Chapter 6

Case mismatches and match fixing cases

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Matching and mismatching are names for a fairly wide variety of phenomena in the grammar of many, perhaps most, languages. Given the fact that inflection is a crucial element in (mis-)matching phenomena, the overall attention that these phenomena have attracted has been fairly poor. The present article attempts to tackle one specific aspect of (mis-)matching phenomena that we may suspect could be a key to a broader set of facts in this domain. Specifically, the article examines the relationship between case matching and case attraction. The former is frequently found in the syntax of free relative clauses, while the second is often a characteristic of relative clauses headed by pronominal elements. As there are good reasons to consider these two sets of phenomena to be closely related, an attempt will be made here to show that matching and attraction are indeed two sides of the same coin. The crucial argument will be to pursue the analysis of headed and headless relative clauses in terms of what has come to be called "grafting".

1 Case matching and case attraction in relative clauses

This article will address certain phenomena concerning morphological case in a number of relative clause constructions, in particular case (non-)attraction and case (mis-)matching.¹ The main puzzle that I would like to discuss is the question

¹There are similar issues in many other domains of grammar. To give just one example, in various constructions involving coordination we find both matching requirements and mismatches. For a discussion of such phenomena in *right node raising* constructions, for example, see Larson (2012). In the present article I use the term *case* (*mis-)matching* to refer to case conflicts independently of whether they occur in a single position or in two (usually adjacent or close) positions. To distinguish the two, I use *case attraction* (two positions interacting) and *case superimposition* (two different cases that fight for a single position).



of how many positions are involved. In case attraction we are dealing with a head of the relative clause and the wh-phrase in the Spec,CP of the relative clause: two separate positions. In free relatives (FRs), however, it seems as if in some cases at least there is just a single position in which a case is realized that the matrix environment and the relative clause environment fight about determining.

Starting with case attraction, let us look at some examples from Ancient Greek.²

- (1) a. pro tōn kakōn *ha* oida instead-of^{GEN} the evils_{GEN} which_{ACC} I-know^{ACC} 'instead of the evils which I know'
 - b. $\mathrm{pro}^{\mathrm{GEN}}$ tōn kakōn_{\mathrm{GEN}} $h\bar{o}n_{\mathrm{GEN}}$ oida $^{\mathrm{ACC}}$

In (1a) the head of the relative clause has the genitive case imposed by the preposition in the matrix while the relative pronoun has the accusative case imposed by the embedded verb 'know'. In (1b) however, the case of the relative pronoun has been changed from accusative to genitive, the case of the head. This is called case attraction.

(2) Greek

- a. ... ekpiein sun toutois hous malista phileis to-drink with $^{\mathrm{DAT}}$ those $^{\mathrm{DAT}}$ whom $^{\mathrm{ACC}}$ best you-love $^{\mathrm{ACC}}$ 'to drink with those whom you love best'
- b. ... ekpiein $\mathrm{sun}^{\mathrm{DAT}}\ \mathit{hois}_{\mathrm{DAT}}$ malista phileis $^{\mathrm{ACC}}$

(2a) is a headed relative clause in which the head is in the dative case according to the requirements by the matrix preposition while the relative pronoun appears in the accusative case thereby fulfilling the case requirements of the verb in the relative clause. (2b) is the corresponding FR. As there is only one single relative pronoun, that is, only one position to express case morphology, a conflict arises between the dative required by the matrix and the accusative imposed by the relative clause: a case mismatch. In some languages this would lead to a conflict that cannot be resolved. In such languages an example like (2a) could not be expressed by means of a FR. In Ancient Greek, however, the conflict is resolved by means of a kind of radical form of case attraction which we might call case superimposition. In (2b) the matrix dative supersedes the embedded accusative.

²The examples given here are adapted from Hirschbühler (1976) and were cited in Groos & van Riemsdijk (1981). I use superscripts to indicate the case imposed by the item in question and subscripts to indicate the actual case borne by the element in question.

The question as to whether a case conflict in a given language results in ungrammaticality or whether it can be resolved by case attraction (or superimposition) is a complicated one. For Ancient Greek, Hirschbühler (1976) proposed a case hierarchy:³

(3) NOM > ACC > DAT > GEN

This hierarchy goes from least oblique to most oblique. And the corresponding principle is as in (4).

(4) In situations of case superimposition the more oblique case wins.

This will correctly predict that in (2b) it is the dative that wins and suppresses the accusative.

German may well be the language for which this issue has been studied in the greatest detail.⁴ There is considerable variation in the judgments ranging from those who allow very few case mismatches to those who allow virtually all of them.⁵

This is not, however, the question that I mean to discuss in this paper. Instead, the issue I want to address here is what it means to say that "in the FR there is only one position to realize case". Take the following examples of FRs in Standard High German.⁶

(5) German

- a. Wen_{ACC} du einlädst^{ACC} wird auch kommen^{NOM}. who-ACC you invite will also come 'Whoever you invite is sure to come too.'
- b. * Sie zerstört^{ACC}, wer_{NOM} ihr begegnet^{NOM}.
 she destroys who-NOM her-DAT meets
 'She destroys whoever meets her.'

At first sight, there is a relative clause without a head and a relative pronoun in the relative clause. So, ostensibly, there is only one pronoun that has a slot for

³See also Harbert (1983) for extensive discussion, including Gothic.

⁴See among many others Vogel (2001).

⁵This is just scratching the surface. As an anonymous reviewer points out, Polish does not resolve case mismatches. To circumvent ineffability problems, however, Polish makes extensive use of so-called "light headed relatives", that is, relative clauses with a pronominal head. See Citko (2004). Furthermore, it appears that in modern Greek the matrix case always wins, cf. Daskalaki (2011) and Spyropoulos (2007).

⁶These examples are from Vogel (2001: 15, ex. 22a,b).

case morphology. Suppose, however, that FRs do have a head just like headed relatives but that the head is silent.⁷ In that case we could say that there are two slots for case morphology, but at spell-out there is only one in which case can be overtly expressed.

As I will suggest at the end of §3, there is only one syntactic position which is "shared" by the relative clause and the matrix clause. An anonymous reviewer remarks that from a semantic point of view the FR-pronoun is not a shared argument: the argument of the relative predicate is the FR-pronoun but the argument of the matrix predicate is the FR as a whole. Notice, however, that on a raising analysis of relative clauses the head of the relative clause is similarly shared between the relative clause and the matrix clause. Space prevents a more extensive discussion here.

2 One position for case or two?

While there are language particular differences in the case hierarchies and the way they determine case attraction and case superimposition, the similarities are nevertheless considerable. And the fact that they affect both attraction and superimposition strongly suggests that the structures to which they apply should be sufficiently similar in order to allow for the generalization to be expressed. It follows, apparently, that the silent head analysis of FRs should be preferred as the adoption of that analysis implies the presence of two positions in both constructions: case attraction and case superimposition. Simplifying, the structure of (5a) would be roughly like (6).

(6) $[DP \ [\emptyset \]_{NOM} \] [CP \ [Spec,CP \ [WhP \ [Wh \ wen \]_{ACC} \]_i$ du einlädst t_i] wird auch kommen]

The nominative case feature on the silent head and the accusative case feature on the relative pronoun now have to fight about which one of them can be realized on the only available host, the relative pronoun *wen*. In case attraction situations, which are now structurally identical except that the head is lexically realized, not silent, each case feature can be realized on its host, but nevertheless the two case features may "feel the necessity to create a closer bond between them", resulting in a copy of one of the two case features being superimposed on the other one. And that is case attraction.

⁷This was the analysis proposed in Groos & van Riemsdijk (1981).

Unfortunately the situation is somewhat more complicated than that. I have argued (cf. van Riemsdijk 2006a)⁸ that FRs should be treated in terms of what I call *grafting*. Let me first introduce the notion of "graft" and then show how FRs could be analysed in terms of graft structures.

There are ample arguments for grafts (cf. van Riemsdijk 2000). A more "authoritative" view is presented in van Riemsdijk (2006b). As an illustration of simple cases, consider a DP like (7):

(7) a far from simple matter

It is quite easy to see that assigning a structure to such a DP is, indeed, a far from simple matter. Clearly we have a head noun *matter*. To the left there is an attributive AP. But there are two adjectives: *far* and *simple*. Assuming that *from simple* is a PP, that PP is presumably a complement of *far*. That is, we might assume that the structure of that PP in (7) is equivalent to that of (8).

(8) far from the airport

But this leads immediately to a serious problem in that (9) is ungrammatical:

(9) * a far from the airport hotel

The reason is quite straightforward. The head of the AP, *far*, is not left adjacent to the head noun *hotel*. That they must be adjacent has been argued in Emonds (1985; 1976), Williams (1982), van Riemsdijk (1993), Biberauer et al. (2014). As (7) is grammatical, we are led to assume that *simple* is the head. This assumption also makes sense semantically in that the meaning of (7) is something like *a not really simple matter*, where *not really* is a modifier of the head *simple*. In short, we have a paradox, if we want to express the structure of (7) taking all these considerations into account. The notion of graft (which I have argued is simply a special case of merge, cf. van Riemsdijk 2006b) offers a solution (see Figure 6.1).

Cases like (7) alone would not suffice to justify this type of approach. But there is considerable evidence (cf. van Riemsdijk 2001; 2006a,b,c; 2010) for grafts from a number of constructions including free relatives (FRs) and particularly a special type of FR called transparent free relatives (TFRs).

On this view, FRs will be analysed along the following lines (10):

⁸See this chapter for an ample overview of the relevant literature. An updated version of this chapter has appeared in van Riemsdijk (2017).

⁹Note also, that, as an anonymous reviewer observes, in (7) the postnominal position for the AP is ungrammatical: *a matter far from simple while in (9) the postnominal position of the AP makes the phrase grammatical: a hotel far from the airport.

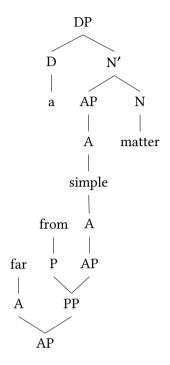


Figure 6.1: A simple graft

(10) German

- a. Ich gebe^{DAT} die Belohnung wem_{DAT} eine gebührt^{DAT}.
 I give the reward to-whom one deserves
 'I give the reward to who deserves one.'
- b. Ich gebe^{DAT} die Bel. *wer_{NOM}/*wem_{DAT} eine verdient^{NOM}.

 I give the reward who/whom one deserves
- c. ${}^*Wem_{DAT} / {}^*wer_{NOM}$ eine Belohnung gebührt DAT bekommt NOM eine. whom who a reward deserves receives one

(10a), which incidentally illustrates the case matching effect, would roughly be assigned the following structure under a graft approach (Figure 6.2).

The strongest arguments for a graft/multi-dominance approach come from TFRs. Below I will summarize some of the major properties of TFRs to show what these arguments are. 10

¹⁰Some of these observations are due to Wilder (1998) and some are my own, see van Riemsdijk (2001; 2006a,b).

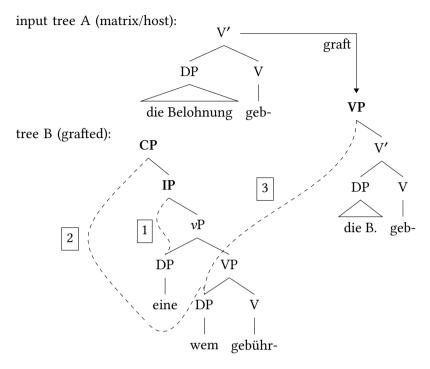


Figure 6.2: FR analysis by grafting

- FRs are definite or free choice universal as in (11) TFRs are typically indefinite, cf. (12), that is, it is the predicate nominal (PN) that determines the indefiniteness of the TFR, not the *wh*-word.
 - (11) I eat what is on the table.
 - (12) a. I ate what they euphemistically referred to as a steak.
 - b. There is what I suspect is a meteorite on the front lawn.
- (English) number agreement: *what* determines singular agreement inside and out in the FR (13a), but it is the predicate nominal (PN) that determines the actual agreement in the TFR (13b,c).
 - (13) a. What pleases/*please me most adorns/*adorn the living room wall.

- b. What *seems/seem to be some meteorites *was/were lying there.
- c. What seems/*seem to be a meteorite was/*were lying there.
- Adjectival agreement in Dutch is present in attributive adjectives but not in predicative adjectives. The predicative adjective (PA) in a TFR inflects like an adjective when the TFR is adnominal. That is, the PA is the shared element.
 - (14) Dutch een wat ik zou noemen eenvoudig-*(e) oplossing a what I would call simple solution
- Idiom chunks: the PN in the TFR can complete a matrix idiom.
 - (15) a. The headway they made was impressive.
 - b. They didn't make what can reasonably be considered headway.
- Bound anaphors in the PN of the TFR can be bound by a matrix antecedent, showing again that the PN is the shared element.
 - (16) a. They live in what is often referred to as each other's backyard.
 - b. She was what can only be interpreted as proud of herself.
 - (17) a. Bush_i would never acknowledge what Cheney_j refers to as $[\text{each other's}]_{i+j}$ mistakes.
 - b. John_i hates to discuss what $Mary_j$ calls [each other' s]_{i+j} sexual deficiencies.
- Case matching is required on the PN. The examples are from German.
 - (18) German
 - a. Er hat was man einen_{ACC} Halunken nennt^{ACC}
 he has what one a scoundrel calls
 festgenommen^{ACC}.
 apprehended
 'He has apprehended what they call a scoundrel.'

b. * Er ist was man einen_{ACC} / einem_{DAT} Halunken nennt^{ACC} auf he is what one a / a scoundrel calls on den Leim gegangen^{DAT}.
 the glue gone
 'He has been hoodwinked by what they call a scoundrel.'

In (18a) the case requirements by the matrix clause and by the TFR are identical, they match. But note that the shared element that has to satisfy the double case requirement is the PN, not the *wh*-word. This is shown by (18b) where the case requirements on the PN do not match. Note also that case syncretism, which can resolve case mismatches in FRs as in (19) also does so in TFRs, cf. (20):

(19) German

- a. * Wen_{ACC} du liebst^{ACC} ist^{NOM} ein Halunke. whom you love is a scoundrel
- b. $Was_{NOM/ACC}$ du liebst^{ACC} ist^{NOM} Pasta. what you love is pasta

The *wh*-word *wen* in (19a) can only be an accusative, hence we have a case-mismatch which causes ungrammaticality. But in (19b) the *wh*-word *was* is syncretic in that it can be both a nominative and an accusative. Thereby the mismatch is avoided. Perhaps the most convincing indication that in TFRs it is the PN that is the shared element between the matrix clause and the (transparent) free relative is the fact that the PN shows syncretic behavior just like the *wh*-word in FRs.¹¹

(20) German

- a. Was viele $einen_{ACC}$ geilen_{ACC} Wagen nennen^{ACC} wird oft what many a sexy car call is frequently gekauft^{NOM}. bought
- b. * Was viele ein_{NOM} geiler_{NOM} Wagen nennen^{ACC} wird oft gekauft^{NOM}.
- c. Was viele $ein_{NOM/ACC}$ geiles_{NOM} Auto nennen^{ACC} wird oft gekauft^{NOM}.

¹¹(20a) is an example of a case mismatch in which the accusative wins over the nominative. This is considered more or less grammatical by many speakers of German, see Vogel (2001) for discussion.

The important fact here is that, while *Wagen and Auto* are synonymous, *Wagen* is a masculine noun while *Auto* is neuter. In the paradigm for masculine nouns the nominative and the accusative are distinct, but in the paradigm for neuter nouns they are not, in other words there is syncretism in the case morphology. Accordingly the case mismatch in (20b) causes ungrammaticality, but in (20c) the mismatch is avoided by syncretism.

The important thing about TFRs, then, is that it is perfectly evident that it is the PN/PA of the TFR that acts as the shared element, i.e. the element that is also part of the matrix clause. There does not appear to be an obvious way to posit a second position alongside the PN which could be used as the locus for a second case morpheme as in example (6) above.

A graft approach directly expresses the notion that the PN (or the PA) is simultaneously part of the TFR and of the matrix structure. By way of illustration, here is a simplified graft derivation of a simple TFR:

(21) I ate what they called a steak.

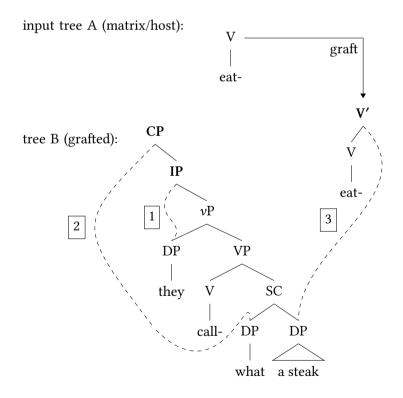


Figure 6.3: TFR analysis by grafting

At this point we can draw three interim conclusions:

Interim conclusion 1: Matching effects (and mismatches) in FRs and TFRs must be dealt with in terms of a single position, that is, the shared element.

Interim conclusion 2: Case attraction as well as its absence is a process that occurs between two positions.

Interim conclusion 3: The phenomena of (mis-)matching and case (non-)attraction are sufficiently similar to regard a theory in which we need two separate treatments as a failure, hence we must study ways in which we can interpret both phenomena as two sides of the same coin. We might call this THE THEORETICIAN'S DILEMMA.

3 Can we have our cake and eat it too?

There is a simple and straightforward way to solve the theoretician's dilemma. We have been tacitly assuming that grafting applies to maximal projections, to phrases. This is not only a simplification, but it is, in fact, wrong. First, as I have argued in van Riemsdijk (2006b) grafting is not an exotic new enrichment of the power of the theory but simply an instance of merge. Indeed, a stipulation would be necessary to prevent merge from applying to, for example, the adjective *simple* with the noun *matter* in Figure 6.1. But observe that limiting grafting to maximal phrases would also require a stipulation that is unwarranted both from a theoretical perspective and for empirical reasons.

This does not alter the fact that grafting is a powerful mechanism. There are two reasons why this is unavoidable. First, I believe grafting is unavoidable if we are to present cogent analyses for constructions like FRs and TFRs (and many others such as Horn-amalgams, cf. van Riemsdijk 2006c). There are many other cogent reasons for making merge the central operation in syntax. As I have argued (van Riemsdijk 2006b) grafting is an inevitable consequence of the introduction of merge. What seems to be realized much less is that the adoption of merge inexorably initiates a new program to search for powerful limitations of the descriptive power in much the same way that the introduction of transformations in the 60s defined a program to restrict them severely. If the program to restrict merge turns out to be as fruitful as the program to restrict transformations, generative syntax may look forward to a very bright future indeed. As for grafting, a very modest attempt at restricting its power is presented in van Riemsdijk (2010).

Returning now to the "theoretician's dilemma", consider the fact, for example, that a TFR can be inserted in the middle of a DP as in:

(22) John has three what I would call gas guzzlers in his garage.

In this example the shared element is the compound *gas guzzler*. Inside the matrix DP (*three gas guzzlers*) the compound is not a complete DP but, presumably, just N. In the TFR, however, the PN is a complete DP. A very simplified tree structure for (22) shows this (Figure 6.4).

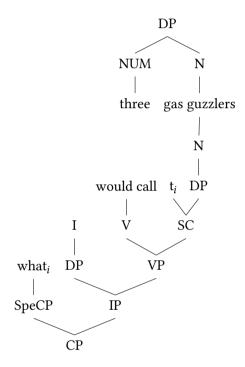


Figure 6.4: 'Attributive' TFRs

In our discussion about "one position or two", what we are talking about is positions in which the case features (or their ultimate spellout) are located. And when we talk about case attraction and case (mis-)matching, these positions are usually characterized as "K" (for Kase, to avoid confusion between the ordinary word case and the grammatical term case). Before showing how this would work for TFRs with matching or mismatching case such as those in (20), let us look at a simple case which shows that this is typical and necessary for grafts involving inflectional morphology.

Recall the third argument for a grafting analysis of TFRs presented above, cf. example (14). In Dutch attributive adjectives are inflected. The rule is very simple.

The adjectival inflection (AI) marker is always -ə (spelled '-e') unless the head noun is indefinite neuter singular, as in (23e):¹²

(23) Dutch

a.	een groot-*(e) woning	indef. masc. sing.
	(a large apartment)	

- b. twee groot-*(e) woningen indef. masc. pl. (two large apartments)
- c. de groot-*(e) woning def. masc. sing. (the large apartment)
- d. de groot-*(e) woningen def. masc. pl. (the large apartments)
- e. **een groot-(*e) huis** indef. neuter sing. (a large house)
- f. twee groot-*(e) huizen indef. neuter pl. (two large houses)
- g. het groot-*(e) huis def. neuter sing. (the large house)
- h. de groot-*(e) huizen def. neuter pl. (the large houses)

Example (14), repeated here as (24), can now be represented quite simply as Figure 6.5, where the AIs remain outside the shared adjective which is grafted.¹³

(24) Dutch

een wat ik zou noemen eenvoudig-*(e) oplossing a what I would call simple solution

We see that what looked like a morphological mismatch is resolved in structure Figure 6.5 as we have two separate positions. A conflict is avoided because one of the two AI positions is empty. With this in hand, we can address the issue of case (mis-)matches, for example in TFRs.

 $^{^{12}}$ I have left out adjectives with non-count nouns. It should also be pointed out that in Dutch spelling an adjective like *groot* when suffixed by -e is spelled with a single 'o' (because the syllable is open). For more detailed discussion, see Broekhuis (2013: 11–13).

¹³Not unexpectedly the same TFR with a neuter noun is perfectly grammatical as neither the matrix nor the TFR requires a -e ending: een wat ik zou noemen groot huis.

¹⁴For discussion of other cases involving agglutinative morphology and also an extension to the issue of how the theta criterion can be maintained in grafting structures, see van Riemsdijk (2010).

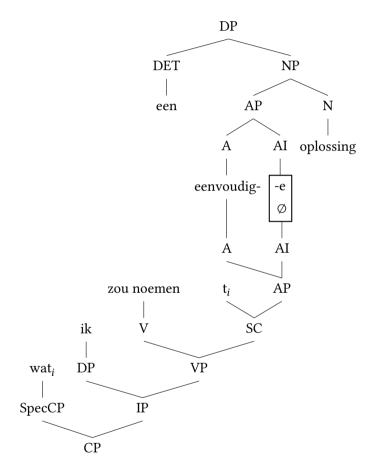


Figure 6.5: Mismatch avoidance with attributive adjectives

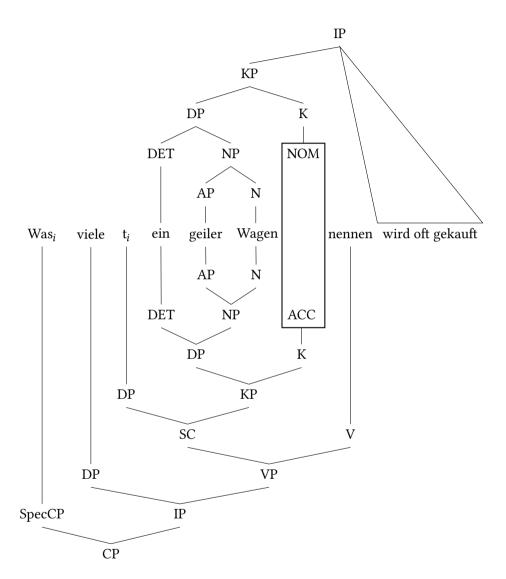


Figure 6.6: Case mismatch with TFR

Take example (20b), repeated here as (25).

(25) German

*Was viele ein_{NOM} geiler_{NOM} Wagen nennen^{ACC} wird oft gekauft^{NOM}. what many a sexy car call is often bought 'What many would call a sexy car is frequently bought.'

The structure for such a TFR would be roughly as in Figure 6.6.

The case mismatch can now be localized in the box, where NOM and ACC are in conflict with each other. In this example the matrix case NOM has won, which results in ungrammaticality. If the TFR case ACC wins, as in (20a) there is still a conflict, but according to the case hierarchy ACC supersedes NOM. And indeed, this example is perfect for some varieties of German and definitely much better than (20b) for all speakers (see also example (5) above and footnote 5).

This solution closes the circle in that case (mis-)matching in FRs can be treated in a completely parallel way. Take the example (5a) above, repeated here as (26). Figure 6.7 is a very simplified tree depicting the relevant structure.

(26) German

Wen_{ACC} du einlädst^{ACC} wird kommen^{NOM}. who-ACC you invite will come

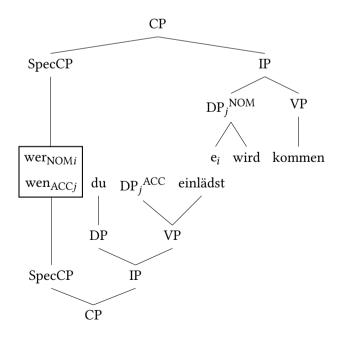


Figure 6.7: Case mismatch resolved by superimposition

This is a typical example of a case mismatch that is, however, accepted by many speakers of German. As there is only one position in which a wh-word can be spelled out, the mismatch must be resolved. It is resolved in the rectangle in that the accusative wins over the nominative, as predicted by the Case Hierarchy. In very strict versions of German, which do not accept this mismatch, the battle has no winner and the derivation crashes as both wh-words cannot be spelled out simultaneously.¹⁵

4 Conclusion

We started out with a puzzle. Case attraction and case (mis-)matching in normal and transparent free relatives are sufficiently similar to aim for a unified treatment of both. But case attraction involves an interaction between two positions while case (mis-)matches seemingly involve only one position, at least if, as I have argued, they are accounted for in terms of grafting. What I hope to have shown is that there are good independent reasons for adopting analyses in terms of sub-phrasal grafts which allow us to have two tree positions for the matching or conflicting morphological elements, but only a single spell-out position. Thereby we are an important step closer to a unified theory of attraction and (mis)matching.

Abbreviations

ACC	accusative	NOM	nominative
AI	adjectival inflection	PA	predicative adjective
DAT	dative	DAT	1
FR	free relative	PN	predicate nominal
GEN	genitive	TFR	transparent free relative

Acknowledgements

Parts of this article were presented at the workshop *Insufficient strength to defend its case: Case attraction and related phenomena* at the University of Wrocław in

¹⁵The question arises as to whether the resolution of case conflicts that ultimately determines the spell-out takes place in narrow syntax or post-syntactically, as an anonymous reviewer asks. The answer has to be that this must be a matter of post-syntactic spell-out. The most convincing considerations arguing for this view have to do with the way that syncretism helps resolve case conflicts. Space prevents me from going into the details here however.

September 2015. Thanks are due to the audience for interesting discussion. In particular I would like to thank Joanna Błaszczak and Philomen Probert for having invited me to this conference which gave me a chance to clarify my thoughts on attraction and matching. Thanks are also due to two anonymous reviewers. The more general background for these issues is the antithesis of two very general forces that manifest themselves in many ways and in many aspects of the physical world: attraction and repulsion, see van Riemsdijk (2019).

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