

On the prosody and syntax of right dislocation and of correlate constructions in German*

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Introduction

In section 1 of this paper, I show that German (unstressed and stressed) right dislocation differs from extraposition in its prosody and information structure. In section 2, the distinction is employed to put to the test hypotheses about correlate constructions by Sudhoff 2003, Frey 2010 and others. For the most interesting core case of genuine correlates, the movement analysis of Frey 2010 and others will be confirmed. In section 3, I develop the prosody of right dislocation and in more detail, and I show how its special prosodic behavior can be derived from a deletion analysis of these, which has been suggested on independent grounds by Kuno 1978, Tanaka 2001a and Ott 2011.

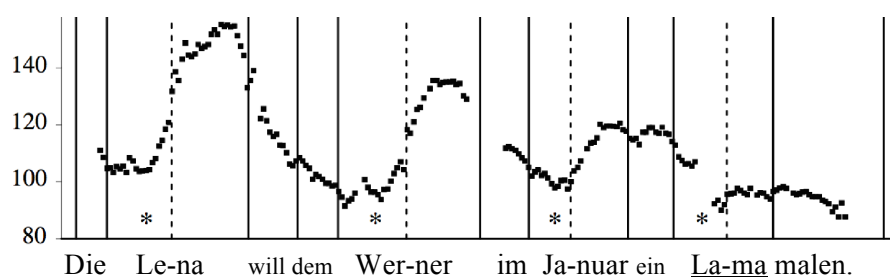
1. A prosodic distinction between extraposition and right dislocation

For developing what is special about right dislocation, we require some background. Background on default stress is introduced in section 1.1. Background on focus and givenness (information structure) is introduced in section 1.2. Section 1.3. then shows a prosodic stress distinction between right dislocation and extraposition. Section 1.4. shows an information structure distinction between right dislocation and extraposition.

1.1. Default stress in German

Early literature on German sentence prosody has often concentrated on a search for the role of the syntax in the assignment of *sentence stress*. A prominent example of this search for the rule for main stress is Cinque 1993. I here follow the broader perspective of Gussenhoven 1983, 1992, Selkirk 1984, 1995 and others that the role of the syntax in sentence prosody is primarily to be found in the assignment of accents in the sentence. For example, in (1), each argument (*die Lena*, *der Werner*, *ein Lama*) carries an accent as does the adjunct (*im Januar*). These accents are indicated by underlining. In the pitch-track, the accented syllables (highlighted with a star) each define a pitch movement: Each non-final accent leads to a pitch rise and the final accent leads to a pitch fall that is already low on the last accented syllable (*La-* of *Lama*).

(1) Was gibt's Neues?



Once the pattern of accents in a sentence is defined, the sentence stress can be derived from them in a simple clause: It is the position of the last accent in the sentence, on *Lama* in (1). It is here highlighted by double underlining.

There are a number of principled proposals for deriving the positions of accents: In terms of focus feature percolation (Selkirk 1995), in terms of XPs (Truckenbrodt 2006) and in terms of phases

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(Kratzer & Selkirk 2007). For the purpose at hand, however, it is sufficient to work with a version of the original suggestion about the position of these accents, the *Sentence Accent Assignment Rule* (SAAR) of Gussenhoven 1983, 1992, which was applied to German by Uhmman 1991. I employ the slightly simplified formulation in (2).

- (2) **Sentence Accent Assignment Rule** (Gussenhoven 1992, minimally simplified):
Each argument and each adjunct receives accent. The verb is unaccented next to an accented argument, otherwise accented.

We have seen the effect of accenting each argument and adjunct in (1). Furthermore, in (1) the final verb *malen* is unaccented. (2) says that this is because it stands next to an accented argument (*ein Lama*). (2) also says that the verb is accented when not next to an accented argument. Two instances of this are shown in (3): The verb is accented when it follows an adjunct as in (3a) (see also Krifka 1984, Jacobs 1993, Uhmman 1991 for German). (3b) shows that the verb is also accented when it follows an *unaccented* argument, here *etwas* (Kratzer & Selkirk 2007, Truckenbrodt in press). Throughout, we assume that definite and indefinite pronouns are exempt from (2) by stipulation.

- (3) a. Peter hat während der Pause geschlafen.
b. Lena hat im Januar etwas gemalt.

The assignment of sentence stress is then achieved by the additional rule of rightmost strengthening in (4), following Uhmman 1991.

- (4) **Rightmost strengthening** (Uhmman 1991):
Strengthen the rightmost accent in the intonation phrase to sentence stress

Implicit in Uhmman's formulation is a one-to-one relation between intonation phrases and sentence stress, which is assumed throughout this paper and highlighted in (5).¹

- (5) Each intonation phrase contains exactly one sentence stress.

In complex sentences, the syntax plays an additional role in shaping the prosodic structure by influencing the pattern of intonation phrasing. (6) is the classical rule of Downing 1970 that will be employed below.

- (6) Root clauses are separated by obligatory intonation phrase boundaries.

The prosodic regularities described in this section hold in all-new sentences with no narrow focus. The predicted accents were regularly found in extensive experiments in Truckenbrodt 2002, 2004, 2007, see also Féry & Kügler 2008. A small experiment on intonation phrase boundaries in German is reported in Truckenbrodt 2005.

1.2. The prosodic effects of focus and of givenness

The prosodic regularities described in the preceding section may be seen as a syntactic default system of stress assignment. The defaults can be overridden by the prosodic demands of information structure. The most well-known of these is the attraction of sentence stress by a narrow focus, marked F, as in (7). Here the constituent answering the question, *die Lena*, is focused (F-marked) and attracts sentence stress.

¹ See Hayes 1995, and Nespor & Vogel 1989 for principled assumptions about an integrated prosodic and metrical representation in which this is placed, see also the notion of nuclear stress in Beckman & Pierrehumbert 1986. In German, a close connection between prosodic constituents and corresponding stress-assignment was part of the perspective of Pheby 1981 and has been similarly assumed in much work since.

- (7) Wer hat ein Eis gegessen?
[F Die Lena] hat ein Eis gegessen

The general regularity behind this was first formulated by Jackendoff 1972 and is given in (8). See Truckenbrodt 1995 for a refinement.

- (8) Prosodic effect of F (Jackendoff 1972)
F attracts the strongest stress of the sentence.

Less well known, but more important for this paper, is the stress-rejecting effect of givenness (Ladd 1983, Selkirk 1995, Schwarzschild 1999). It is demonstrated in (9). Here the final part of the sentence, *ein Eis gegessen*, is contextually given, and therefore rejects sentence stress, which then falls on the last accented element preceding it.

- (9) Wurde ein Eis gegessen?
Ja, die Lena hat in der Pause [G ein Eis gegessen]

I here follow Féry & Samek-Lodovici 2006 in implementing this in terms of G-marking on contextually given constituents as in (9). Following Féry & Samek-Lodovici 2006, the prosodic effect of G-marking in the terms of this paper is shown in (10).²

- (10) Prosodic effect of G (Féry & Samek-Lodovici 2006):
G rejects accent and sentence stress.

Both the prosodic effect of F and the prosodic effect of G override the default-rules in (2) and (4), as the examples (7) and (9) show.

There is a piece of little-known support for the separation of default-rules from the effects of F and G: The default rules hold not only when everything is new (and thus perhaps inside of a wide focus). They also hold when everything is given (and so neither F nor G have an redirecting influence on stress in the sentence). This observation is from Höhle 1992. In (11), the final sentence is contextually given in its entirety. It shows default stress, i.e. accent on each argument, and strengthening of the rightmost one. (A second possible stress pattern in this final sentence, not relevant here, is *verum focus* on the finite verb.)

- (11) Karl meinte, Lena habe ein Eis gegessen. Und er hat recht. Lena hat ein Eis gegessen.

In sum, I have introduced basic elements of the assignment of prosodic structure: The SAAR that assigns accents to arguments, adjuncts and sometimes verbs. The rule of rightmost strengthening in the intonation phrase, which derives the sentence stress. The general one-to-one connection of intonation phrases to sentence stress, and the introduction of intonation phrases for root clauses. Further, the overriding effect of F as attracting the strongest stress of the sentence, and the overriding effect of G as rejecting accent and sentence stress. We now have the tools to turn to the prosody of extraposition and of right dislocation.

1.3. A prosodic distinction between extraposition and right dislocation

The cases of extraposition discussed here are extraposition of PPs from NPs as in (12), extraposition of object clauses as in (13) and extraposition of heavy objects as in (14).

- (12) Was ist geschehen?

² As refinement developed in joint ongoing work with Daniel Büring is that the rejection of sentence stress on given constituents is categorical so long as there is a non-given element in the intonation phrase to which the stress can shift. On the other hand, the rejection of accent by given constituents in positions preceding the sentence stress is optional. This refinement is not crucial for this paper.

Die Maria hat ein Buch t gelesen von Chomsky

- (13) Wie wird das Wetter?
Der Peter hat t gesagt dass es regnen wird
- (14) Was hat Peter gemacht?
Er hat t gegessen ein Schnitzel Pommes und einen Salat

The case to be contrasted with these is right dislocation, i.e. resumption of a personal pronoun as in (15).³

- (15) Ich habe *sie* gesehen, *die Maria*.

There is a clear syntactic distinction between extraposition and right dislocation. The extraposed elements bind a trace in the preceding clause, and in that sense belong to the preceding clause. On the other hand, a right dislocated element is, in the picture of Zifonun, Hoffmann, & Strecker 1997:1647, a kind of doubled version of an element in the clause (i.e. of the pronoun) and in that sense, according to Zifonun, Hoffmann, & Strecker 1997, not part of the preceding clause. I show in the following that this syntactic and semantic separation in right dislocation has clear reflexes in the prosody and in the information structure, and I offer formulations for what these reflexes are.

For comparison, consider first the prosodic structure of extraposition. According to Altmann 1981:201, extraposed elements typically carry the sentence stress. This can be seen in (12) – (14). It seems that the extraposed constituent together with the preceding sentence forms a stress-domain in which the SAAR in (2) and rightmost strengthening in (4) apply.⁴ Let us compare this to right dislocation. Altmann 1981:189ff discusses two prosodic classes.⁵ In the first class, the dislocated element is essentially deaccented. Since I want to bring controlled contexts and information structure into the picture, I begin by pointing out that this deaccented case occurs naturally when the referent of the pronoun and of the dislocated element is contextually given, as in (16).

- (16) Was war mit Maria?
Ich habe *sie* gesehen, *die Maria*.

Altmann's second case involves, in current terms, a separate intonation phrase with a separate sentence stress. There is a noticeably pause corresponding to the intonation phrase boundary preceding the dislocated element. An example is shown in (17). The intonation phrases are annotated I. As Altmann notes, such cases are often particularly natural with introductory words before the dislocated element such as *ich meine* 'I mean' (here: Peter hugged her, *I mean* Maria).

- (17) Was ist geschehen, als Maria, Claudia und Peter ankamen?
(x)_I (x)_I
der Peter hat sie umarmt – die Maria

This prosodic division is also reported by Ziv & Grosz 1994 and Avarintseva-Klisch 2006. These authors call only the integrated version in (16) right dislocation and refer to the separated version in (17) as afterthought. I here retain the terminology of Altmann 1981 and refer to both cases as right dislocation.

Importantly, next to the two prosodic options in (16) and (17), a third option is not available, namely the option that we saw with extraposition in (12) – (14). It is not possible to take the entire

³ The discourse conditions under which right dislocation is employed in English are investigated in Ziv & Grosz 1994 and Avarintseva-Klisch 2006.

⁴ Movement sometimes interacts with stress-assignment, as discussed in Bresnan 1971, 1972 and, for German, Truckenbrodt & Darcy 2010, where the interaction with extraposition is also addressed. However, the point at hand seems not to be affected by this.

⁵ He sees them as extremes in a continuum, but I will analyze them as discrete and will support this with additional observations in section 3.

domain of [clause + dislocated element], assign accents in it by the SAAR, and to strengthen the rightmost of these, as in (18).

- (18) * Der Peter hat *sie* umarmt die Maria. (* with this stress-pattern in any context)
 * Die Hans hat *ihr* die Zeitung vorgelesen, der Maria.

This is quite generally true of right dislocation: The sentence that precedes the dislocated element requires sentence stress of its own. It has sentence stress in the class in (16) and in the class in (17), but not in (18). Notice that the same requirement does not obtain for extraposition in (12) – (14). In these examples, the sentence that precedes the extraposed element is without sentence stress. Unlike in (18), this does not lead to a problem in these cases. I capture this difference in the formulations in (19).

- (19) a. In an extraposed structure *clause+XP*, sentence stress is assigned and required in [clause + XP].
 b. In a right dislocated structure *clause+XP*, sentence stress is assigned and required in [clause] (leaving open here whether XP forms a separate domain for sentence stress or not).

So far, we observed this difference in patterns of default stress. In the following argument, I will show that it also obtains under duress as we bring givenness into the picture. (20) is an example of extraposition, in which everything is contextually given, except for the extraposed element. Sentence stress is on the extraposed element, and the sentence is natural. This is expected by (19a): Sentence stress can avoid the given first part of the clause and naturally fall on the extraposed element, which is still part of the domain of sentence stress assignment by (19a).

- (20) Claudia sagt, dass Maria ein Buch gelesen hat.
 Ja, Maria hat ein Buch t gelesen von Chomsky

 given

A similar example for right dislocation is shown in (21a). Unlike in (20), it is not possible to leave the sentence to the left of the right-dislocated constituent without sentence stress, even though it is entirely given. This makes sense in terms of (19b): The domain of assignment of sentence stress is the clause preceding the right-dislocated constituent. Where this domain is entirely given, it still requires sentence stress, which is what we already saw in (11) above. (21b,c) show that the sentence is possible with default stress on the all-given part preceding the dislocated element. This also is parallel to (11).

- (21) Claudias Mutter sagt, dass der Peter sie gesehen hat.
 a. * Ja, der Peter hat sie gesehen, die Claudia.
 b. Ja, der Peter hat sie gesehen, die Claudia.
 c. Ja, der Peter hat sie gesehen – die Claudia.

 given

Thus, the difference between (20) and (21a) strongly confirms the distinction formulated in (19) and shows that the distinction also holds up under duress by the demands of givenness.

1.4. An information structure distinction between extraposition and right dislocation

Consider the placement of narrow focus on the dislocated constituent. As shown in (22) – (24), it is easily possible to put focus on an extraposed constituent. As expected, main stress falls on the focused, extraposed, constituent.

- (22) Von wem hat Maria ein Buch gelesen?
 Sie hat ein Buch t gelesen [_F von Chomsky]

(23) Was hat Peter gesagt?
Er hat t gesagt [_F dass es regnen wird]

(24) Was hat Peter gegessen?
Er hat t gegessen [_F ein Schnitzel Pommies und einen Salat]

Right-dislocation is seriously restricted in this regard, as shown in (25).

- (25) Wen hat Marias Vater gesehen?
- a. * Er hat sie gesehen [_F die Maria]
 - b. * Er hat sie gesehen [_F die Maria]
 - c. * Er hat sie gesehen [_F die Maria]
 - d. [Er hat sie_F gesehen] [_F die Maria]

Here (19b) can exclude (25a). The demand to stress the focus excludes (25b). However, (25c), which meets (19b) and stresses the focus, is also impossible. It therefore seems that we are dealing with an additional restriction. The structure in (25d) is possible. Here the sentence to the left of the dislocated constituent contains a focus of its own that answers the question. It therefore seems that the restriction at work in (25) is that the dislocated constituent cannot form a focus domain with the preceding clause, unlike an extraposed constituent in (22) – (24). This is formulated in (26) in terms of the scope of a focus in Rooth 1992.

- (26) a. In an extraposed structure *clause+XP*, the scope of a focus on XP can be [clause + XP].
b. In a right dislocated structure *clause+XP*, the scope of a focus on XP cannot be [clause + XP].

The scope of a focus in the sense of Rooth 1992 includes the focus and the material that is backgrounded relative to the focus. In typical question-answer sequences such as (22) – (25), the scope of the focus is the entire answer. (26a) captures that the focus on the extraposed constituents in (22) – (24) can take the entire clause as its scope. (26b) captures that this is not possible for a right-dislocated constituent in (25a-c). (26d) is not ruled out by (26b): Here the first clause is the scope of the focus on the pronoun. The right dislocated constituent resumes the focus. This seems to indirectly allow for sharing of the background with the resumed focus. The intention behind (26b) is to rule out the configuration described without such indirect help of resumption of another focus.

A further application of (26) is with a construction to which I return in section 3, the resumption of indefinite pronouns as in (27). For reasons discussed later, this is only possible with a separate intonation phrase for the dislocated constituent, as in this example.

(27) Was hat Peter gemacht?
Er hat jemanden besucht – die Maria.

(28a,b) show the effect of (26b), regardless of the presence of sentence stress to the left of the dislocated constituent. It is not possible to interpret a right-dislocated focus with the preceding clause as its background.

- (28) Wen hat Peter besucht?
- a. * Er hat jemanden besucht, die Maria.
 - b. * Er hat jemanden besucht – die Maria.

Thus, in the domain of prosody and information structure, we find two possibly related ways in which an extraposed constituent is integrated with the preceding clause while a right dislocated constituent is not: For the purposes of assignment of sentence stress regardless of narrow focus as in (19), and for the purposes of interpretation of narrow focus as in (26).

In the remainder of this paper, two issues based on these observations are pursued. In section 2, which has its motivation in the theme of the current volume, syntactic theories of correlates are put to the test using the distinctions in (19) and (26). Section 3 returns to right dislocation and shows how a deletion analysis of it can derive the prosodic restrictions in (19b) and (26b) as well as additional observations.

2. On the prosody of correlate constructions in German

Pütz 1986 and Sudhoff 2003 argue that predicates that can stand with a combination of *es* ‘it’ and a clause linked to the same argument slot fall into two classes: (a) those in which *es* ‘it’ is a regular pronoun and the construction is right dislocation of an argument clause, and (b) those in which *es* ‘it’ is a *correlate*, a pronominal filler with properties closer to those of a trace. A related case (c) discussed in the literature involves PPs with the pronominal element *da-* ‘there’ incorporated into the preposition, and a clause linked to the same argument slot. Frey 2010 provides a range of syntactic arguments that class (a) is indeed right dislocation, and argues for dividing class (b) into two classes. In this section, I use the four-way classification of Frey 2010 and I fit the correlate debate into the discussion of this paper.⁶

2.1. PPs with *da-*

I begin with the case of *da*-PPs as in (29a), where the clause on the right is linked to the same argument slot as *da-* in *darüber*. For this class it is fairly obvious, that the clause on the right is extraposed via movement: There is always also a grammatical non-extraposed version in which the clause immediately follows the PP, as in (29b). Vikner 1995 and Müller 1995 suggest a movement derivation in which the clause originates even closer to the *da-*, inside of the PP. This movement analysis is adopted by Frey 2010.

- (29) a. Sie hat sich **darüber** gewundert [dass es regnet]
 b. Sie hat sich **darüber** [dass es regnet] gewundert

Whatever the exact source position, the prosody and information structure confirms that we are dealing with extraposition in (29a). Thus, we find that [clause+XP] forms a single stress-domain for sentence stress in the default case in (30) as well as under duress by givenness in (31). This conforms to the extraposition pattern described in (19a).

- (30) Warum schaut sie denn so?
 Sie hat sich **darüber gewundert** [dass es regnet]
- (31) Hat sich Maria gewundert?
 Ja, sie hat sich **darüber gewundert** [dass es regnet]
 _____ given _____

Furthermore, the extraposed clause can be a focus, to which the background is constituted by the preceding clause as in (32). This conforms to (26a) for the information structure of extraposed elements.

- (32) Worüber hat sich Maria gewundert?
 Sie hat sich **darüber gewundert** [_F dass es regnet]

Thus, for PPs with *da-*, the syntactic extraposition analysis is confirmed by the facts of prosody and information structure.

⁶ See Schwabe 2011, Schwabe & Fittler 2011 for promising and formally very advanced suggestions for a semantic classification of verbs in connection with their ability to take such pro-forms.

2.2. Right dislocation of clauses

Next, consider the opposite extreme, predicates that allow *es* ‘it’ with a clause only by way of right dislocation. The verb *behaupten* ‘claim’ used by Pütz and Sudhoff illustrates the properties of this class with particular tenacity. Other verbs in this class are *denken* ‘think’, *glauben* ‘believe’, *sagen* ‘say’ and *vermuten* ‘suppose’. The unusual prosodic properties of this class were already noted by Pütz 1986 and Sudhoff 2003 and are part of their arguments for the right dislocation analysis. They discussed the unaccented occurrence of the right-dislocated clause. The point here is merely to integrate their argument into the more specific prosodic analysis of this paper.

As noted by Sudhoff 2003:61, these verbs do not allow an all-new occurrence of a correlate construction, as shown in (33):

- (33) Was war denn los?
* Fred hat **es** behauptet, dass Wilma wegfährt.

Sudhoff’s description of the prosodic facts fits straightforwardly into the current discussion. He notices that sentence stress must be in the clause that precedes the right dislocated clause. An example in which the right dislocated clause is contextually given is shown in (34).

- (34) Fährt denn Wilma weg?
Fred hat es behauptet, dass Wilma wegfährt.

In addition to what Sudhoff describes, there is also the realization with two intonation phrases, as in (35).

- (35) Fährt Wilma weg? Kommt sie wieder?
Fred hat es behauptet – dass Wilma wegfährt.

When we try to eliminate sentence stress from the clause on the left by givenness, we do not succeed, as shown in (36a). This is similar to other cases of right dislocation. In (36) and in the following examples, the a.-examples involving right dislocation are accompanied by b.-examples without *es*, which involve regular extraposition and therefore do not show the restrictions of right dislocation.

- (36) Hat Fred irgendwas dazu behauptet?
a. * Er hat **es** behauptet, dass Wilma wegfährt.
b. Er hat behauptet, dass Wilma wegfährt.
_____given_____

Thus, the analysis in terms of right dislocation can be confirmed in regard to the domain of sentence-stress assignment as formulated in (19b).

Focus assignment also is not possible on the clause on the right, as illustrated in (37a). This confirms the right dislocation analysis via (26b).

- (37) Was hat Fred behauptet?
a. * Er hat **es** behauptet [_F dass Wilma wegfährt]
b. Er hat behauptet [_F dass Wilma wegfährt]

Notice that (26b) also predicts that a narrow focus inside of the argument clause cannot have scope outside of the argument clause. This is correct, as shown in (38a).

- (38) Von wem hat Fred behauptet, dass er oder sie wegfährt?
a. * ~[Er hat **es** behauptet, dass [_F Wilma] wegfährt]
b. ~[Er hat behauptet, dass [_F Wilma] wegfährt]

See Frey 2010 for syntactic arguments for the right-dislocation analysis of the class of cases discussed in this section. As was seen, their prosody and information structure supports this in the context of (19) and (26).

2.3. Genuine correlates

The class of verbs that allows genuine correlates include *bedauern* ‘regret’, *aufgeben* ‘give up’, *bewundern* ‘admire’ and *lieben* ‘love’. Sudhoff 2003:61,70f points out that correlate constructions are possible in all-new contexts, as shown in (39), which contrasts with (33).

- (39) Was war denn los?
Fred hat **es** bedauert, dass Wilma wegfährt.

As Sudhoff (p.70f) observes, sentence stress is typically in the argument clause, as indicated in (39). Note that the absence of sentence stress to the left of the argument clause conforms to the extraposition case (19a) but not to (19b). I add to this that where the matrix clause is given, it can be destressed as in (40). This is also in line with (19a) but not (19b).

- (40) Hat Fred irgendetwas bedauert?
 Er hat **es** bedauert, dass Wilma wegfährt.
 _____given_____

Sudhoff (p.70f) observes that the regular stress rules obtain in the correlate-construction. He also notes that the clause on the right can be focused. This is shown in (41). In addition, focus inside of the embedded clause, with matrix scope, is shown in (42).

- (41) Was hat Fred bedauert?
 Er hat **es** bedauert [_F dass Wilma wegfährt]
- (42) Bei wem hat Fred es bedauert, dass er oder sie wegfährt?
 Er hat **es** bedauert dass [_F Wilma] wegfährt

This patterns with extraposition according to (26). All observations in (39) – (42) contrast with the observations in connection with right dislocation in the *behaupten*-class of verbs in the preceding section. They therefore support an analysis of the correlate construction in terms of movement of the argument clause to the right, despite the presence of the pronoun in the clause.

A movement analysis for the genuine correlate construction has been suggested by Bennis 1986, Vikner 1995, and Müller 1995. It is adopted and modified by Frey 2010. Frey suggests that the argument clause originates in the specifier of the DP that is headed by *es* ‘it’. Previous authors have pointed out that clause-internal positions are at best marked for the surface occurrence of the argument clause. Frey points out in support of the movement analysis that they are nevertheless better than in the *behaupten*-class.

- (43) a. ? Fred hat es, dass es regnet, bedauert.
 b. * Fred hat es, dass es regnet, behauptet.

See Frey 2010 for other syntactic arguments in favor of the movement analysis. As was seen in this section, the (already known) facts of prosody and information structure support the movement analysis of the correlate construction by (19) and (26).

2.4. Coindexed subject expletives

German has a number of verbs, including weather-verbs, that show subject expletives *es*. Unlike *Vorfeld-es* (which fills an empty Spec,CP) these *es* do not depend on clause-initial position. Examples are shown in (44).

- (44) Gestern hat **es** geregnet/geschneit/... .
 Gestern hat **es** mir gegraut.

Frey 2010 argues that this phenomenon also occurs in cases that look like correlates, though in fact a subject expletive is here lexically coindexed with an object clause in his analysis. His arguments include that the link between *es* and the clause is more flexible with these cases, as in (45a), while correlates as in (45b,c) and right dislocation as in (45d) show more narrow restrictions on this link.

- (45) a. Denkbar [dass es regnet]_{OBJ} ist **es**_{SU} schon.
 b. ?? [Bedauert [dass es regnet]] hat **es** Maria.
 c. * [Gewundert [dass es regnet]] hat sich Maria **darüber**.
 d. * [Behauptet [dass es regnet]] hat **es** Maria.

This class of cases then also has an extraposition analysis, albeit a different one. The clause is an object clause and thus moved to the right by extraposition. We expect that it patterns in its prosody and information structure with extraposition. This turns out to be the case. (46) and (47) show that the matrix clause does not on its own require sentence stress and thus follows (19a). (48) shows focus with wide scope, following (26a).

- (46) Für Peter ist **es** denkbar [_F dass man ihn einlädt]

- (47) Ist überhaupt etwas für Peter denkbar?
 Für ihn ist **es** denkbar [_F dass man ihn einlädt]
 _____given_____

- (48) Was ist für Peter denkbar?
 ~[Für Peter ist **es** denkbar [_F dass man ihn einlädt]]

Thus, the syntactic analysis of this class is also in line with our prosodic tests.

In sum, we are able to confirm the classification of extraposition vs. right dislocation for the four classes distinguished by Frey 2010. This is particularly interesting for genuine correlates and for the final class of subject expletives, where a movement analysis, though not new, is not obvious, because of the presence of the pronominal *es* 'it'.

3. Deriving the prosodic restrictions from a deletion analysis of right dislocation

In this section, I empirically sharpen the distinction between two prosodic patterns in right dislocation and I show how the prosodic restrictions in right dislocation can be derived from a deletion analysis of right dislocation.

3.1. The pronoun in right dislocation

Right dislocation proper involves the resumption of a personal pronoun. It is clear in the discussion of the use of right dislocation in Ziv & Grosz 1994 for English and Avarintseva-Klisch 2006 for German that the pronoun in right dislocation is a genuine pronoun and that it requires an antecedent in the preceding (linguistic or extra-linguistic) context. The right dislocated constituent restricts what this reference is, but it can not serve as the antecedent for the pronoun. This is also illustrated in (49).

- (49) Was ist geschehen?
 a. # Ich bin ihr begegnet, der Maria.
 b. # Ich bin ihr begegnet – der Maria.

(49a,b) are infelicitous so long as the context is not augmented (silently or explicitly) with an occurrence of Maria as an antecedent for the pronoun.

3.2. Resumption of indefinite pronouns

Notice, then, that it is also possible to resume an indefinite pronoun, as in (50) (see Zwart 2001).

- (50) a. Ich habe jemandem etwas mitgebracht – einem Kollegen.
b. Ich habe jemandem etwas mitgebracht – dem Peter.

These cases form a natural class for purposes of prosody with the cases of right dislocation in a separate intonation phrase. Thus, sentence stress cannot be omitted from the sentence on the left as in (51). This is also true under givenness of the clause on the left as in (52a).

- (51) # Ich habe jemandem etwas mitgebracht – dem Peter.

- (52) Hast du jemandem etwas mitgebracht?
a. # Ja, ich habe jemandem etwas mitgebracht – dem Peter.
b. Ja, ich habe jemandem etwas mitgebracht – dem Peter.

Thus, these cases form a natural class as defined by (19b) with right dislocation. They also pattern with right dislocation for (26b), as was seen in (28).

As noted by Zwart 2001, these cases are different from right dislocation in not allowing a stressless version of the element on the right. This is shown in (53).

- (53) a. * Ich habe *jemandem* etwas mitgebracht, *einem Kollegen*.
b. * Ich habe *jemandem* etwas mitgebracht, *dem Peter*.

An analysis of this restriction is developed below.

3.3. 'Resumption' of negation and other elements

Another instance of the same prosodic pattern can be found with what one might describe as 'resumption' of negation by a negated indefinite adjunct, as in (54).

- (54) a. Ich habe ihn *nicht* gesehen – *an keinem Tag*.
b. Ich habe sie *nicht* gefunden – *an keinem Ort*.

Sentence stress must be assigned in the clause to the left, as shown in (55) and (56).

- (55) * Ich habe sie *nicht* gefunden – *an keinem Ort*.
(56) Hast du sie nicht gefunden?
a. * Nein, ich habe sie *nicht* gefunden – *an keinem Ort*.
b. Nein, ich habe sie *nicht* gefunden – *an keinem Ort*.

Focus assignment with wide scope is not possible, as shown in (57).

- (57) Wo hast du sie nicht gefunden?
a. * ~ [Ich habe sie *nicht* gefunden – *an keinem Ort/keinem Ort*]
b. cf.: ~ [Ich habe sie [_F an keinem Ort] gefunden.]

Yet, as with resumption of indefinites, there is no unaccented version of the extraposed constituent:

- (58) a. # Ich habe ihn *nicht* gesehen, *an keinem Tag*.
b. # Ich habe sie *nicht* gefunden, *an keinem Ort*.

This pattern is not limited to indefinites and negation. It seems that many constituents can be resumed in this fashion by an expression that adds information. (59) shows the ‘resumption’ of an adverb by a universal temporal quantifier.

(59) Ich habe sie *oft gesehen – jeden Tag*.

In the following section I introduce a hypothesis about when right dislocation of an unaccented element is possible.

3.4. A restriction on unaccented right-dislocation

The indefinite and negated cases are different from standard right dislocation in blocking a context in which the right dislocated element is contextually given. In (60) the indefinite pronoun requires newness (Heim 1982) and thus blocks an interpretation coreferent with a given constituent such as Peter.

(60) Was war mit Peter?/Hast du dem Peter etwas mitgebracht?
Ich habe jemandem etwas mitgebracht (dem Peter)

A similar effect obtains for the other cases considered above, as shown in (61) and (62). It seems that the sequence ‘less specific’ – ‘more specific’ does not tolerate givenness of the more specific element. I leave the exact reason for this open here.

(61) Was war an keinem Ort?
Ich habe sie *nicht* gefunden – *an keinem Ort*.

(62) Was geschah jeden Tag?
Ich habe sie *oft* gesehen – *jeden Tag*.

Thus, the cases in which givenness in the context is independently blocked are exactly those in which a right dislocated element without sentence stress is not possible. The restriction on unaccented right dislocated elements therefore seems to be (63).

(63) In right dislocation and related cases of resumption, a dislocated constituent without a second instance of sentence stress is possible iff it is contextually given or can be construed as contextually given.

We are then led to the assumption that the core case of right dislocation, resumption of a definite pronoun with an unaccented phrase, are possible because the right-dislocated element is either explicitly given, as in (16) or (34), or can be construed as such (say, in an unspecified context). I have found it difficult to employ explicit contexts to tease apart the effect that the pronoun requires an antecedent (the antecedent must be salient) from the givenness requirement formulated in (63) (the given constituent must likewise be salient). I will therefore use the observation that resumption of indefinites and similar cases, which block givenness, also block absence of a second sentence stress, as a guide. (63) seems to capture the distinction. We are then led to (64).

(64) A constituent on the right that resumes an element of the clause is either G-marked, in which case it does not require sentence stress, or it must itself carry sentence stress (and form a separate intonation phrase).

This formulation sees G-marking (marking for givenness) as the grammatical configuration behind (63).

3.5. Basics of the deletion account

Kuno 1978 and Tanaka 2001b have argued for deletion accounts for right dislocation in Japanese, and Ott 2011 has argued for a deletion account of right dislocation in German. As illustrated in (65), the accounts of Tanaka 2001b and Ott 2011 postulate that the right dislocated constituent originates in a second clause of its own, in which it is first fronted; thereafter, the remainder of the second sentence is deleted by sluicing under identity with material from the first clause.

- (65) *Sluicing account of right dislocation* (Tanaka 2001b, Ott 2011)
ich habe sie gesehen [die Maria]_i, ~~habe ich t_i gesehen~~

The account pursued here is closer to the original account of Kuno 1978 (written in Japanese and summed up in Tanaka 2001b): Deletion takes a repetition of the initial sentence (except for the right dislocated constituent) as input, without an initial step of syntactic fronting. This is illustrated in (66). I take the deletion operation to be gapping, with the scope of gapping as worked out in Neijt 1979.

- (66) *Gapping account of right dislocation* (pursued here)
ich habe sie_i gesehen, ~~ich habe~~ [die Maria]_i ~~gesehen~~

I pursue this particular version of the deletion analysis for two reasons. For one thing I am not entirely convinced by the arguments for the step of fronting in the sluicing analysis. I return to this at the end of section 3.8. For another, the gapping analysis allows me to work with an overt, existing, source as input to deletion, namely what might be called *clarificatory repetitions*, as in (67).

- (67) Ich habe sie gesehen, ich habe die Maria gesehen.

These might otherwise seem to be in the range of performance, rather than competence or core grammar. I maintain, however, that they are as much in the realm of core grammar as is right dislocation. More specifically, I assume that we are at the edge of core grammar in the following sense. Grammatically, repetitions like (67) can enter into a parallel structure with the clause to the left, and this parallel structure allows the grammatical operation of gapping as in (66).⁷ In this sense, these structures form a natural class with coordination, which also involve parallel structures. At the same time, the connection between the parallel structures in coordination is also provided by core grammar and the lexicon, in the form of conjunctions like *and*, *or*, among other things. By contrast, the connection between the initial clause in (67) and its clarificatory repetition seems to be provided pragmatically. It seems to be rooted in the wish of the speaker to clarify the first clause. I therefore suggest that this particular aspect is outside of core grammar.

This version of the deletion analysis is pursued here for reasons of concreteness. At a slightly more abstract level, the core of what follows does not depend on this choice. As far as I can see, it is an open question whether there is an initial step of fronting before deletion and whether the empirically most adequate deletion is sluicing or gapping. The essence of what follows is independent of these issues.

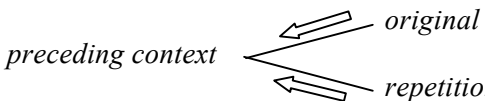
3.6. The deletion account of dislocated constituents with sentence stress

To simplify the discussion of clarificatory repetitions, I call the repeated clause the *original*, and the repeating clause the *repetition*. Observe that the repetition has different options for stress.

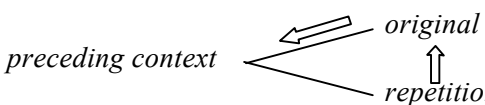
⁷ See Koster 2000 for a different extension of the domain of parallel structures. Koster suggests to analyze extraposition in terms of parallel structures. This is crucially not done here, but I would like to mention that Koster's ideas had a considerable inspirational effect on the development of the ideas laid out here.

- (68) a. Ich habe jemandem etwas mitgebracht, ich habe dem Peter etwas mitgebracht.
 b. Ich habe jemandem etwas mitgebracht – (ich meine) ich habe dem Peter etwas mitgebracht.

I analyze these as different choices of context that can be made in the corrective repetitions, illustrated by the arrows in (69) and (70). In (69), the choice of context follows the parallelism of the two structures. The repetition shares the preceding context with the original. In this case, material that is present in the original does not count as contextually given in the repetition, since it is not in the context of the repetition (which is, as shown by the arrow, the material preceding both original and repetition). Hence the verb *mitgebracht* is stressed in the repetition, even though it also occurs in the original. It is not given in the context of the repetition. This is the stress-pattern in (68a).

- (69)  original Ich habe jemandem etwas mitgebracht
 repetition ich habe dem Peter etwas mitgebracht.

A different choice of context, following the precedence-relations, takes the original as part of the context of the repetition. This is shown in (70). In this case, the verb that is present in the original counts as contextually given in the repetition (since it is present in the context of the repetition) and is correspondingly destressed in the repetition. This is the stress-pattern in (68b).

- (70)  original Ich habe jemandem etwas mitgebracht
 repetition ich habe dem Peter etwas mitgebracht_G.

I assume throughout that stress is assigned *before* deletion occurs. In the case at hand, the clarificatory repetition of the sentence allows the two stress-patterns in (69) and (70). However, for the resumption of indefinites considered here, the deleted version only allows a single stress-pattern, namely the one in which the remnant carries sentence stress (see (50), (52), (53)). Thus, we want to allow deletion in (70) to derive this stress-pattern. We do not want to allow deletion in (69), which would result in a remnant without sentence stress, unattested for this sentence. There is a simple and plausible reason for the distinction, formulated in (71).

- (71) Gapping requires identity with *structure in the context of the gapping site*.

The original is part of the context of the repetition in (70), so that (70) allows deletion under identity with the original. In (69), the original is not part of the context of the repetition, so gapping is not possible here by (71). For (70), deletion derives a structure with the correct prosodic output: sentence stress on the remnant, i.e. the right dislocated constituent.

- (72) Ich habe jemandem etwas mitgebracht – ~~ich_G habe_G dem Peter etwas_G mitgebracht_G~~.

The derivation of a separate sentence stress more generally follows the logic of this case: Deletion requires that the original counts as context for the repetition. This has consequences for stress: Everything except the dislocated constituent is contextually given in the repetition. Where the dislocated element is not itself given, it will therefore carry the sentence stress in the repetition. The sentence stress is retained after deletion, and surfaces in a separate intonation phrase. (73) illustrates the deletion derivation of a case of resumption of negation, and (74) of a case of resumption of a personal pronoun. In the latter case we must assume that an antecedent for the pronoun is available, though not salient enough for Maria to count as contextually given obligatorily.

- (73) Ich habe sie nicht gesehen – ~~ich_G habe_G sie_G an keinem Tag gesehen_G~~.

- (74) Ich habe sie gesehen – ~~ich_G habe_G die Maria gesehen_G~~.

3.7. The deletion account of dislocated constituents without sentence stress

Consider then a case of deletion with a contextually given remnant in (75). (75a) is the grammatical input to deletion, (75b) shows the deletion and (75c) shows the output of deletion.

- (75) Was war mit der Maria?
- Sie hat mich gesehen, die Maria_{G-PC} hat_{G-O} mich_{G-O} gesehen_{G-O}
 - Sie hat mich gesehen, die Maria_{G-PC} ~~hat~~_{G-O} ~~mich~~_{G-O} gesehen_{G-O}
 - Sie hat mich gesehen, die Maria_{G-PC}.

Importantly, when the remnant is itself contextually given, the entire repetition is contextually given, i.e. it is an all-given sentence. The remnant is given in the preceding context by assumption. This is marked with the subscript G-PC in (75). The other constituents are given in the original. This is marked with the subscript G-O in (75). As in other cases of all-given sentences above, sentence stress is then typically assigned to the final verb. The remnant does not carry sentence stress, as seen in (75), and thus also surfaces without sentence stress after deletion.

(63) and thus (64) follow from this account. By (71), deletion can only occur if the original is part of the context of the repetition. Consequently, in all cases of deletion, the deleted material will be contextually given for the purpose of stress-assignment. There is then only one way in which the remnant can stand without sentence stress in a deletion derivation: When it is itself G-marked, it need not attract sentence stress since an all-given stress pattern is assigned in the repetition. Resumption of an indefinite can therefore never be derived without sentence stress on the remnant in this fashion (cf. (53)). Since the resuming expression cannot be contextually given, an all-given stress-pattern will not occur. The resuming expression, not being given, will invariably attract sentence stress in the repetition, which will surface after deletion.

Here, then, is how the deletion account derives the restriction (19b), which separates right dislocation from extraposition. Right dislocation is derived from two clauses, the original and the repetition. These are both root clauses, and therefore separate intonation phrases by (6). The original, an intonation phrase, will therefore carry sentence stress by (5). This is the effect of (19b): The original, the clause preceding a right dislocated constituent, requires sentence stress of its own. In other words, the clause on the left and the right dislocated constituent do not form a joint stress domain, since they derive from two clauses that form separate intonation phrases.

The deletion account similarly derives the restriction (26b). A focus cannot take scope over the sequence of original and repetition as in (76a,b) (cf. (25a-c)). This is because the original must on its own be focused in a context-adequate way, which requires focus on the pronoun *sie*.

- (76) Wen hat Marias Vater gesehen?
- * ~[Er hat sie gesehen, er hat [_F die Maria] gesehen]
 - * ~[Er hat sie gesehen, ~~er hat~~ [_F die Maria] gesehen]

With such focus on the pronoun in the first clause, the sentence is possible as was seen in (25d). The grammatical input to deletion is shown in (77a), the deletion is shown in (77b).

- (77) Wen hat Marias Vater gesehen?
- ~[Er hat [_F sie] gesehen] ~[er hat [_F die Maria] gesehen]
 - ~[Er hat [_F sie] gesehen] ~[~~er hat~~ [_F die Maria] gesehen]

Thus, both (19b) and (26b) follow from the deletion account.

Before concluding this section, I want to clarify a non-obvious issue in connection with all-given stress-patterns, which is relevant to the stress in right dislocation. Consider (78). As noted in Truckenbrodt to appear, definite objects such as names in preverbal position do not typically receive sentence stress in all-given sentences. There is instead a preference for assigning sentence stress to the verb instead, i.e. a preference for (78b) over (78a). It seems that, in some way, the givenness of the object rejects sentence stress more strongly than the givenness of the verb.

- (78) Paul glaubt, dass du die Maria gesehen hast.
 a. Stimmt, ich habe die Maria gesehen.
 b. Stimmt, ich habe die Maria gesehen.

The reason behind this is not pursued here. What is crucial for the purpose at hand is that a preverbal definite object naturally allows the stress-pattern in (78b), without sentence stress on the object. This is crucial for the derivation of right-dislocation of a given object as in (79). If sentence stress would have to be on the preverbal object in all-given sentences, we would wrongly predict that the right-dislocated constituent needs to carry sentence stress here.

- (79) Was war mit der Maria?
 Ich habe sie gesehen, ~~ich~~_{G-O} ~~habe~~_{G-O} [die Maria]_{G-PC} gesehen_{G-O}.

In sum, we have seen in this section how right dislocation without a second sentence stress is derived from an all-given repetition by deletion. We have seen how this accounts for the restriction that only G-marked dislocated constituents can show such a stress-pattern. We have also seen how the prosodic restriction (19b) and the information structure restriction (26b), both of which separate extraposition from right dislocation, follow from the deletion account.

3.8. Syntactic arguments for the deletion analysis

I turn to some syntactic arguments for the deletion analysis.

Under classical assumptions about case-assignment and theta-role assignment, the deletion analysis explains how the dislocated constituent receives a theta-role and case: from its deleted syntactic environment. Ott 2011 points out that a deletion analysis (for him in terms of sluicing) also explains that the pronoun and the resuming DP carry the same morphological case.

A further argument by Ott, who concentrates on right dislocation without sentence stress, is that the deletion account explains why PPs are opaque for right dislocation. Here I extend the argument minimally. PPs are not opaque for extraposition, cf. (80a). However, PPs are opaque for both sluicing and gapping, cf. (80b,c). Right dislocation patterns with deletion, not with extraposition, cf. (80d). This is correctly predicted in the deletion analysis.

- (80) a. Ich habe [mit einer Frau t_i] geredet, [mit einem roten Hut]_i / [die einen roten Hut trug]_i
 b. Ich habe auf jemanden gewartet, aber ich weiß nicht *(auf) wen.
 c. Ich habe auf die Maria gewartet und Hans ___ *(auf) den Peter.
 d. Ich habe auf ihn gewartet *(auf) den Peter

Another argument for deletion by Ott 2011 also carries over to the gapping analysis. Though the right dislocated element is in some sense external to the clause to its left, it shows Condition C effects with regard to elements in that clause, as in (81a). In a deletion analysis, the deleted copy of *sie* triggers the Condition C effect in the repetition.

- (81) a. A: Why does Mary look so sad? Doesn't she just have a new boyfriend?
 B: * Sie_i hat ihn mit einer Anderen gesehen, $Marias_i$ neuen Freund.
 b. * Sie_i hat ihn mit einer Anderen gesehen, ~~sie_i~~ hat $Marias_i$ neuen Freund ~~mit einer Anderen~~ ~~gesehen~~.

I add the following argument for a deletion analysis. The infinitive subject PRO cannot serve as a pronoun in right dislocation, as seen in (82).

- (82) * Peter hat angeordnet [PRO_i die Straße zu fegen], ~~die Arbeiter~~/~~den Arbeitern~~_i

If the right dislocated element were simply base-generated on the right, on the condition that it clarifies the reference of a referential element in the clause, we would expect this to be possible. Even an analysis of right dislocation of movement, followed by insertion of an appropriate pronoun, might not have a straightforward account for the impossibility of (82).

In the deletion account, the explanation is straightforward: There is no plausible source for the deletion, as shown in (83). The infinitive in the deleted clause would not license an overt subject instead of the PRO, as shown.

- (83) * Peter hat angeordnet [PRO_i die Straße zu fegen], ~~Peter hat angeordnet [die Arbeiter_i/den Arbeitern_i die Straße zu fegen]~~.

A further argument is a co-production with Dennis Ott (personal communication). A quantifier can bind a pronoun that it c-commands, as in (84a). A pronoun not c-commanded by a quantifier cannot co-refer or co-quantify with the quantifier, as in (84b).

- (84) a. Jeder_i glaubt, dass er_i recht hat.
 b. * [Dass jeder_i recht hat] glaubt er_i nicht.

If right dislocation involved movement to a c-commanding position, followed by the insertion of a pronoun in the position of the trace, the quantifier would c-command the inserted pronoun. The possibility of a binding relation might be expected. However, binding is not possible in right dislocation, as shown in (85).

- (85) * Ich habe ihn gesehen, jeden Gast.

This follows in a deletion analysis, where the quantifier does not c-command the pronoun:

- (86) * Ich habe ihn_i gesehen, ~~ich habe~~ jeden Gast_i ~~gesehen~~.

Ott 2011 presents Dutch examples from Zwart 2001, 2011 that support a sluicing account with an initial step of fronting that precedes deletion. The argument carries over to German and is shown in (87). In (87a,b), scope between the subject and the adverb follows the surface order. The right dislocated adverb in (87c) takes wide scope. This can be accounted for if it is fronted before deletion, as in (87d). (I return to right dislocation of adjuncts in section 3.11.)

- (87) a. *Zwei Leute* haben *vermutlich* Nauru gesehen (2 > vermutlich)
 b. *Vermutlich* haben *zwei Leute* Nauru gesehen (vermutlich > 2)
 c. *Zwei Leute* haben Nauru gesehen, *vermutlich*. (vermutlich > 2)
 d. *Zwei Leute* haben Nauru gesehen, *vermutlich* ~~haben zwei Leute Nauru gesehen~~.

However, there are also cases that point in the opposite direction. (88a,b) show two orders of *oft* ‘often’ and *wem* ‘to-someone’. The scope here also follows the surface order. (The indefinite *wem* is used since it seems not to have a specific reading that could interfere with the scope judgments.) Fronting of *oft* disambiguates in favor of wide scope of *oft* in (88c). This disambiguating effect is not found with dislocated *oft* in (88d), where instead both readings are possible. This points towards an analysis without fronting before movement. The two readings can be derived by gapping as shown in (88e,f).

- (88) a. Sie hat *oft wem* etwas mitgebracht. often > to-someone
 b. Sie hat *wem oft* etwas mitgebracht to-someone > often
 c. *Oft* hat sie *wem* etwas mitgebracht often > to-someone
 d. Sie hat *wem* etwas mitgebracht oft to-someone > often
 or often > to-someone
 e. Sie hat *wem* etwas mitgebracht, ~~sie hat *wem oft* etwas mitgebracht~~.
 f. Sie hat *wem* etwas mitgebracht, ~~sie hat *oft wem* etwas mitgebracht~~.

Given this, it is possible that the judgment in (87d) reflects unmarked order, rather than an initial step of fronting. However, the issue requires further study and will not be resolved here. The main point of the current section is that there is a range of syntactic arguments in favor of a deletion analysis of right dislocation.

3.9. Differences between right dislocation and afterthoughts

The current account treats unaccented right dislocation and right dislocation with sentence stress as a natural class: They share the requirement on prosodic and information structure completeness of the preceding clause and are here both derived by the same deletion operation. However, the current account also predicts an important difference between the two: unaccented right dislocation requires G-marking of the dislocated element, while afterthoughts do not involve G-marking of the dislocated element.

In this section I review three differences between right dislocation and afterthought that are reported the literature and discuss their fit with the current account.

A striking difference (Altmann 1981, Avarintseva-Klisch 2006) is that afterthoughts allow optional additions such as *ich meine* ‘I mean’ or *und zwar* ‘namely’, while these are prohibited in unaccented right dislocation:

- (89) Lisa und Melanie haben sich gestritten.
a. Dann ist sie weggelaufen, (*ich meine) die Lisa.
b. Dann ist sie weggelaufen, (ich meine) die Lisa.
- (90) Was hat sie letzte Woche gemacht?
a. Sie hat ihren Geburtstag gefeiert, (*und zwar) am Dienstag.
b. Sie hat ihren Geburtstag gefeiert, (und zwar) am Dienstag.

Notice the exact parallel to clarifying repetitions with the corresponding stress-patterns:

- (91) Lisa und Melanie haben sich gestritten.
a. * Dann ist sie weggelaufen, ich meine die Lisa ist weggelaufen.
b. Dann ist sie weggelaufen, ich meine die Lisa ist weggelaufen.
- (92) Was hat sie letzte Woche gemacht?
a. * Sie hat ihren Geburtstag gefeiert, und zwar hat sie am Dienstag ihren Geburtstag gefeiert.
b. Sie hat ihren Geburtstag gefeiert, und zwar hat sie am Dienstag ihren Geburtstag gefeiert.

Thus, whatever the source of the difference in the undeleted versions, the difference is correctly predicted by the deletion account.

What might be the source of the difference? I suggest that ‘I mean’, ‘namely’, and similar additions have two effects. For one thing, they connect original and repetition, in the sense of ‘what I mean by the preceding (original) is the following (repetition)’. This plausibly has the effect that the original must be part of the context of the repetition, also without deletion. This can be seen in (93), modified from (68). Recall that, with the resumption of an indefinite, the resuming element is new in all cases, and the two stress-patterns in (68) are distinguished by whether the repetition takes the original as its context. We see in (93) that only one stress-pattern remains after the addition of *und zwar*: the one in which the original is part of the context of the repetition.

- (93) a. * Ich habe jemandem etwas mitgebracht, *und zwar* habe ich dem Peter etwas mitgebracht.
b. Ich habe jemandem etwas mitgebracht – *und zwar* habe_G ich_G dem Peter etwas_G mitgebracht_G.

This first effect leads to an understanding of why the elided structures in (89) and (90) are parallel to the non-deleted structures in (91) and (92): In all these cases the original is part of the context of the repetition, due to the presence of *und zwar/ich meine*.

The second effect of ‘I mean’ and ‘namely’ seems to be that they announce new information in a sense that is not compatible with G-marking on the remnant, or with a following all-given

utterance. If we make this assumption it correctly follows that they are excluded with unaccented right dislocation in (91b) and (92b), and consequently in (89b) and (90b). Unaccented right dislocation can only be derived with a G-marked remnant (and in an all-given utterance) in the current account. The assumptions about the additions are summed up in (94).

- (94) Optional additions like *ich meine* ‘I mean’, *und zwar* ‘namely’
- a. connect original and repetition, thereby requiring that the original counts as part of the context of the repetition;
 - b. announce new information in a way that is not compatible with a following all-given utterance.

A further distinction in Ziv & Grosz 1994 involves the possibility of correction with afterthoughts but not right dislocation:

- (95) I met John yesterday, Bill, I mean.

Let me back up a bit before addressing this. The cases discussed so far involve clarifying additions and their deletion. The label ‘clarifying addition’ reasonably picks out a class of cases in which the repetition is motivated by the desire of the speaker to clarify by adding information. (96) is a case that does not fit into this category. A negative addition in the repetition in (96a) leads to a repetition that contradicts the original, and can therefore not serve as a clarification. The deleted version in (96b) is accordingly impossible.

- (96) a. #/* Sie hat gearbeitet, sie hat an keinem Tag gearbeitet.
 b. * Sie hat gearbeitet, an keinem Tag.

Where the negated constituents of the repetition replaces a negation in the original, there is no contradiction and there is addition of information. In that case, both the undeleted and the deleted versions are fine, cf. (61), (62) and (73).

I tentatively follow Ziv & Grosz 1994 in accepting that correction is also a possible motivation for an afterthought – here: a possible motivation for a repetition. I think it is correct that this is limited to constituents with sentence stress, as shown in (97) for undeleted repetitions and in (98) for deletion. I omit the translation of ‘I mean’, which would undermine the demonstration with its own preference for accompanying sentence stress.

- (97) a. * Ich habe den Hans getroffen ... ich habe den Peter getroffen.
 b. Ich habe den Hans getroffen ... ich habe den Peter getroffen.
- (98) a. * Ich habe den Hans getroffen ... den Peter.
 b. Ich habe den Hans getroffen ... den Peter.

It correctly follows in the current account that there is no unstressed version of such a correction: The correcting constituent *den Peter* is not given, but G-marking would be required for the derivation of the unstressed case.

I turn to another reported difference between unaccented right dislocation and afterthoughts. Ziv & Grosz 1994 maintain that right dislocation obeys subjacency as in (99) while afterthoughts as in (100) do not.

- (99) * The story that he told us was interesting, Bill.
- (100) Remember they/the two of them were telling us all sorts of stories?
 Well, the story that he old us was very interesting, Bill, I mean.

Crucial for the purpose at hand is that the stress-judgment in (99) is independent of whether Bill carries sentence stress or not. These two cases are parallel, and so no argument against the current analysis. I think Ziv & Grosz 1994 are right that there are afterthoughts that are distinct from right

dislocation in the broader sense used here. I think so long as they require the addition *meine ich* ‘I mean’, they should be separated from both unaccented and stressed right dislocation. Consider the German counterparts, which also given information about case marking.

- (101) a. * Die Geschichte die er uns erzählt hat war sehr interessant, der Bill/der Bill
 b. Die Geschichte die er uns erzählt hat war sehr interessant. Der Bill, meine ich.
 c. Die Geschichte die er uns erzählt hat war sehr interessant. Den Bill meine ich.

(101a) is parallel to (99). (101b) shows nominative case and (101c) shows accusative case on *der Bill*. I analyze these as separate sentences ‘I mean “Bill”’ and ‘I mean Bill’, the first with a literal rendering of what I meant to say in my earlier utterance (hence nominative case agreement), the second with accusative case assigned by *meinen* ‘mean’.

In sum, the differences discussed show that the information structure difference between unaccented right dislocation and right dislocation with sentence stress (afterthought) correctly accounts for two distinctions between the two cases. It also suggests that there are afterthoughts (in a broader sense) that should not be subsumed under the deletion analysis. In the case discussed, these require the presence of the addition *meine ich* ‘I mean’ and can be analyzed as separate sentences.

3.10. A remark on extraposition of appositions

This section and the following ones address issues in the immediate neighborhood of the cases discussed so far, for a better understanding of the territory in which the proposal is placed.

The opacity of PPs seen in (80) does not obtain when both the pronoun and the dislocated element carry sentence stress, as in (102).

- (102) Auf wen hast du gewartet?
 (?) Ich habe auf sie gewartet, die Maria.

A plausible source for (102) is the appositive construction in (103).

- (103) Auf wen hast du gewartet?
 (?) Ich habe auf sie, die Maria, gewartet.

If (102) derives from (103) by extraposition, the transparency of the PP is expected (cf. (80a)). We can delimit this interference of extraposition of appositions insofar it only occurs with stressed pronouns. Unstressed pronouns do not allow such appositions, as shown in (104a). Therefore (104b) does not have an extraposition derivation. (A deletion derivation of (104b) is blocked by the opacity of the PP.)

- (104) a. * Ich habe auf sie, die Maria, gewartet.
 b. * Ich habe auf sie gewartet, die Maria.

We should therefore be aware that cases with stressed pronouns may have two derivations. The output of (77) can be achieved by deletion as shown there. However, it can also arise by extraposition of an apposition, in parallel to (102)/(103).

3.11. Remarks on extraposition and right dislocation of adjuncts

We expect that the deletion account carries over to adjuncts. (105) shows clarifying repetitions in which the adjunct in the repetition adds temporal information to the original. These are plausible inputs to deletion. The deletion is shown in (106), its output in (107).

- (105) a. Was hat Maria am Dienstag gemacht?
 Sie hat gearbeitet, sie hat am Dienstag gearbeitet.
 b. Was hat sie gemacht?
 Sie hat ihren Geburtstag gefeiert, und zwar hat sie am Dienstag ihren Geburtstag gefeiert.

- (106) a. Was hat Maria am Dienstag gemacht?
 Sie hat gearbeitet, ~~sie hat~~ am Dienstag gearbeitet.
- b. Was hat sie gemacht?
 Sie hat ihren Geburtstag gefeiert, und zwar ~~hat sie~~ am Dienstag ~~ihren Geburtstag~~ gefeiert.
- (107) a. Was hat Maria am Dienstag gemacht?
 Sie hat gearbeitet, am Dienstag.
- b. Was hat sie gemacht?
 Sie hat ihren Geburtstag gefeiert, und zwar am Dienstag.

In support of this analysis, I point out that structures without sentence stress to the left of such a temporal adjunct are degraded. This can be seen for default stress in (107), under givenness of the clause to the left in (109) and under focus on the adjunct in (110).

- (108) Was kannst du mir berichten?
 ? Maria hat gearbeitet am Dienstag.
- (109) Hat Maria gearbeitet?
 ? Ja, sie hat gearbeitet am Dienstag
- (110) Wann hat Maria gearbeitet?
 ? Sie hat gearbeitet am Dienstag.

Thus, we seem to be dealing with deletion derivations in (105) – (107). As with arguments, the deletion derivation is blocked entirely in (108) – (110). The fact that (108) – (110) are nevertheless not as ungrammatical as corresponding cases of right dislocation can now be attributed to the assumption that there is a marked extraposition derivation for the adjuncts in (108) – (110). The extraposition derivation does not arise in corresponding argument cases because of the presence of the pronoun.

As with extraposition of arguments, extraposition of the adjunct gets more natural as the adjunct is longer. This is shown in (111) and (112).

- (111) Was kannst du mir berichten?
Maria hat gearbeitet am Dienstag, am Mittwoch und am Donnerstag.
- (112) Hat Maria gearbeitet? / Wann hat Maria gearbeitet?
 Sie hat gearbeitet am Dienstag, am Mittwoch und am Donnerstag.

This supports the existence of an extraposition derivation for the adjuncts. The markedness in (107) – (111) can be connected to the lack of sufficient length that would license or motivate extraposition here.

3.11. Variation among arguments and adjuncts in extraposition and right dislocation

It appears that neither arguments nor adjuncts behave uniformly for extraposition or right dislocation. For example, the PP argument in (113a) extraposes more readily than the DP argument in (113b) when the length requirements are not fulfilled. The *als*-phrase in (114) seems to extrapose more easily than the temporal adjunct in (110).

- (113) Was ist geschehen?
 a. ? Der Peter hat gewartet auf die Maria.
 b. * Der Peter hat gesehen die Maria.
- (114) Als was hast du ihn gesehen?
 Ich habe ihn gesehen als einen Schuft.

Consider also variation in right dislocation. The following comparison was suggested to me by Werner Frey (personal communication). Right dislocation cannot resume an implicit definite argument, i.e. the deletion from (115a) in (115b) is not allowed. This is also a restriction of gapping, which does not allow the deletion of a transitive verb under identity with its intransitive variant, as in (116).

- (115) Wie hat sie auf das Angebot reagiert?
 a. Sie hat angenommen, sie hat das Angebot angenommen.
 b. ??/* Sie hat angenommen_{ITR}, ~~sie hat~~ das Angebot angenommen_{TR}.
- (116) ??/* Der Hans hat am Dienstag angenommen_{ITR}, und der Peter ~~hat~~ das neue Angebot am Donnerstag angenommen_{TR}.

On the other hand, an optional PP argument allows right dislocation as in (117). A corresponding case of gapping in (118) is similarly improved relative to (116). We are led to assume that the verb *warten* ‘wait’ with the PP argument and the verb *warten* without the PP argument are identical enough for deletion of one under identity with the other.

- (117) Was passierte während Maria unterwegs war?
 Der Hans hat gewartet, ~~der Hans hat~~ auf die Maria gewartet.
- (118) ? Der Hans hat bis drei gewartet, und der Peter auf die Maria bis vier.

In summary, neither arguments nor adjuncts behave uniformly with regard to extraposition or with regard to right dislocation. The current account does not predict uniform behavior, though it predicts certain parallels, e.g. the parallel of right dislocation to the relevant deletion operation.

4. Conclusion

Right dislocation with or without sentence stress on the dislocated element requires that the clause to the left is prosodically complete:

- (119) The clause preceding a right dislocated constituent requires sentence stress.

This restriction does not obtain with extraposition.

The two cases of right dislocation also share an information structure restriction:

- (120) A focus on a right-dislocated element cannot include the clause to its left in its scope, i.e. it cannot take that clause as its background.

This restriction also is not shared by extraposition.

The distinction was employed to confirm the analysis of correlate constructions in Frey 2010 and his precursors (and in part the prosodic arguments made in the literature were put on a broader footing). While some verbs do not allow genuine correlates but only right dislocation, other verbs allow genuine correlates, and these show the prosodic properties of extraposition, not right dislocation.

- (121) Genuine correlate constructions show the prosodic properties and information structure properties of extraposition, i.e. they do not obey (119) or (120).

A class separated by Frey in terms of subject expletives also shares this behavior, which is compatible with Frey’s analysis.

Unaccented right dislocation is crucially distinguished from right dislocation with sentence stress in terms of the information structure:

- (122) Right dislocation without sentence stress is possible only when the right dislocated element is G-marked. Right dislocated elements with sentence stress are not construed as contextually given.

It was shown how a deletion analysis of right dislocation derives (119), (120) and (122). It was shown that two further differences between unaccented right dislocation and right dislocation with sentence stress follow from (122). It was argued that the analysis extends to the placement of adjuncts after the clause. These can also have an extraposition derivation, though at least for some adjuncts extraposition is marked when the adjunct is short. It was observed that arguments and adjuncts do not behave uniformly for extraposition or for right dislocation. While it would be interesting to know more about this, it does not go against any predictions of the current analysis.

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