adverbs is concerned, the right-hand head rule is often violated (see also the next section). Moreover, the syntactic explanation does not take into account that adverbs may occur as complements to prepositions, even though they do not fulfill the case requirements of the preposition.

The tendency for pronouns to occur in the Wackernagel position is strongest for reduced pronouns like *es*, weaker for unstressed pronouns referring to inanimate objects, and weaker yet for unaccented pronouns referring to animate referents. It is weakest for stressed pronouns (PRON-KRIT). Müller proposes the following hierarchy of constraints:

- (13) PP-BAR > PRON-KRIT (*es*) > PRON-KRIT (unstressed/inanimate)/SEL >
 PRON-KRIT (unstressed/animate) > ECON > PRON-KRIT (stressed)

Whether a PA can occur instead of a preposition plus a pronoun depends on whether SEL is lower, on a par, or ranks higher in the hierarchy of constraints. This hierarchy predicts that, in the case of stressed pronouns and pronouns referring to animates, the selectional restrictions of the preposition have to be fulfilled. As a result, the formation of PAs is impossible in these cases. Because the constraint for unaccented pronouns referring to inanimates is on a par with SEL, the formation of PAs is optional. With *es* as the complement of a preposition the tendency is so strong that it ranks higher than SEL. In this case, the formation of PAs is obligatory.

This is an optimality-theoretic reconstruction of the conditions for the use of PAs in German. It was already pointed out above that PAs cannot be proforms for PPs referring to animates—only for inanimate referents. Müller follows Helbig's (1974) view that *es* cannot occur as a complement of a preposition and the formation of a PA

⁶ It occurs as an adverb expressing spatial or temporal deixis, as a causal subordinator, and also as a relative element. The polyfunctionality of *da* in present-day German is due to the fact that *da* can be traced back to two different forms. One is the local deictic element *thar*, *da(r)*, the other Old High German (OHG) *dô*, which relates to something in the past, going back to a demonstrative pronoun fem. sg. acc. *diu*. See *Deutsches Wörterbuch von Jacob Grimm und Wilhelm Grimm*, 1st edition (DWB1), vol. 2, 646f.

would be obligatory in these cases. This assumption is not valid, however, as the following examples from corpora show:

- (14) a. Nur das Paar selbst scheint noch nicht ganz fassen zu können, was da
 only the couple itself seems yet not wholly realize to can what there
auf es zukommt
 on it lies-ahead
 ‘Only the couple themselves seem not to be able to grasp what lies ahead for them.’ (E99/NOV.30838 *Züricher Tagesanzeiger*, November 23, 1999, p. 5)
- b. Vielfältige Impulse wurden gegeben, selber über das Leben
 manifold impulses were given themselves about the life
 nachzudenken und sich **über es** zu freuen.
 to think and REFL about it to rejoice
 ‘Manifold impulses were given to think about life and to be glad about it.’
 (A97/DEZ.41479 *St. Galler Tagblatt*, December 15, 1997)
- c. Der Frankfurter Dichter hatte einst ausgesprochen, daß man sein Jahrhundert
 the Frankfurt poet had once pronounced that one his century
 nicht ändern, wohl aber hilfreich **auf es** einwirken könne
 not change surely however helpful on it act can
 ‘The poet from Frankfurt had once said that one cannot change one’s century,
 but one can have a beneficial impact on it.’ (*Frankfurter Rundschau*, June 25,
 1998, p. 4)

This shows that, as in Dutch, neuter pronouns are not completely excluded from appearing to the right of prepositions, not even the obligatorily unstressed pronoun *es*.

According to Müller, the differences between English and German related to PAs are explained by a different ranking of constraints. While PAs occur in Old High German (OHG) as well as in Old English, no new formations can be found in Middle English or in subsequent stages. Müller’s explanation for this is that the Wackernagel position disappeared in English but did not in German. But then the question arises whether the time when PAs were still formed in the two languages differs much. In English, the formation of PAs ends in the fourteenth century, since no preposition formed after the beginning of that century occurs in PAs (see Müller 2000:173). But, as will be shown in the next section, also in German PAs are formed only with primary prepositions which existed already in OHG. Therefore, it is doubtful whether the disappearance of the Wackernagel position in English is the reason for the restricted use and stylistic markedness of PAs in English compared with German. PAs are used more frequently in German and are stylistically more neutral because they occur in a number of functions that they do not have in English. Moreover, in English preposition stranding is much more common in contexts in which Standard German uses PAs (see section 7.3). Therefore, within an optimality-theoretical framework, it can be assumed that in German the PP-BAR constraint is ranked higher than in English.

In sum, the analyses discussed here derive PAs from PPs by movement of an R-pronoun out of the complement position of the preposition. These movement analyses face several problems. They cannot provide a plausible reason for the

movement since neuter pronouns as well as adverbs may appear as complements of prepositions. And they cannot give a reasonable explanation for why an NP-pronoun should be replaced by an R-pronoun. Additionally, the assumed movement of the pronominal part of PAs has the drawback that it has not taken place during the development of German.

In the next section, I will argue that a movement account does not consider a number of facts which can give a plausible explanation for the occurrence of *da*, *hier*, and *wo* as first elements of PAs. It will be shown how the diachronic development can shed new light on the structure of PAs and the nature of the second element.

4. Adverb or Preposition? The Nature of the Second Elements

Concerning their diachronic development, it is important to keep in mind that PAs occur in several West Germanic languages and therefore are a very old pattern.⁷ In this context the question arises as to whether the second elements were prepositions in the period during which the formation of PAs occurred. Here it is important to note that primary prepositions can be traced back to adverbs in Proto-Indo-European.⁸

Also from a synchronic point of view, the category of the second element is not uncontroversial. Krause (2007) raises the question as to why the second element in PAs is a preposition, considering the fact that there are formations with *da*, *wo*, and *hier* as first element and an adverb (*daher* ‘from there, therefore’, *dahin* ‘there’, *woher* ‘from where’, *wohin* ‘where to’, *hierhin* ‘here’ etc.) as a second element.

Wolfrum (1970:304) pursues the question as to whether a preposition or an adverb occurred in OHG in combinations with *thâr*, *thara*. He observes that some of these elements could be either prepositions or adverbs, but a number of them were unambiguously adverbs, like *înni* ‘inside’, *forna* ‘before’, *nidari* ‘beneath’, *obana* ‘above’, *ûf* ‘up’, *uze* ‘outside’, and *heim* ‘homeward’.⁹ Since none of the elements occurring after *thâr*, *thara* are unequivocally prepositions, he concludes that the elements forming the second part of what later became PAs must have been originally adverbs.

The adverbial forms are still in use in several dialects and some of them end on vowels, in contrast to the prepositions. As Große (1992:113) points out, examples include the adverb *miti* as opposed to the preposition *mit*, or the adverb *aba* instead of the preposition *ab*, as well as the adverbial *ana* instead of the preposition *an*. Altmann

⁷ One of the reviewers points out that they also can be found in North Germanic, where they later disappeared (see Falk & Torp 1900).

⁸ There is a long tradition which can be traced back to Meillet & Vendryes (1924:480, §757; 1948:524) of analyzing as adverbs elements in Proto-Indo-European (PIE) which later become known as adpositions. As Beekes (2011:245) states: “The prepositions and preverbs of the later languages were adverbs in PIE; PIE had no prepositions or preverbs.”

⁹ “Nach Ausschluß der Wörter und Formen, die sowohl adverbial wie präpositional interpretierbar sind, stehen in der älteren Zeit neben *thâr* nur eindeutige Adverbien: *înni*, *forna*, *nidari*, *obana*, *ûf*, *uf*, *uze*, zu denen noch *heime* zu stellen ist. [...] Damit ist gesichert [...], daß neben *thâr*, *thara* usw. ursprünglich ein Adverb gestanden hat” (Wolfrum 1970:304) (‘After exclusion of words and forms which can be interpreted adverbially as well as prepositionally, in the older time only clear adverbs stand beside *thâr*: *înni*, *forna*, *nidari*, *obana*, *ûf*, *uf*, *uze*, to which *heime* is to be added. [...] Thus it is certain [...] that originally an adverb stood next to *thâr*, *thara* etc.’ [translation K.P.]). The only exception is PAs with *vor*, which were formed with the preposition *fora* (*Deutsches Wörterbuch von Jacob Grimm und Wilhelm Grimm*, new edition [DWB2], vol. 6, 435).

(1998:260) shows that the adverbial character of the second element can be clearly seen in a number of PAs in Middle Bavarian. In Standard German, however, there are no differences between these prepositions and their occurrences as adverbs. Their use as adverbs is not very common in present-day German, but they still occur in some phrasemes like *ab und an* ‘now and then’ or *ab und zu* ‘from time to time’, *auf und ab* ‘up and down’ or *nach und nach* ‘more and more’, and *durch und durch* ‘thoroughly’. Moreover, some of them occur with copula verbs in which case they are assumed to be adverbs, as in *die Tür ist auf/zu* ‘the door is open/shut’, *das Licht ist an/aus* ‘the light is on/out’, or *die Zeit ist um* ‘time is up’ (see Hentschel 2005). Also, the particles in particle verbs are very often adverbs (for example, *an-kommen* ‘to arrive’, *aus-gehen* ‘to go out’, *auf-machen* ‘to open’, *mit-gehen* ‘to accompany s.o.’).

Additionally, the PAs *da-/wo-/hier* with *-ein* ‘in’ as second element show that the second element was an adverb since *ein* never occurred as a preposition. PAs with *ein* can be used with a directional meaning in somewhat archaic written language, while PAs with *in* may not be used with a directional meaning.

This shows that there is no need to assume that the second elements are prepositions with a case requirement which necessitates movement of an adverb not fulfilling this requirement. Moreover, there are some related word-formations and syntactic structures which render this explanation implausible. First, the same order occurs in lexemes with *da*, *hier*, and *wo* as a first element and an undisputed adverb as second element, as in *dahin* ‘there’, *daher* ‘from there, therefore’, *hierher* ‘here’, *hierhin* ‘here’, *wohin* ‘where to’, *woher* ‘where from’, also in *drinnen* ‘inside’, *draußen* ‘outside’, *doben* ‘up there’, *drunten* ‘down there’. There is no case requirement which could have been a reason for movement of *da*, *hier*, or *wo* into the first position in these word-formations. Second, and more importantly, the selectional restrictions proposed by Müller are valid neither in present-day German nor in earlier stages of German, since adverbs can occur as complements of prepositions in phrases like *von da* ‘from here’, *nach oben* ‘upwards’, *vor morgen* ‘before tomorrow’, *nach links* ‘to the left’, *bis jetzt* ‘until now’. This means that the suggested selectional restrictions cannot explain the order of elements in PAs.

In addition, an explanation by a word-internal operating principle like the right-hand head rule does not stand up to scrutiny, since the elements of PAs in present-day German occurred in OHG and partly also in Middle High German (MHG) as separate words in the same order as later within the PAs.¹⁰ Not surprisingly, no change in word order can be observed during the process of univerbation. Therefore, it is plausible that the order of elements within PAs is due to syntactic rules rather than to word-internal principles.¹¹ Thus, PAs can be seen as another instance proving Givón’s dictum “today’s morphology is yesterday’s syntax” (1971:413). We will see that, in the words of Bybee (2010:110), since “morphosyntactic patterns are the result of long trajectories of change, they may be synchronically arbitrary; thus the only source of

¹⁰ See the OHG and MHG forms given in *DWB1*, for example, OHG *dâr ana*, *dara ana*, MHG *dâ an*, *dar an*, *dar ane*, contracted to *deran derane dran drane*, OHG *dâr bi*, MHG *dâ bi*, *derbi*, OHG *dâr*, *dara furi*, MHG *da für*, *derfür*, OHG *dar ûf*, MHG *dar ûf*, *dar ûffe*, *drûf*, OHG *dâr dara ubari*, MHG *dâ dar über*, MHG *dâ von* among others.

¹¹ See also Elsner (2015) on the univerbation of adverbs from syntactic phrases.

explaining their properties may be diachronic.” Bybee highlights element ordering as one of these characteristics.

The position of *da* and *hier* as first element can be observed in adverbial phrases as well in present-day German. These elements express a more general spatial deixis which is followed by a deictic element that is more specific in phrases like *da oben* ‘up there’ or *hier unten* ‘down here’. To find this order in PAs comes as no surprise when the adverbial character of the elements involved is taken into account. *Thar(a)*, *dar(a)* originally expressed a general spatial deixis which could be followed by an adverb expressing a more specific spatial deixis, as in the following examples:

- (15) a. (der Samariter) bant sina vvuntun, gôz **thara ana** oli inti uuîn
(the samaritan) bound his wounds poured there at oil and wine
‘(The Samaritan) bound his wounds and poured oil and wine into them’
(Tatian ²128,9, *DWB2*, vol. 6, 261)
- b. sie gruoben mir gruoba unde sie sturzton **dara in**
they dug me pit and they fell there in
‘they dug a pit for me and fell into it’ (Notker Psalms 56,7, *AWB*)
- c. die stigen **dara-uf** in dia burg. (Notker 551:4, Sehrt 1955:958)
they went there-up in the castle
‘they went up into the castle’
- d. Er cham **dar ana**. er cham an den breiten ueeg
he came there at. he came at the broad way
‘He came there, he came to the broad way’ (Notker Psalms 1,1; Npw 103, 18, *AWB*)
- e. **hierneben** lag ein keller so voll von köstlichem wein.
here beside lay a cellar so full of delicious wine
‘beside this was a cellar full of delicious wine’ (Goethe 1, 103; *DWB1*, vol. 10, 1318)
- f. darauf zeigt sie im den zelt, und sagt: **hierinn** mögt ir mit im reden.
thereon shows she him the tent and says here-in may you with him speak
‘Thereupon she shows him the tent and says: You may speak with him in here.’ (*DWB1*, vol. 10, 1317)
- g. an denen drey engen furthen, **wodurch** das römische heer seine
at the three narrow fords where-through the Roman army their
flucht zurücke nahm
flight back took
‘at the three narrow fords through which the Roman army made their retreat’
(Arminius (1689) 1, 50; *DWB1*, vol. 30, 970)
- h. der baum **wowider** er mit den kopf rannte
the tree where-against he with his head ran
‘the tree against which he ran with his head’ (1837; *DWB1*, vol. 30, 1664)

This leads us to ask why the elements *da*, *hier*, and *wo* occur as first elements in PAs. As already mentioned, Müller assumes that *da* is suitable for the repair strategy because it is a very general, polyfunctional element, with little meaning on its own. It is reasonable to assume, however, that it is not its polyfunctionality, but its local character which is the crucial reason that *da* can occur in PAs. It is uncontroversial

that the OHG forms *thâr*, *dar* clearly show that the first element in PAs originally expressed spatial deixis. *Hier* expresses local deixis as well and *wo* is a local adverb (going back to OHG *uuâr* ‘wo’, *uuära* ‘wohin’; see *DWB1*, vol. 30, 1668, l. 24).¹² Paul (1919, §136, fn. 3) notes that there were combinations with the negative local adverb *nirgend* ‘nowhere’ (for example, *nirgend ab*, *nirgend an*, *nirgend für*, etc.) in OHG. Therefore, there is no doubt regarding the local origin of the first element of PAs. Moreover, the first elements in English PAs *there*, *here*, and *where*, as well as the R-pronouns in Dutch point in this direction.¹³

The fact that the elements of PAs were originally local adverbs supports the analysis presented here that the order of elements in PAs is due to the word order in adverbial phrases with spatial meaning. This provides an explanation for the order of elements in PAs. In the next section, the process of univerbation will be investigated further.

5. Univerbation of Adverbial Phrases

As pointed out above, PAs originate from two (mostly local) adverbs forming an adverbial phrase. In this context it is important to note that PAs (in the narrow sense) only are formed from so-called primary prepositions, such as *an* ‘at’, *auf* ‘on’, *aus* ‘out’, *bei* ‘near’, *durch* ‘through’, *für* ‘for’, *gegen* ‘against’, *hinter* ‘behind’, *in* ‘in’, *mit* ‘with’, *nach* ‘after, to’, *neben* ‘beside’, *ob* ‘because of’, *über* ‘above’, *um* ‘around’, *unter* ‘under’, *von* ‘from’, *vor* ‘before’, *wider* ‘against’, *zu* ‘to’, *zwischen* ‘between’.¹⁴ These elements also occurred or still occur as adverbs and therefore are sometimes called “prepositional adverbs” (“präpositionelle Adverbien,” for example, *DWB1*, vol. 30, 1678, Fleischer 1982: 299 “Präpositionaladverbien”). They are older and more grammaticalized than “secondary prepositions,” which are derived from lexemes of other word classes or syntactic phrases. These different layers of the class of prepositions exhibit a number of distinguishing characteristics. Primary prepositions were originally local prepositions but have developed various meanings and are polysemous. They usually govern the dative and/or accusative case. Secondary prepositions mostly have only one meaning and often govern the genitive case.¹⁵

It is assumed that primary prepositions can be traced back to adverbs which later attracted verbal complements, thereby becoming prepositions (Paul 1920:292).¹⁶ Their use as adverbs is not very common in present-day German, as already pointed

¹² Also the PAs with *für* are no exception, because *für* had a local meaning, which is largely replaced by *vor* later on.

(i) er sleich vil lise hin zer tür/ unde wartete **derfür** (GOTTFRIED, *DWB2*, vol. 6, 57)
 he crept very quiet towards the door and waited there-for
 ‘and he crept quietly to the door and waited in front of it’

¹³ In Dutch the PAs with the negative local adverbs are still in use (Zwarts 1997).

¹⁴ Some prepositions that are counted among primary ones like *seit* and *ohne* do not or no longer occur in PAs. *Seit* ‘since’ does not have a local meaning, nor does *ohne* ‘without’. There were rare occurrences of a PA *darohne*, but it is no longer in use (*DWB1*, vol. 2, 785). *Darab* ‘therefrom’ existed but is no longer in use. A reviewer asks why there are no PAs with *außer* ‘except’, but it is not counted among primary prepositions and was only rarely used as an adverb.

¹⁵ For the distinction between primary and secondary prepositions, see Di Meola (2000), Diwald (1997).

¹⁶ For a discussion of adverbs and their relations to prepositions from a synchronic point of view, see Geuder (2019).

out. Secondary prepositions can be traced back to elements of other classes and are due to conversion of nouns or participles, derivation, or univerbation.

- (16) a. conversion from nouns: *kraft* ‘by virtue of’, *dank* ‘thanks to’, *trotz* ‘in spite of’
 b. conversion from participles: *entsprechend* ‘according to’, *ausgenommen* ‘with the exception of’
 c. derivations with -s or -lich: *abseits* ‘away from’, *links* ‘to the left’, *rechts* ‘to the right’, *hinsichtlich* ‘with regard to’
 d. univerbation of P + N: *infolge* ‘due to’, *anstelle*, *anstatt* ‘instead’, *anhand* ‘by means of’, *zuliebe* ‘for the sake of’, *in Anbetracht* ‘in view of’, *mit Blick auf* ‘with regard to’

Some authors also count *wegen* and *während* among primary prepositions (Diewald 1997:66, Helbig & Buscha 2007:353ff.), although these elements also have some characteristics typical of secondary prepositions. They can be traced back to other word classes: *wegen* > dative plural of the noun *Wegen* ‘ways’, *während* ‘while’ > *während*, participial form of *währen* ‘to last’. Another argument against counting them among primary prepositions is provided by PAs. *Wegen* and *während* do not behave as primary prepositions with regard to the formation of PAs (**hierwährend*, **wowegen*). Rather, they form adverbs with case-marked demonstrative pronouns, as in *währenddessen* ‘meanwhile’ and *deswegen* ‘therefore’. The formations consisting of a preposition and a demonstrative pronoun contain secondary prepositions and preserve the distinction between pre- and postpositions as well as the case requirements of the adposition. These lexemes contain mainly prepositions, as in *währenddessen* ‘meanwhile’, *trotzdem* ‘nevertheless’, *zudem* ‘additionally’, *vordem* ‘heretofore’, and postpositions in a minority of cases, as in *deswegen* ‘therefore’, *demzufolge* and *demnach* ‘according to that’. This means that the order of elements in these lexemes corresponds to the order in the syntactic phrases from which they are derived (*seiner Meinung nach* ‘according to his opinion’ > *demnach*, *dem Bericht zufolge* ‘according to his report’ > *demzufolge*, *der Liebe wegen* ‘because of love’ > *deswegen*). Therefore, univerbation is also plausible here, since it can explain their characteristics. Considering that their constituents are an adposition and a pronoun and that they fulfill pronominal functions, they might consequently be counted as PAs.¹⁷ Like secondary prepositions, they can be conceived of as more recent members of the class. By analogy with secondary prepositions, they might be named “secondary pronominal adverbs.”

In view of these facts, the question arises as to how what was originally an adverb came to be reanalyzed as a preposition heading a PA. The ambiguity of the second elements that could be adverbs or prepositions provided the basis for extending the pattern to some elements that were originally not adverbs. The diminishing frequency of the use of the second elements as adverbs may have contributed to their reanalysis as prepositions.

¹⁷ This is hinted at by Heidolph et al. (1984:407), who call them “Realisierungsvarianten zu normalen Pronominaladverbien” ‘variants of normal pronominal adverbs’; see Sandberg (2004:17ff.) for a similar view.

6. Grammaticalization Processes

The following section will demonstrate that the univerbation of PAs is accompanied by several processes generally associated with grammaticalization. There is a semantic bleaching of the local meaning and a concomitant strengthening of textual functions of PAs as well as a rise of metaphorical meanings. These changes correspond to tendencies observed by Traugott in a number of papers (for instance, 1988, 1989) as being typical of grammaticalization. One of these tendencies is that meanings based in the external described situation change to an internal (evaluative/perceptual/cognitive) described situation. Another tendency is a shift from an external or internal described situation to textual functions (Traugott 1989:34f.).

Additionally, there is a phonological reduction of *da* and *wo* in PAs as well as a loss of syntactic separability of the two elements of PAs. The reduced forms can be compensated for by more expressive forms; this is a development which can be seen as part of a grammaticalization cycle. Moreover, if reduced forms can no longer be replaced by full forms in certain contexts, there is a split which is typical of grammaticalization processes.

6.1 Semantic Bleaching

Let us first look at semantic changes. Semantic bleaching is often considered typical of grammaticalization processes. Also, concrete meanings can be the basis for more abstract, metaphorical meanings (see, for example, Heine et al. 1991, Hopper & Traugott 1993, Diewald 1997).

As discussed above, the first elements of PAs *da* and *hier* originally were local adverbs expressing spatial deixis and *wo* had a local meaning as well. There is semantic bleaching because these elements lost their local character. The deictic meaning of *da* and *hier*, however, is not completely lost, since it can sometimes still occur contrastively. Consider the following example in which *hier* expresses greater closeness to the speaker than *da*:

- (17) Hiervon darfst du essen, **davon** nicht. (DWB1, vol. 10, 1319)
 here-of may you eat, there-of not.
 ‘You may eat from this, but not from that.’

Curme (1922:183) gives the example *dadrin, nicht hierdrin*. Apart from these contrastive examples, *hier* is usually seen as a stylistic variant of PAs with *da*, but it also can express a special emphasis and greater closeness to the speaker compared to *da*.¹⁸

As Sandberg (2004) points out, a local meaning of *da* within PAs is only possible if there are several alternatives that were already mentioned or are salient in the situation. This means that an accent on *da* in a sentence like *Leg die Decke DARAUF* ‘Put the blanket on here’ can only be a focus accent. Also a question like *Worauf soll ich die Decke legen?* ‘What shall I put the blanket on?’ is only possible when several alternatives have been mentioned or are obvious from the situation. A “neutral” question would be introduced by *wohin* ‘where to’.

¹⁸ See Marx-Moyse (1979) for differences between PAs with *hier* and *da*.

One of the tendencies postulated by Traugott, the shift of meaning from describing an external situation to describing an internal situation, can be observed in a number of PAs in which a local meaning is the basis for developing metaphorical senses. For instance, *dagegen* denotes movement, for example, against an object (*da war eine Mauer, er rannte dagegen* 'there was a wall, he ran against it'), but it also has the meaning of mental opposition (for example, *er spricht/argumentiert/hat Einwände dagegen* 'he speaks/argues against it'). Another case in point is *danach*, which has primarily a directional meaning, but also denotes mental goals, as in *sie strebt danach* 'she strives for it', *sie sehnt sich danach* 'she longs for it'. *Darauf* also has a directional meaning, as in *sie ging darauf zu* 'she went towards it', and also denotes 'an inner, mental direction' (DWB1 vol. 2, 760) with verbs like *sehen* 'look after', *achten* 'pay attention to', *merken* 'realize', *hoffen* 'hope'. Also, *dazu* denotes movement towards a place or a goal but also a motivation or capability to do something, as in *er hat keine Lust dazu* 'he is not in a mood for it', or *sie ist dazu fähig* 'she is capable of it'. These examples are instances of the metaphorical processes "nonphysical in terms of physical" as well as "abstract relations in terms of physical process or spatial relation" (Heine et al. 1991:31).

Another semantic-pragmatic tendency proposed by Traugott is a shift from describing external or internal situations to textual relations. The use of PAs as cataphoric and anaphoric elements as well as relative elements (in the case of *wo*-PAs) constitutes such a shift. For *da*-PAs, the function as a correlate of subordinate clauses is also a case in point (see ex. 3).

As we have seen, *da* has largely lost its local deictic meaning in PAs. The fact that it can carry a focus accent can be seen as a shift from the descriptive to the textual functions that Traugott postulates as being typical of grammaticalization. We will call it the focus form of PAs as opposed to the neutral form and the reduced form. All three forms may occur as arguments or adjuncts. The reduced forms are mainly colloquial but can occasionally be found in written language (see section 7).

All three forms may occur as a correlate of complement clauses (18a), but only the focus form may occur as a correlate of adverbial clauses (18b):

- (18) a. Sie warten **daRAUF/DARAUF/drauf**, externe Hilfe zu bekommen.
 they wait thereon external help to get
 'They are waiting to get external help.'
- b. Sie hat **DARum/*daRUM/*drum** gelernt, weil sie morgen Prüfung hat.
 she has therefore studied, because she tomorrow exams has
 'She studied because she has an exam tomorrow.'

This difference is due to the function of the correlates of complement and adverbial clauses. Correlates of complement clauses (subject and object clauses) bear the morphosemantic features of the argument position which is filled by the complement clause. Whereas the function of complement clauses is not determined by the complementizers introducing them and may be signaled by a correlate, the type of adverbial clause is determined by the adverbial conjunction. As a consequence, a correlate is not necessary to mark the type of an adverbial clause. For instance, a correlate *darum* (or *deshalb*, *deswegen*) for a causal clause introduced by *weil* 'because' is not necessary to indicate the type of adverbial clause, which is already signaled by

the sentence connector. Also with polysemous connectors like *wenn* ‘if, when’, which can introduce temporal or conditional clauses, or *dass* ‘that’, which may introduce final or consecutive clauses, correlates do not disambiguate the adverbial type. Their function is purely on the level of information structure. A correlate functions as a focus exponent and integrates the adverbial clauses into the information structure of the matrix clause signaling that the adverbial clause is focused, whereas the matrix clause contains background information. For this reason, only the focus form of PAs may occur as a correlate of adverbial clauses (Pittner 1999: 223ff.; see also Oppenrieder 1991b, Breindl et al. 2014: 34).

A correlate signals that the adverbial clause is focused and that the matrix clause contains background information. The correlate in (20) is unfelicitous, since the context suggests that the sentence is all-focus and the matrix clause is not backgrounded (see Pittner 1999:224).

(19) A: Warum hast du gestern gelernt?

why have you yesterday studied
‘Why did you study yesterday?’

B: Ich habe gestern \emptyset /DARum gelernt, weil ich bald meine
I have yesterday therefore studied because I soon my
Abschlussprüfung mache.
final-exam do.

‘I studied yesterday because I will soon have my final exams.’

(20) A: Was hast du gestern gemacht?

what have you yesterday done
‘What did you do yesterday?’

B: Ich habe gestern \emptyset /??DARum gelernt, weil ich bald meine Abschlussprüfung mache.

An adverbial clause may also be integrated prosodically and focused without a correlate, but this is not marked in written language.

As this section has shown, PAs have largely lost their local deictic meaning, and this change serves as a starting point for developing metaphorical meanings that often relate to mental states. The spatial meaning of PAs also provides the basis for developing textual functions as anaphoric and cataphoric elements. An accent on *da* in PAs has textual functions: it is a focus accent occurring with PAs as arguments and adverbials as well as in their function as correlates of subordinate clauses.

6.2 Phonological Reduction

A concomitant of grammaticalization is a reduction of forms and loss of phonological substance, which can be observed with *da*-PAs and *wo*-PAs. In OHG, *thâr*, *dar* and *hwâr*, *wâr* were dative forms, *dara* and *wara* were accusative forms (Paul 1919:154f.). In MHG, there was no longer an ending *-a* for accusative, but the differentiation between dative with a long vowel and accusative with a short vowel was still made.¹⁹ The older

¹⁹ Paul also states that the differentiation is dropped but assumes that only the long vowel occurred (1919: 154f.).

forms of the directional adverb *war* and *wor* became rarer and disappeared in the sixteenth century (DWB1, vol. 30, 1668). The long vowel of *dâr* and *wâr* in PAs was reduced to a short one, and its form was assimilated to the vowel in the free lexemes *da* and *wo*.

Grimm (DWB1, vol. 2, 654) assumes that a deaccentuation of the first element was the trigger for univerbation. If *dar* was unstressed in MHG it could be reduced to *der* (*derbî, dermite, dernider, dervon, dervor, derzuo*) or the vowel or the first syllable was left out completely, as in *drabe, dran, drinne, drobe, drumbe, drunder, druz*. The shortened forms with *dr-* are common in present-day German, mainly in colloquial language (see sections 7 and 8).

Besides the reduction of the vowel of the first element, PAs with *da* und *wo* show a further loss of phonological substance (for a different development of PAs with *hier* see below). In these PAs, the /r/ of the first element gradually disappears, subject to a phonological condition. In present-day German, /r/ must occur before a preposition with an initial vowel and it cannot occur if the second part starts with a consonant.

- (21) a. *darunter, darüber, darum, *daunter, *daüber, *daum, *darhinter, *darvor, *darfür, etc.*
 b. *worunter, worüber, worum, *wounter, *woüber, *woum, *worvor, *worvon, *worfür, etc.*

The older form *dar* was still used in Early New High German (ENHG) and was the more frequent form. Luther uses *da* rather consistently in PAs when it is followed by a consonant but also *dar* sometimes in front of a consonant, as in *darnach* und *darnider* (DWB1 vol. 2, 654). A number of PAs had competing forms with *dar* and *da* for a long time (DWB1 passim). Today, *dar* can occur in PAs only when followed by a vowel, but it can still be found before consonants in some verbs like *darstellen* ‘to show’, *darlegen* ‘to explain’, *darbieten* ‘to present’, *darniederliegen* ‘to be laid low’.

These developments can essentially be seen as an optimization of syllable structure leading not only to a better syllable contact but also to a better syllable structure. A syllable contact V^sV violates several constraints for an optimal syllable contact, whereas V^sCV is a much better syllable contact, as stated by Vennemann (1988:40) in the “Contact Law” given in (22):

- (22) A syllable contact A^sB is the more preferred, the less the Consonantal Strength of the offset A and the greater the Consonantal Strength of the onset B; more precisely—the greater the characteristic difference CS(B)—CS(A) between the Consonantal Strength of B and that of A.

Moreover, not only the syllable contact, but also the second syllable itself is improved by /r/, according to Vennemann’s “Head Law” in (23):

- (23) A syllable head is the more preferred: (a) the closer the number of speech sounds in the head is to one, (b) the greater the Consonantal Strength value of its onset, and (c) the more sharply the Consonantal Strength drops from the onset toward the Consonantal Strength of the following syllable nucleus. (Vennemann 1988:13f.)

When the /r/ is retained, a resyllabification takes place. The /r/ is no longer seen as part of the first element of the respective PAs, but as the first consonant of the second syllable. This is due to an optimization of syllable structure: according to the Head Law, a syllable starting with a consonant is better than one starting with a vowel. This resyllabification is reflected in speech as well as in written language, where the hyphen at linebreaks may occur before the /r/.²⁰

Whereas /r/ increasingly disappeared in free lexemes with *da* and *wo* and was eliminated in PAs before consonants, the development of PAs with *hier* was different. *Hie(r)* as a freely occurring stem was used increasingly more often only with the final /r/. Today, the earlier form *hie* occurs only in phrasemes like *hie und da* ‘here and there’. As a consequence, the earlier form *hie* in PAs is replaced by *hier*. The older forms without an /r/ like *hiefür*, *hiegegen*, *hiemit*, *hienach*, *hievon*, *hieunten*, *hiez* are no longer in use. This makes it plausible that a kind of “stem principle” is at work, where the first element of PAs corresponds to the respective free lexeme. The preservation of the stem of the freely occurring lexeme *hier* ranks higher than the phonological rule which applies to the occurrence of /r/ in PAs with *da* and *wo*. Also, in the case of *hier*, the /r/ is part of the second syllable in spoken language if it is followed by a vowel.²¹

To sum up, phonological reduction of the first part of PAs is subject to the condition that the integrity of the freely occurring stem is preserved. The first elements OHG *hwâr*, *wâr* and MHG *wâ*, and *dâr*, *thâr* as freely occurring lexical items are reduced to *wo* and *da* in New High German (NHG), whereas the older form *hie* was replaced by *hier* as a free lexeme. As a consequence, /r/ tends to occur more and more in PAs with *hie(r)* and gradually disappears in PAs with *wo* and *da*. As was shown, the deletion of /r/ is subject to a phonological condition, which can be seen as an optimization of syllable structure. If the second element begins with a vowel, /r/ must occur.

This means that there is an assimilation of the first elements to the freely occurring lexemes, and the /r/ of the first element is preserved with *da* and *wo* before a preposition with an initial vowel in order to avoid a hiatus and optimize syllable structure.

6.3 Loss of Syntactic Separability

A loss of syntactic independence and a decreasing separability is seen as a concomitant of grammaticalization (for instance, by Lehmann 1995:148). Haspelmath (2011) speaks of coalescence, which comprises a loss of interruptibility and a loss of positional variability in addition to a loss of phonetic independence.

In contrast to English, German does not exhibit preposition stranding with all kinds of prepositional complements which may be moved away from their

²⁰ Official spelling rules allow a hyphen either before or after the /r/ in PAs because these words are no longer seen as being composed of two elements by many speakers.

²¹ Eisenberg (2020:337) notes that, from a synchronic point of view, these words are not easy to segment and there are no clear intuitions about the syllable boundary: “Synchron lassen sich solche Wörter vielfach nicht einfach morphologisch segmentieren und auch über die Lage der Silbengrenze besteht keine klare Intuition.”

preposition (for example, *what are they talking about?/*Was sprichst du über?*). Rather, this phenomenon is restricted to PAs.

In earlier stages of German, the first and second elements of what later developed into PAs were spelled with a space in between and could be separated by other elements (see *DWB1*, vol. 2, 654).²² Historical grammars and dictionaries provide ample evidence that the elements of what later became PAs can occur separately in earlier stages of German.

This kind of “preposition stranding” is often called a ‘splitting construction’ (“Spaltungskonstruktion”) in the German literature. For ease of exposition and understanding, I will use the term preposition stranding.

This construction occurred as early as in OHG, as Russ (1982:315) states: “In OHG, examples of both straddle and non-straddle position of *da(r)* + preposition are to be found.” Behaghel (1932:237) points out that this can also be found in other older Germanic languages. Fleischer (2008:213) shows that this construction occurred continuously during the diachronic development of German. A few examples may suffice here:

(24) Old High German (all examples quoted from Negele 2012:144, 145):

- a. So ist ther wizzod alter uzana herter; **thar** ist **inne** manag guat, ...
so is that testament old outside hard there is in many good
‘The Old Testament is hard from the outside; in it is much good, ...’
(Otfrids Evangelienbuch III, 7, 30)
- b. daz frono chruci, **dar** der heligo Christ **ana** arhangan uuard (Muspilli 72, 101)
the lord’s cross there the holy Christ at hanged was
‘the Lord’s cross on which the holy Christ was hanged’
- c. **dar** mag min **ana** uuizzen, daz denne nâht unde tâc ebinlanc sint
there can one at know that then night and day equal-long are
‘by that one may know that night and day are equally long’
(Physiologus 128, 74)
- d. daz tritta (fiur) ist Uesta, **dar** uuir unsih **pi** uuarmen
the third fire is Vesta there we us at warm
‘the third fire is Vesta, at which we warm ourselves’ (Notker, Martianus
Capella 761, 18)

(25) Middle High German:

- a. **dâ** stât ein capelle **bî**:
there stands a chapel at
‘There is a chapel nearby.’ (Iwein, 566, quoted from Negele 2012:152)
- b. man huop in von der bâre, **dâ** er **ûfe** lac
one lifted him from the bier there he on layed
‘He was lifted from the bier which he was laying on’ (*Nibelungenlied* 1050, 2,
quoted from Fleischer 2008:214)

²² Fleischer (2008) and Waldenberger (2015) point out that separate spelling or compound spelling was not a simple dichotomy. There are intermediate cases in manuscripts where the blank is smaller than usual, indicating a transition to compound spelling.

(26) Early New High German:

Da haben wir nu unnser leben lang **an** zû lernen
 there have we now our life long at to learn
 'From that we have to learn all our lives'
 (Luther, *Predigt am Karfreitag*, April 18, 1522, p. 80, quoted from
 Negele 2012:155)

Given the historic evidence, it is reasonable to assume that this construction, which still occurs in some dialects as well as in colloquial language, is a remnant of its more productive use in earlier stages of German. Paul (1919:158), for instance, notes that the separation is preserved in colloquial language²³ and provides a number of examples starting from MHG, although the examples become rarer over the course of time.²⁴

In present-day German, syntactic separation is possible in colloquial language and in dialects mainly in the northern area, as Fleischer (2002) shows in his extensive study on PAs in German dialects.²⁵

- (27) a. **Da** weiß ich nichts **von**.
 there know I nothing of
 'I know nothing about it.'
- b. **Da** kann sie nichts **für**.
 there can she nothing for
 'She can't be held responsible for it.'
- c. **Wo** will er nichts **von** hören?
 where wants he nothing of hear
 'What does he not want to hear about?'

Preposition stranding is even more restricted for prepositions with an initial vowel, which is only possible in some northern regions of Germany (see Fleischer 2002). Spiekermann (2010) sees the origin of preposition stranding (as well as doubling and deletion of the adverb) in dialects and states that it is increasingly used in regional language which is close to a (regional) standard variety.

Oppenrieder (1991a) argues that in cases like (27) there is no preposition stranding. According to him, these putative cases of prepositional stranding are due to a doubling construction and deletion of the repeated element. Since this deletion is possible if the

²³ See Behaghel (1932:249), who states that the construction still occurs in the northern parts of Germany and classifies them as Low German (1932:237).

²⁴ Reichmann & Wegera (1993:446) note that the separation of *da* (introducing relative clauses) and the preposition is still common in the early sixteenth century.

- (i) a. ewer jüngster Bruder, da jr mir von sagetet (1. Mos. 43;29, quoted from Paul 1919:157)
 your youngest brother there you me from said
 'your youngest brother (that) you told me about'
- b. die Stedte, da wir ein komen sollen (5, Mos 1,22, quoted from Paul 1919:157)
 the towns there we in come should
 'the cities in which we should come'

²⁵ For the areal distribution of the variants of PAs see Elspaß & Möller (2021). Negele (2012:81) observes that splitting has spread to West Middle German.

element is identical, an obvious problem for this analysis is that prepositional stranding also occurs with *wo* where the deleted element is *da*, which is not identical, as in (28b).

- (28) a. **Da** will er nichts **davon** hören.
 there will he nothing thereof hear
 'He wants to hear nothing about it.'
- b. **Wo** will er nichts **davon** hören?

A critical discussion of this and some other analyses which have been proposed is provided by Fleischer (2002). It is sufficient for the purposes of this article to note that syntactic separability of the two elements of PAs is subject to some restrictions in present-day German and is, at best, only marginally acceptable in the standard variety.

Preposition stranding provides a further parallel between PAs and formations with *wo* or *da* as first element and a directional adverb as second element. We find this kind of split also with *woher* or *wohin*, where the second part is undoubtedly an adverb (indicating a direction towards or away from the speaker):

- (29) a. **Wo** kommst du **her**?
 where come you from
 'Where do you come from?'
- b. **Wo** gehst du **hin**?
 where go you there
 'Where do you go?'

In contrast to preposition stranding, this kind of splitting construction is also possible in the standard variety.

Otte-Ford (2016:264 and passim) assumes that preposition stranding with PAs is due to the "structural consequences of orality" and demonstrates its information structural function. It allows *da* to occur in the topic position, whereas the preposition is part of the comment. The first *da* can be anaphoric and represents the topic, whereas the preposition later in the sentence is part of the comment:

- (30) [context: speaking the standard variety]
Da habe ich kein Problem **mit**.
 there have I no problem with
 'I don't have any problem with it.' (example from Otte-Ford 2016:283)²⁶

A preposition without an overt complement can be the result of a deletion of *da* due to "topic drop," as a number of authors have suggested (for instance, Oppenrieder 1991a, Otte-Ford 2016).

²⁶ *Da* can also occur in a position after the finite verb:

- (i) Ich will da nichts damit zu tun haben.
 I will there nothing with-it to do have
 'I don't want to have anything to do with it.'

This is in line with Frey (2004), who argues for a medial topic position in German.

- (31) [context: talking about the Frisian dialect]
 komme ich überhaupt nicht mit klar
 come I at all not with clear
 'I can't deal with it.' (example from Otte-Ford 2016:282)

Since prepositional stranding is restricted in present-day German and mainly occurs in regional language and dialects in northern Germany, a loss of syntactic separability has taken place at least in the standard variety and spoken language in central Germany and southern parts of the German language area.²⁷

7. Further Reduction and Split

Further phonological reduction is possible in the PAs with *dar*, which may be reduced to *dr-* (for example, *dran*, *drüber*, *drunter*, *drum*) if the second element starts with a vowel. They may occur as prepositional objects (32a), adverbials (32b), and also in their function as sentence connector (contrary to Duden 2005:585) (32c):

- (32) a. Die Devise heißt auch Wartung. **Drauf** sollten Motorbiker also achten:
 the motto is also service thereon should bikers hence pay attention
 'The motto is service, hence bikers should pay attention to it.'
 (M96/603.12741 *Mannheimer Morgen*, March 20, 1996)
- b. Meine Liebe hat das Buch über die Tibeter aufmerksam gelesen. **Drin** steht,
 my love has the book about the Tibetans attentively read therein stands
 daß zusätzliche Übungen wie Yoga den Effekt noch verstärken.
 that additional exercise like yoga the effect still strengthen
 '... In it it is written that yoga will strengthen the effect.'
 (X97/JUL.22361 *Oberösterreichische Nachrichten*, July 9, 1997)
- c. Sonst interessiert sich niemand für ihre Gedanken, **drum** liest sie Gerd
 else interests REFL no-one for her thoughts therefore reads she Gerd
 oft aus ihrem Spiralheft vor.
 often out her notebook PART
 'No one else is interested in her thoughts, therefore she often reads to Gerd
 from her notebook.'
 (Tanja Dückers, *Spielzone*. Berlin: Aufbau-Taschenbuch-Verl. 2002 [1999],
 p. 7)

These forms are frequently used in colloquial German and are obligatory even in Standard German in many phraseological expressions, in particle verbs and some compounds. If the reduced forms can no longer be substituted by the full form, there is a split between the full and the reduced form which can occur during grammaticalization (see Heine & Reh 1984:57ff., Diewald 1997:21). This kind of split can be observed in phrasemes as in (33a), fixed coordinations with an idiomatic

²⁷ Weiß (2005:300) considers preposition stranding as typical of spoken language, which has infiltrated Standard German, since it fills a functional gap.

meaning (33b), and particle verbs with a PA as first element (33c), as well as in other word-formations with PAs as one of their constituents (33d).

- (33) a. *schlecht dran sein* 'to be badly off', *dran bleiben* 'to stick to it', *gut drauf sein* 'to be in high spirits', *drauf und dran sein* 'to be about to do s.th.', *dran sein* 'it is one's turn'
- b. *drunter und drüber* 'topsy-turvy', *Drum und Dran* 'the whole shebang'
- c. *draufsatteln*, *drauflegen*, *draufzahlen* 'to pay more', *draufgehen* 'to die', *draufkommen* 'to guess right, to hit on s.th.', *draufstehen* 'to be listed', *draufhaun* 'to hit on s.th.', *dranlehnen* 'to lean on s.th.', *dranhängen* 'to piggyback on s.th. or s.o.', *dreinreden* 'to interfere in s.o.'s business', (*betreten*) *dreinschauen* 'to look sheepish'
- d. *Draufgänger* 'daredevil', *Dreingabe* 'bonus', *drauflos* 'straight on'

Only in a few of these phrasemes and lexemes can the reduced form still be replaced by the full form or a PP, as in *dran sein* > *an der Reihe sein* ('to be one's turn'), *es (voll) drauf haben* > *es auf dem Kasten haben* ('to have the skills'), *drauf kommen* > *darauf kommen*, *auf eine Lösung kommen* ('to find a solution'). In many of these combinations, *dr-* can no longer be replaced by *dar*. In these cases, the forms with *dr-* constitute splits of the more grammaticalized form from the full form.

8. Weakening and Strengthening: A Grammaticalization Cycle

The weakening of elements by their phonological reduction and semantic bleaching can lead to an opposite development: these reduced elements are replaced by more expressive ones, leading to a grammaticalization cycle. An example for this is *hui* 'today' in Old French which was replaced by French *aujourd'hui* ('on the day of today') or German *heute* 'today'. This was reduced from *hiu dagu* and may be replaced by *am heutigen Tage* 'on today's day'), if *heute* does not have enough weight (see Keller 1994:149f.). A similar development can be observed with the preposition *vor* ('before'), which can be replaced by *im Vorfeld* ('beforehand') in certain contexts in order to give it more weight.

As already mentioned, PAs with *dar* may be further reduced if their first part is unstressed, as in *drauf*, *drüber*, *drunter*, *draus* etc. This is common in colloquial language and dialects in central Germany and southern parts of the German language area. These reduced forms may be strengthened again by an additional *da*. This kind of doubling may be close (*da drauf* 'on there' etc.) or occur at a distance (*Da geb ich nichts drauf* 'I don't give a damn about it').

- (34) a. Nein schrecklich, diese Lebensmittelverschwendung. **Da** hätten viele
no terrible this waste-of-food there had many
davon essen können.
thereof eaten could
'Terrible, this waste of food. It could have fed a lot of people.'
(*Tiroler Tagblatt*, 4.1.2013, quoted from Fuchs-Richter 2020)

- b. Er versucht das Lebensgefühl junger Mädchen am Ende der 90er
 he tries the life-feeling young girls at-the end-of-the nineties
 einzufangen. Und **da dazu** gehören Pillen und Technomusik.
 to-catch and there thereto belong pills and technomusic
 'He tries to capture the attitude to life of young girls at the end of the nineties.
 To which belong pills and technomusic.' (*Stuttgarter Zeitung*, quoted from
 Fuchs-Richter 2020)

Distance doubling is sometimes seen as functionally equivalent to preposition stranding and treated together with it.²⁸ There is a clear areal distribution that Behaghel (1899:244) described succinctly: The southern German doubling *da weiß ich nichts davon* is equivalent to *da weiß ich nichts von* in the north of Germany.

Doubling has given rise to different explanations.²⁹ Spiekermann (2010) sees a change from a synthetic to an analytic coding in the use of separated PAs and in doubling. Otte-Ford (2016) explains the use of the separate forms by a tendency of German to form syntactic brackets. The tendency to form syntactic brackets can explain distance doubling and distance forms, but it cannot account for close doubling.

While distance doubling may be functionally equivalent to preposition stranding in present-day spoken German, it is a rather new development; prepositional stranding is, however, very old and a remnant of earlier stages, as has been pointed out. Fleischer (2008: 218) finds the first example of distance doubling in manuscripts from the fourteenth century.³⁰ Close doubling is an even more recent development and can be traced back to the eighteenth century (Fleischer 2008:220).

Close doubling is often not recognized by grammarians since it is considered to be nonstandard. Duden (2016:593) gives the examples *dadran* 'there at', *dadrauf* 'there on', *wodran* 'where at', *wodrauf* 'where on', *hierdran* 'here at', *hierdrauf* 'up here', and identifies them as spoken language mainly in southern and central Germany. Like prepositional stranding, these formations are "not standard but rather regional language" (Duden 2016:593) and occur more often with prepositions starting with a vowel (Negele 2012:111).

I would like to propose that close doubling can be seen as a more advanced stage of grammaticalization within a grammaticalization cycle (see Pittner 2008). The best-known example is probably Jespersen's cycle for negation, which has been observed in a number of languages in which "the original negative adverb is first weakened, then found insufficient and therefore strengthened, generally through some additional word, and this in turn may be felt as the negative proper and may then in the course

²⁸ Otte-Ford (2016) subsumes split forms and doubling under the term "discontinuous pronominal adverbs" and ascribes to them the same function, whereby the first part marks the topic and the second part belongs to the comment. This makes the sentence easier to produce and to process and therefore is especially suited for spoken language; see section 6.3.

²⁹ See Barnickel & Hein (2016) for an optimality theoretic account.

³⁰ The earliest example he finds is from a manuscript of *Reineke Fuchs* and contains a contraction:

- (i) da han ich gezellit drin/ drizic ale (*Reineke Fuchs*, p. 756f.)
 there have I counted therein thirty eels
 'I counted thirty eels in it.'

of time be subject to the same development as the original word” (Jespersen 1917:4). A very similar development can be observed with PAs, where the first element is at first weakened and then reinforced by an additional element.³¹

Close doubling occurs most often with the reduced forms. Ample material for the construction provided by Fleischer (2002) shows that in the dialects the second *da* is either a reduced form (*dr-*) or another form which is deaccented and contains less phonological material than the first *da*, which is added to strengthen the weakened element (see also Fleischer 2002:284 and the literature quoted there).

A separate accented *da* is the means to express local deixis. If local deixis is intended, only the spelling of *da* as a separate adverb is possible. The corresponding PAs have lost their local deictic meaning. Semantic bleaching and phonological reduction lead to a weakening of local deixis, which is again strengthened by an additional *da*:

- (35) a. Leg das Buch **da drauf**.
put the book there thereon
'Put the book on there.'
- b. Ich komme **da nicht drunter**.³²
I come there not thereunder
'I don't get under it.'

The following examples illustrate that a separate accentuated *da* can express local deixis, while there is no local deixis in the corresponding PAs. It seems that the deictic potential of *da* in these PAs is so far reduced that an additional deictic element seems appropriate.

- (36) a. Er kriecht **da durch**. ≠??Er kriecht **dadurch**.
he crawls there through he crawls there-through
'He is crawling through it.'
- b. Er geht **da rein** ≠ ??er geht **darein**.
he goes there into he goes therein
'He is going into it.'
- c. Er geht **da rauf/runter** ≠ er geht **darauf/darunter**.
he goes there up/down he goes thereup/theredown
'He is going up there.'

³¹ Adelung (1782/1971, II:189) explicitly explains close doubling, which he rates negatively like many other grammarians, as the result of reduction of the first part of the PAs:

“Auch die Zusammenziehungen *dran, drauf, draus, drein, drin, drüber, drum, drunter* sind niedrig, weil sie das Wesen des Wortes zerstören. Die gemeinen Sprecharten, wo diese Zusammenziehungen einheimisch sind, empfinden solches selbst, daher sie nicht selten eine Wiederholung nöthig finden, den zerstörten Sinn zu ergänzen: *da draus wird nichts, da drunter liegt es, da drüber konnte er nicht.*” (‘Also the contractions *dran, drauf, draus, drein, drin, drüber, drum, drunter* are low, because they destroy the essence of the word. The common idioms in which these contractions are native feel this themselves, which is why they do not infrequently find a repetition necessary to supplement the destroyed sense: *da draus wird nichts, da drunter liegt es, da drüber konnte er nicht.*’ [translation K.P.]

³² The shortened forms with *dr-* can be modified by a preposed adverb, as in *obendrauf* ‘on top’, *untendrunter* ‘underneath’, *mittendrin* ‘right in the middle’, *obendrein* ‘on top of it’. Goethe used *dadroben* ‘up there’, *dadrüber* ‘above it’, and *dahintendrauf* ‘there behind on top’ (see DWB1, vol. 2, 672).

Da rum, da rein, da runter, however, are not reduced from PAs, but reduced from the adverbs *da* and *her/hin* + preposition. In Standard German, the shortened forms make no distinction between *her*, which expresses movement towards the speaker, and *hin* denoting movement away from the speaker.³³ Therefore, forms like *rein* and *runter* when denoting movement away from the speaker cannot be traced back to the full forms, which would be *hinein* or *hinunter*. In these cases, there is a split between the full and the reduced forms. The reduced forms with a separate deictic *da* are clearly distinguished from the corresponding PAs by the double accent and a pause in spoken language and a space in written language.

9. Conclusions

The internal structure of PAs has often been explained by the movement and substitution of an NP-pronoun by an R-pronoun. After reviewing some of these analyses and pointing out some problems, an alternative account based on the diachronic development of PAs was presented. It was argued that the pattern of PAs can be traced back to the univerbation of two separate adverbs which formed an adverbial phrase expressing spatial deixis. The second element could be an adverb or a preposition. This ambiguity was the basis for a reanalysis of the second element as a preposition.

It was shown that the univerbation is accompanied by processes that are typical concomitants of grammaticalization, among which are bleaching of meaning, the development of metaphorical meanings as a shift of descriptive to textual functions, as well as phonological erosion.

From a diachronic perspective, separately occurring elements of PAs often considered to be a form of preposition stranding are a remnant of earlier stages where the two elements occurred as separate words. This is preserved today mainly in the dialects and colloquial language in northern Germany.

If *da-* is reduced to *dr-* and can no longer be replaced by the full form, there is a split between the more grammaticalized forms and their source. Doubling of the first element of PAs was argued to be the result of a weakening of this element that has taken place. Weakening of forms can lead to a reinforcement by additional elements, which constitutes a grammaticalization cycle.

From a diachronic point of view, the question concerning the development of PAs is not how they can be derived from the partially functionally equivalent syntactic phrases consisting of a preposition and a pronoun, but rather how the second element, which was originally an adverb, came to be reanalyzed as a preposition. The ambiguity of the second elements which occurred both as adverbs and as prepositions allowed the second element to be reanalyzed as a preposition. That PAs function as adverbs which are replacing full PPs promoted the classification of the second element as a preposition. The decreasing use of the second elements as adverbs may have contributed to this development.

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³³ See Noonan (2017:236) and the literature quoted there.

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