

RESUMPTIVE PRONOUNS AND MATCHING EFFECTS IN ZURICH GERMAN RELATIVE CLAUSES AS DISTRIBUTED DELETION

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Abstract

*Zurich German (ZG) relative clauses are remarkable from a Germanic point of view in that resumptive pronouns are employed instead of relative pronouns. Reconstruction effects and Strong Crossover violations show that movement is involved in the derivation of ZG relative clauses. Matching effects sensitive to case and preposition provide crucial evidence that the distribution of resumptives is determined by general licensing conditions on oblique case and prepositions. The matching/non-matching dichotomy is modeled as an instance of Distributed Deletion, which is claimed to be independently available in the language. Matching is furthermore sensitive to the actual surface form and thus favors a late insertion approach to morphology.**

1. Introduction

This paper investigates the grammar of resumptive pronouns in Zurich German (ZG)¹ relative clauses. In section 2, I will lay out the general properties of ZG relative clauses, including the distribution of resumptives. In section 3, I discuss data

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¹ Zurich German is the dialect spoken in most parts of the canton (state) of Zurich in Switzerland. There are approximately one million native speakers.

that argue in favor of a movement analysis of resumptives. Section 4 presents hitherto undiscovered matching effects. In section 5 I show that resumptives receive the same interpretation as gaps. Section 6 reviews previous approaches to resumption and shows that they all fail to explain the ZG data. In section 7 I present a new account, and section 8 contains detailed derivations. Section 9 summarizes the paper.

2. General properties of Zurich German relative clauses

2.1. General form

Restrictive Relative Clauses² in ZG are introduced by an invariant complementizer *wo* (*won* before vowels). Relative pronouns are absent, except for adverbial relations like 'why', 'how', 'where', which I will not discuss here. Instead, there are resumptive pronouns, formally identical to the unstressed version of the personal pronoun. They either appear in the regular argument position or cliticize optionally onto the complementizer.

2.2. Distribution of resumptive pronouns

In local relativization,³ resumptive pronouns are found from the dative object⁴ on downwards on the hierarchy introduced by Comrie/Keenan (1977), including possessors, cf. van Riemsdijk (1989: 343, 345; 2003):⁵

- | | | |
|--------|---|----------------------|
| (1) a) | d=Frau, wo (*si) immer z=spaat chunt ⁶ | (subject) |
| | the=woman C (she) always too=late comes | |
| | 'the woman who is always late' | |
| b) | es Bild, wo niemert (*s) cha zale | (direct object) |
| | a picture C nobody (it) can pay | |
| | 'a picture that nobody can afford' | |
| c) | de Bueb, wo mer *(em) es Velo versproche händ | (indirect object) |
| | the boy C we (he:DAT) a bike promised have:1PL | |
| | 'the boy we promised a bike' | (van Riemsdijk 1989) |

² I will not discuss appositive relative clauses in this paper.

³ For reasons of space, I cannot go into long-distance relativization, where resumptives appear in all positions. See Salzmänn (in prep.) or van Riemsdijk (2003) for the data. However, a few examples will be used in arguments below.

⁴ This does not hold for all Swiss dialects, in several of them and even for some speakers of ZG, dative resumptives are impossible.

⁵ Unless otherwise noted the judgment represent those of my informants, mentioned in the first footnote.

⁶ The following abbreviations and symbols are used in this text: C = relative complementizer, SG = singular, PL = plural, NOM = nominative, ACC = accusative, DAT = dative, -OBLIQUE = -oblique case form, not specified for either nominative or accusative; Ø_D = empty determiner; the sign '=' stands for cliticization.

- d) D=Frau, won=i von=*(ere) es Buech übercho ha, find i müesam.
 the=woman C=I from=(she:DAT) a book got have:1SG find:1SG I annoying
 'I find the woman annoying from whom I got a book.' (P-object)
- e) Das deet isch de Typ, won=i geschter *(sini) Fründin ha wele verfüere
 that there is the guy C=I yesterday (his) girlfriend have:1SG wanted seduce
 'That's the guy whose girlfriend I wanted to seduce yesterday.' (possessor)⁷

3. Movement

In much of the literature in the 80ies and 90ies, it is tacitly assumed that the presence of resumptive pronouns automatically implies a non-movement relationship between antecedent and pronoun. Work by Demirdache (1991), Aoun et al. (2001), and Boeckx (2003), however, has shown that at least in some languages resumption is not incompatible with movement. I will argue in this section that movement is indeed involved in the derivation of ZG relative clauses. It is, however, not trivial to diagnose the presence/absence of movement when resumptive pronouns are employed because resumptives usually void locality violations. Therefore, further diagnostics are needed. I will therefore additionally discuss in some detail reconstruction and Crossover effects.

3.1. Locality

The question of movement is particularly difficult in the domain of locality because resumptive pronouns normally void island violations. In English, resumptives only occur in contexts where movement is not available. Inserting a resumptive rescues the construction:⁸

- (2) This is the man that I was wondering < whether you would like * ___/him >.

Since English does not use resumptives in non-island contexts, their presence is direct evidence that the movement operations in question are sensitive to locality. In Zurich German (and many other languages), however, resumptives also appear in positions where movement is expected to be available, e.g. in the matrix dative object position or the subordinate subject/direct object position. Consequently, the presence of a resumptive is not indicative of a locality violation and thus neither argues in favor nor against movement. Independent evidence is necessary to determine whether there is movement or not.

3.2. Reconstruction

Reconstruction, on the other hand, is a useful diagnostics for movement in resumptive structures. Crucially, we do find robust reconstruction effects in ZG even

⁷ Alternatively, possessors can also be rendered as complements of the preposition *von* 'of'. These forms are constructed like PPs.

⁸ Another term for this use is 'intrusive pronoun', cf. Chao/Sells (1983).

in the presence of resumptives. This represents clear evidence for movement. The following examples illustrate reconstruction for anaphor binding (3), principle C (4), bound pronouns (5), and idioms (6). Whether there is a gap or a resumptive, reconstruction always takes place:

- (3) a) S Bild vo *sich*_i, wo de Peter_i ___ wett verchaffte, gfallt niemertem.⁹
 the picture of self C the Peter wants sell pleases nobody
 'Nobody likes the picture of himself_i that Peter_i wants to sell.'
 b) PRO*_i/j s Grücht über *sich*_i, wo sich de Peter_i *drüber* uufregt...¹⁰
 the gossip about self C self the Peter about_it gets_worked_up
 'the gossip about himself_i that Peter_i is getting worked up about'
- (4) a)* S Bild vom Heiri_i, won er_i ___ gmaalet hät, isch sehr unvorteilhaft.¹¹
 the picture of_the:DAT Henry C he painted has is very unfavorable
 (*) 'The picture of Henry_i that he_i painted is very unfavorable.'
 b)* S Spiegelbild vom Heiri_i, won er_i ___ *devo*o verzelt, ...¹²
 the mirror_image_of_the:DAT Henry C he about_it speaks
 (*) 'The mirror image of Henry_i that he_i talks about'
- (5) a) S Bild vo *sine*_i Eltere, wo jede Schüeler_i ___ mitbracht hät,
 the picture of his parents C every pupil brought_with has
 hanget a de Wand.
 hangs on the wall
 'The picture of his_i parents that every pupil_i brought with him is hanging on the wall.'
 b) D=Periode vo *sim*_i Läbe, wo niemert_i gärn *drüber* ret, isch d=Pubertät.
 the=period of his life C nobody likes_to about_it talks is the=puberty
 'The period of his_i life that nobdy_i likes to talk about is puberty.'
- (6) a) De Sträich, wo mer em Lehrer ___ *gspilt* händ, isch echli krass gsii.
 the trick C we the:DAT teacher played have:1PL is a_bit extreme been
 'The trick we played on the teacher was somewhat extreme.'
 b) S *Fettnäppli*, won=i drii trampet bin, isch eigetli nöd z=überseh gsii.
 the faux_pas C=I in_it stepped am is actually not to=overlook been
 'The faux pas I made could in fact not be overlooked.'¹³

⁹ The invariant anaphor *sich* does not allow for logophoric use. The objections discussed in (Bhatt 2002: 50) therefore do not apply. Furthermore, the b-example shows that the availability of coreference cannot be due to a PRO within the head of the relative clause because Peter is unlikely to have spread offensive gossip about himself. If there is a PRO at all, it certainly is not the factor that explains coreference.

¹⁰ If inanimate antecedents are resumed in a PP position, pronominal adverbs are used as resumptives.

¹¹ Incidentally, ZG seems to be different from English w.r.t. reconstruction for Principle C, where coreference is often reported to be acceptable (Sauerland 1998, Safir 1999, Bhatt 2002: 85, note 24).

¹² Again, the b-example shows that coreference cannot be due to a PRO inside the head of the relative clause. *Spiegelbild* 'mirror image' does not allow for an additional argument, thus avoiding the complications discussed in Bhatt (2002: 50).

¹³ The idiom *in es Fettnäppli trampe* (lit.: to step into a fat bowl) means 'to put one's foot in one's mouth'.

Reconstruction is a means of teasing apart resumptives in languages where they are found in both island and non-island configurations. The above examples, which involve non-island contexts, have shown that movement is available, resumption is only apparent (Aoun et al. 2001). On the other hand, movement is expected to be absent if the resumptive is located inside an island. This is confirmed by the absence of reconstruction effects in the following example, which instantiates true resumption (Aoun et al. 2001):

- (7) * S Bild_i vo sich_i, wo ali lached, wänn de Peter_i s zeigt,
 the=picture of self C everyone laughs when the Peter it shows
 hanget i de Stube.
 hangs in the living room
 'The picture of himself_i that everyone laughs when Peter_i shows it, is hanging in the living room.'

Reconstruction is also found with the interpretation of adjectival modifiers, a diagnostic introduced in Bhatt (2002: 56-63). The adjective can apply to any of the predicates in (8), i.e. it is three-way ambiguous, showing the signs of successive cyclicity. Furthermore, ZG shows freezing effects with NPIs (9), and negation blocks reconstruction (10):

- (8) a) s **erschte Buech**, wo de Hans glaubt, [_{CP} ~~erschte Buech~~ dass ich bhaupte,
 the first book C the John thinks first book that I claim:IS
 dass es de Frisch gschriben hät]
 that it the Frisch written has
 'the first book that John thinks that I claim that Frisch wrote' → three-way
 ambiguous
- (9) b) s **einziges Buech**, wo d Susi gsäit hät, dass de Dürrenmatt s je gschriben hät
 the only book C the Susie said has that the Dürrenmatt it ever written has
 'the only book that Susie said that Dürrenmatt had ever written' → low reading
 only
- b) s **einziges Buech**, wo d Susi je gsäit hät, dass de Dürrenmatt s gschriben hät
 the only book C the Susie ever said has that the Dürrenmatt it written has
 'the only book that Susie ever said that Dürrenmatt had written' → high reading
 only
- (10) Das isch s **erschte Buech**, wo de Hans **nöd** gsäit hät,
 this is the first book C the John not said has
 dass es de Frisch gschriben hät.
 that it the Frisch written has
 'This is the first book that John didn't say that Frisch wrote' → high reading only

3.3. Strong Crossover¹⁴

Tests for Strong Crossover effects (SCO) need to be constructed with some care, as discussed in McCloskey (1990: 21 ff.). Especially, it is important that the pro-

¹⁴ I am very grateful to Rajesh Bhatt for insightful discussion of these issues.

noun that is crossed cannot be interpreted as the resumptive (i.e. the variable) and the putative resumptive as a coreferential pronoun. Therefore, one has to cross matrix subjects or direct objects which, cannot be resumptives. Under these provisions, ZG shows clear SCO effects:

- (11) * **De Bueb**_i, won **er**_i tänkt, dass d=Marie **in**_i gärn hät.
 the boy C he thinks that the=Mary him likes has
 *‘The boy_i who_i he_i thinks that Mary likes t_i.’

4. Matching effects

In this section, I will describe a property of Zurich German (and more generally Swiss German) relative clauses that so far has gone unnoticed, namely matching effects, governed by the following generalization:

- (12) The Zurich German Relative Clause Matching Generalization (ZGMG)
 resumptives and prepositions within the relative clause are deleted if the head noun
 i) bears the same case
 ii) is selected by the same preposition

4.1. The Basis of matching: identity in case/preposition

4.1.1. Prepositional relations and dative

- (13) a) Ich han **em** **Bueb**, [wo=t (***em**) es Buech versproche häsch],
 I have:1SG the:DAT boy C=you (he:DAT) a book promised have:2SG
 es schöns Exemplar ggee.
 a beautiful copy given
 ‘I gave the boy who you promised a book a beautiful copy.’
 b) Ich ha **vo** **de** **Frau**, [won=i scho geschter (***von=ere**)
 I have:1SG from the:DAT woman C=I already yesterday (from=she:DAT)
 es Buech übercho han], wider äis übercho.
 a book received have:1SG again one received
 ‘I received from the woman from whom I had already received a book yesterday another one.’

In these examples the resumptive and (where applicable) the preposition at the extraction site have to be deleted because the head-noun receives the same marking in the external context.

4.1.2. Subjects and objects

Subjects and direct objects are systematically exempt from the matching requirement. At first sight, one might argue that the examples (1)a/b do in fact instantiate matching because the case form used for subjects and direct objects is identical in ZG (except for pronouns) and the case borne by the external element is that very

case as well. However, this would incorrectly predict the occurrence of resumptives for subject and object if the head noun is assigned dative case or governed by a preposition. In such configurations, resumptives are systematically absent as well:

- (14) a) **De Frau**, [wo (***si**) geschter cho isch], schuld i no
 the:DAT woman C (she:NOM) yesterday come is owe :1SG I still
 viel Gält.
 much money
 'I still owe the woman who came yesterday a lot of money.'
- b) **Vo de Frau**, [won=i (***si**) letschts Jahr in Kreta troffe
 from the:DAT woman C =I (she:ACC) last year on Crete met
 han], han i nie me öppis ghöört.
 have:1SG have :1SG I never anymore something heard
 'I've never heard again from the woman I met last year on Crete.'

4.2. The precise conditions for matching

In this section, I discuss the precise conditions for matching. I will look at constructions that minimally violate the generalization in (12), i.e. examples that do not share the same preposition but the same case or vice versa. Then I will further investigate whether thematic relations play a role. Lastly, I will investigate in how far different notions of case —like structural vs. inherent; abstract vs. morphological— play a role.

4.2.1. Mismatches in preposition, case, and case-assignment 1: only 1 PP

I will first discuss mismatches where only one clause contains both a P and a DP whereas the other one only contains a DP. I will only discuss cases where there is case-matching. In examples where there is no case matching, there are (of course) always resumptives. The first case combines an external P assigning dative case with relativization of the dative object within the relative clause:

- (15) Ich ha **vom Maa**, [won=i (***em**) es Buech ggee
 I have:1SG from_the:DAT man C=I (he:DAT) a book given
 han], geschter mis Gält übercho.
 have:1SG yesterday my money got
 'Yesterday I got the money from the man to whom I had given a book.'

Evidently, dative case on the external head licenses matching. In the reverse case with an external dative and a P + dative internally both the preposition and the resumptive are required in the relative clause:

- (16) Ich han **em Maa**, [won=i *(**von=em**) es Buech übercho
 I have:1SG the:DAT Man C=I (from=he:DAT) a book received
 han], zwänzg Stutz ggee.
 have:1SG twenty bucks given
 'I gave the man from whom I had received a book twenty bucks.'

4.2.2. Mismatches in preposition, case, and case-assignment 2: 2 PPs

The next class of mismatches involves PPs in both cases. In the first set of example, there is neither matching in case nor preposition. It is little surprising that both the resumptive and the preposition have to be spelled out:

- (17) Ich ha **für d=Lüüt**, [won=i *(mit=ene) i d=Schuel
 I have :1SG for the:ACC=people C=I (with=they:DAT) in the=school
 bin], ganz vil Schoggi gchauft.
 am very much chocolate bought
 'I bought a lot of chocolate for the people with whom I went to school.'

In the next example, there is case-matching, but the prepositions are different. Again, both the resumptive and the preposition are required in the relative clause:

- (18) Ich ha **vo de Lüüt**, [won=i *(mit=ene) i
 I have:1SG from the:DAT people C=I (with=they:DAT) in
 d=Schuel bin], scho lang nüüt me ghöört.
 the=school am already long nothing anymore heard
 'I have not heard for a long time from the people with whom I went to school.'

A further logical possibility involves prepositions that can assign different cases. If one combines the two different usages of one preposition, both the resumptive and the preposition must be spelled out as shown in the following example that combines the local (with dative) and the directional (with accusative) use of the preposition *in* ('in', 'into'):

- (19) Ich ha **i de Wonig**, [won=i morn *(i=si)
 I have:1SG in the:DAT apartment C=I tomorrow into=her:ACC
 iizieh], vil repariert.
 move much repaired
 'I have fixed a lot in the apartment into which I will move tomorrow.'

4.2.3. Mismatches in thematic relation

The previous examples suggest that the matching effects are form- and case-based. The following examples are used to test whether thematic roles also play a role:

- (20) a) Ich ha **vom Maa**, [won i *(von=em) gschlage
 I have:1SG from_the:DAT man C I (from=he:DAT) hit
 worde bin], nüüt me ghöört.
 was am nothing anymore heard
 'I haven't heard anything from the man by whom I was beaten.'

In this example, which combines a source and an agent relation, dropping both the resumptive and the preposition is obligatory. The same holds for the next example, which combines comitative with instrumental:

- b) De Hans hät sini Frau mit **de** Tusse, [won=i hüt Aabig
the John has his wife with the:DAT chick C=I today evening
(*mit=ere) is Kino gang], scho hüüfig betroge.
(with=she:DAT) into movie go:1SG already often cheated_on
'Hans has often cheated on his wife with the chick that I will go to the
movies with tonight.'

I conclude from this that the matching effect is not sensitive to thematic relations.

4.2.4. Different kinds of datives

The previous sections suggest very strongly that the matching effects are based on formal identity. The next step is to test whether all datives pattern the same. It has been suggested for German and German dialects that datives should be divided into structural and inherent datives, cf. Gallmann (1992), Wegener (1985, 1991) etc.¹⁵ Since subjects and direct objects do not show matching effects one might expect structural datives to pattern the same. However, all datives require resumptives as shown by the following examples:¹⁶

- (21) a) De **Maa**, wo=t *(**em**) geschter ghulffe häsch, isch
The:NOM man C=you (he:DAT) yesterday helped have:2SG is
immer no dankbar.
always still grateful
'The man who you helped yesterday is still grateful.'
b) Droge sind e Gfahr, wo mer *(**ene**) sini Chind nöd sött
drugs are a danger C one (they:DAT) one's children not should
ussetze.
expose
'Drugs are a danger that one should not expose one's children to.'
c) De Peter hät e Frau käne gleert, won er *(**ire**) gefallt.
the Peter has a woman know got C he (she:DAT) pleases
'Peter met a woman who likes him.'

A so-called structural dative with ditransitives can be found in (1)c, a structural dative with unaccusatives is represented by (21)c; (21) a-b are both inherent, in a) with an unergative verb and in b) with a ditransitive verb. One would therefore expect that all datives pattern the same w.r.t. matching. This is borne out:

- (22) a) Ich han **em** **Maa**, [wo=t *(**em**) ghulffe häsch],
I have:1SG the:DAT man C=you (he:DAT) helped have:2SG
geschter vo dir verzelt.
yesterday about you told
'I told the man that you helped about you yesterday.'

¹⁵ I will come back to diverging views on the nature of the dative in 7.1.1.

¹⁶ For unknown reasons, the unaccusative cases often sound rather awkward, and speakers resort to periphrasis.

- b) **Em Musiker**, [wo=t (*em) applaudiert häsch], würd
 the:DAT musician C =you (he:DAT) applauded have:2SG would: 1SG
 i kån Rappe gee.
 I no cent give
 'I would not give the musician who you applauded a cent.'
- c) **De Frau**, [wo=t (*ire) eusi Chind uusgliferet häsch],
 the:DAT woman C =you (she:DAT) our child exposed have:2SG
 gib ich nie me öppis z=ässe.
 give:1SG I never again something to=eat
 'I will never again give any food to the woman who we exposed our children to.'
- d) **De Frau**, [wo=t mich (*ire) vorziesch], häsch viel
 the:DAT woman C=you me (her:DAT) prefer:2SG have:2sg way
 z=vil versproche.
 too=much promised
 'You promised the woman that you prefer me to too much.'

In a) the external verb *tell* takes a structural dative whereas the verb inside the relative clause assigns inherent dative. The same holds for b). In c), both verbs are ditransitive, but the external one takes a structural dative whereas the internal verb assigns inherent dative. d) illustrates the same point. Incidentally, these examples provide further evidence that thematic relations are not at work. They also show that datives do form a coherent group in the grammar of ZG relativization.

4.2.5. *The importance of the surface form: different abstract Case but same form*¹⁷

It is a well-known fact that it is often the exact morphological form rather than the abstract case that plays a role in matching phenomena in free relatives, cf. Groos/van Riemsdijk (1981). It seems that a similar fact holds for ZG: Case is never formally marked on ZG nouns, but only on determiners and adjectives. Bare indefinite plurals without adjectives are therefore identical in all three cases. If matching is purely form-based, it can be predicted that a matching constellation always obtains with such DPs, regardless of the exact grammatical relation/abstract case of the head noun. This prediction is borne out, as the following example shows:

- (23) Ø_D Mane, won i (*ene) es Buech gib, müend intellektuell sii.
 D men(NOM) C I (they:DAT) a book give:1SG must:PL intellectual be
 'Men to whom I give a book must be intellectual.'

The head noun is the subject of the main clause and thus assigned abstract nominative case. Inside the relative clause it functions as a dative object. The form *Mane* is underspecified morphologically, it can be used in all three cases. The crucial thing here is: Since *Mane* can be interpreted as a dative object, matching is possible, and no resumptive occurs.

¹⁷ I am grateful to Kathrin Würth for drawing my attention to this fact.

4.3. Matching and movement

While non-matching configurations show unambiguous signs of movement, we still have to test whether this also holds for examples involving matching. In the following example, reconstruction occurs under matching:¹⁸

- (24) **Jedem** Artikel über sichi, wo de Peteri (*em) misstrout, begägnert
 every:DAT friend about self C the Peter (he:DAT) distrusts counters
 er mit Aggression.
 he with aggression
 'Every article about himselfi that Peteri distrusts, he counters with aggression'

This shows that matching relatives are also derived via movement.

4.4. Conclusion

I have established in the previous subsections that matching effects are form-based: Identity of Preposition and/or case is required while identity of thematic relation is not. I have furthermore shown that the difference between structural and inherent datives is irrelevant for matching, and that the matching generalization is sensitive to the actual surface form. Reconstruction effects under matching show that matching relatives must also be given a movement analysis.

5. The interpretation of resumptives

One of the crucial properties of resumptives that helps categorize the different types is their interpretation. Furthermore, there are sometimes asymmetries between gaps and resumptives that need to be explained. As shown in Chao/Sells (1983), English resumptives, which only occur to prevent island violations, are not compatible with a bound variable interpretation. Consequently, they cannot have non-referential antecedents, i.e. quantifiers like *every*, *no* etc.:

- (25) a) I'd like to meet **the linguist** that Mary couldn't remember if she had seen __/him before.
 a) I'd like to meet **every linguist** that Mary couldn't remember if she had seen __/*him before.

The readings that are available for resumptives in English have been subsumed under the E-type reading. Languages like Hebrew, Lebanese Arabic or Swedish (and many others), however, have resumptives that do allow bound variable readings (Chao/Sells 1983, Aoun et al. 2001), cf. the following example from Lebanese Arabic, where the antecedent is linked to a resumptive in the complement clause (Aoun et al. 2001: 390):

¹⁸ There are independent reasons why SCO cannot be tested in such examples: Local relativization across a dative is ruled out independently by principle B: the (resumptive) pronoun would be bound in its governing category by the relative clause subject; and long relativization is not sensitive to matching. Therefore, the necessary constellation to test SCO effects under matching does not exist.

- (26) **kəll məʒrim** fakkarto ʔənno l-bolisiyye laʔatu-u
 each criminal thought.2PL that the-police.PL caught.3PL-him
 'Each criminal, you thought that the police caught him.'

There is one prominent case in the literature that shows an asymmetry between resumptives and gaps (Sharvit 1999: 593): Resumptives, unlike traces, do not easily support *de dicto* readings of relative clauses:

- (27) a) Dan yimca et ha-isa Se hu mexapes ____.
 Dan will find the-woman C he look_for
 b) Dan yimca et **ha-isa** Se hu mexapes **ota**.
 Dan will find the-woman C he look_for her
 'Dan will find the woman he is looking for.' Hebrew

Whereas the first example is ambiguous between a *de dicto* reading (does not imply the existence of a woman) and a *de re* reading (which does imply the existence of a woman), the second one only allows a *de re* reading. Applying these diagnostics to ZG, we see that ZG differs from both English and Hebrew: Quantified antecedents are compatible with resumptives:

- (28) a) **Jedes Chind**, wo=t **em** es Sugus gisch, isch dankbar.
 every child C=you he:DAT a Sugus give:2SG is grateful
 'Every child who you give a candy is grateful.'
 b) Ich wett **jede Linguist** käne leere, wo s Susi säit,
 I would_like every linguist get_to_know C the Susie says
 dass mer guet **mit=em** cha rede,
 that one good with=he:DAT can talk
 'I would like to meet every linguist who Susie says that one can have a good conversation with.'

The gap/resumptive contrast noted for Hebrew does not obtain in ZG either. Both sentences are ambiguous.

- (29) a) De Peter wird **d=Frau** finde, won er ____ suecht.
 the Peter will the=woman find C he looks_for
 'Peter will find the woman he is looking for.'
 b) De Peter wird **d=Frau** finde, won er **von=ere** träumt.
 the Peter will the=woman find C he of=her:DAT dreams
 'Peter will find the woman who he is dreaming of.'

The crucial conclusion to be drawn from this section is that resumptives receive the same interpretation as gaps.

6. Previous accounts of resumption

In this section, I will very briefly review some previous accounts of resumption and show that they cannot be applied to the data at hand. This is partly due to the fact that most of them are designed to explain specific patterns of resumption in

particular languages without paying too much attention to the cross-linguistic variation. It is also partly a result of the fact that some properties of resumption — especially the absence of movement— are often taken for granted without actually testing them. Work by Demirdache (1991), Aoun et al. (2001), and Boeckx (2003) has challenged these positions and will prove at least partially useful for the analysis of the ZG data. The only explicit account of the ZG data is by Van Riemsdijk (1989, 2003); I will discuss it at the end of this section.

6.1. Non-movement Approaches

McCloskey 1990, Shlonsky (1992), Suñer (1998), Rouveret (2002), and Adger & Ramchand (2004) all propose a base-generation approach to resumption even though the languages under question have different types of resumptives. The first three deal with Irish, Hebrew and Spanish, where resumptives are not sensitive to islands. The reason for base-generation rests solely on this fact. Other diagnostics for (non-)movement are not considered or as in McCloskey's and Shlonsky's account of SCO and WCO effects receive a representational analysis. Rouveret (2002) and Adger/Ramchand (2004) on the other hand are confronted with a very different problem: In Welsh and Scottish Gaelic, the following paradoxical situation obtains: While resumptives are sensitive to strong islands, there is otherwise no unequivocal evidence for movement (no reconstruction for binding, idioms and [sometimes] scope). These properties are captured by the assumption that the A'-dependencies are established via Agree without subsequent move.

The second type of approach is geared towards languages with properties very different from those of ZG so that it need not be considered. The first class of approaches on the other hand fails to explain the reconstruction effects and more generally the properties of movement. Furthermore, the matching effects are completely unexpected under such approaches: The external context of the head noun should in no way influence the choice between movement and base-generation. Base-generation is therefore not an option for ZG. However, there is one aspect that will prove fruitful in the analysis of ZG: Resumptives appear in those languages also to prevent (illicit) preposition stranding. As we will see, some resumptives in ZG occur for the same reason.

6.2. Movement approaches

Movement approaches to resumption have become more prominent in recent years. One can distinguish at least three different types: Movement at LF (Demirdache 1991, 1997), the Big DP analyses (Aoun et al. 2001, Boeckx 2003), and those that treat resumptives as spelled out traces (Pesetsky 1998, Grohmann 2003). They make the correct prediction that resumption is compatible with movement effects. However, most of them contain certain features that fail to explain the ZG data.

Demirdache (1991/1997) argues that resumptives are in-situ operators, i.e. operators that move at LF. This assumption manages to capture the paradoxical nature of resumptives in Hebrew. Despite the absence of locality effects, resumptives show

movement properties. The trigger SCO and WCO effects (see especially Demirdache 1997), license parasitic gaps and allow for reconstruction. Since LF-movement is assumed to be insensitive to Subjacency, the non-locality of many resumptive constructions falls into place. Independent evidence for movement of resumptives comes from optional resumptive fronting (Demirdache 1997: 195). However, there are a number of reasons to reject her approach, both related to the proposal as such and the ZG data: While LF movement usually does not show subjacency effects it is still (often) assumed to be sensitive to the CED. Therefore, resumptives within adjunct and subject islands remain a problem unless more is said (cf. Aoun/Li 1993 on Chinese *wh-in-situ*). Furthermore, Parasitic Gaps are normally assumed to be licensed at S-Structure (Culicover 2001), but not at LF. Since resumptives do not move until LF, the licensing of Parasitic Gaps in Hebrew under resumption is unexpected. As for the ZG data, there is one major problem: As shown in (7) the possibility of reconstruction correlates with locality: Reconstruction into islands is not possible, suggesting that movement is absent. Demirdache, on the other hand, predicts reconstruction into islands to be freely available. Unfortunately, she does not present any reconstruction data except for one sentence (1991: 96), which involves an island, but an apparently non-local anaphor. Therefore, nothing really follows from this, and even if correct for Hebrew, the LF movement analysis makes the wrong predictions for ZG.

Of the big DP analyses, I will first discuss Boeckx (2003), although such a brief overview cannot do full justice to his complex account. His basic idea is that resumptives are first merged with their antecedents which in the course of the derivation move away from them. The availability of resumptives is correlated with non-agreeing (roughly: non-inflecting) complementizers. In these cases, movement can take place under Match, but without Agree. This explains the island-insensitivity in many languages. Apart from the circular reasoning (non-agreeing complementizers are those that appear with resumptives and can span islands) and some other inconsistencies (see Salzmänn in prep.), there are a number of descriptive facts that cannot be accounted for: The major problem is that Boeckx predicts reconstruction into islands. However, this is at least not correct for ZG: (7). Secondly, the matching effects are completely unexpected: Under Boeckx' approach it is only the complementizer that determines the possibility of resumption. The external context of the head noun should not play a role. Lastly, as discussed in 5, resumptives in ZG have the interpretation of variables, they are interpreted just like gaps. A crucial ingredient of Boeckx' approach is, however, that the resumptive is a pronoun and as such affects the interpretation of the antecedent (D-linked, specific etc.). This is not observed in ZG.

Aoun et al. (2001) also assume a Big DP analysis. The major difference from Boeckx (2003) is the assumption that the antecedent cannot move out of islands. When a resumptive is found inside an island, the antecedent is base-generated in the operator position and linked to the resumptive via binding. This correctly accounts for the movement properties of resumption in ZG and for the non-availability of reconstruction in island contexts. There are at least three problems, the first one general: Aoun et al.'s approach simply does not explain the MI distribution of resumptives: Why is such a complex DP created at all if there is no island? Why isn't

it sufficient to just move the antecedent, leaving a gap? This is sometimes obligatory (e.g. dative object in ZG), sometimes optional (direct object in Hebrew)? Two problems particular to ZG remain: The matching effects are unexpected, especially under the assumption that antecedent and resumptive agree in all relevant features. The ZG facts, however, require obligatory disagreement in case. Furthermore, it is again unexpected that the external context should play a role. Finally, resumptives in ZG do not have the interpretation of a pronoun, but that of a gap.

As for approaches that consider resumptives the spell-out of a trace/copy, I will not review them in much detail because most approaches that are available are either not very detailed (Pesetsky 1998) or are based on different data (left-dislocation, Grohmann 2003). Since my approach to be presented below can be subsumed under this general idea, I will only briefly discuss some of the advantages of these approaches and the questions that they raise. The major advantage of such approaches is that they explain the movement properties and the interpretive properties (at least in ZG). If a resumptive is just the spell-out of a copy, it is not expected to behave like a pronoun. However, if resumptives are indeed the spell-out of a copy, one has to explain a) why the trace is spelled out at all and b) why it is spelled out as a pronoun. The first question is difficult in those cases where movement is possible, i.e. in cases of apparent resumption. Some independent property of the language must account for this. As for b), one can argue that for reasons of economy (Pesetsky 1998), it is sufficient to spell out an element that realizes the phi and case features only. However, one might object that a determiner would do the same job. This connects to a further problem: If one distinguishes between true and apparent resumption, it is purely accidental that the shape of resumptives is the same in both cases. I will show below that for ZG these difficulties can be overcome in a straightforward and explanatory way.

6.3. On Swiss German: van Riemsdijk (1989, 2003)

To conclude this section, I will discuss in more detail van Riemsdijk's work on ZG relative clauses. The distribution of resumptives is said to follow from an independently available process of cliticization: subject, direct and indirect object pronouns often cliticize onto C. This brings resumptives 'close enough to the head of the relative to permit deletion' (van Riemsdijk 1989: 347). This 'explains' the obligatoriness of resumptives in prepositional relations: Since there is no preposition stranding, the pronoun cannot cliticize onto C.

The fact that the dative clitic must not be deleted in some dialects is stipulated to follow from the fact that datives are in fact PPs. Van Riemsdijk derives this from the phonological similarity between datives and locative expressions. More specifically, van Riemsdijk analyzes dative clitics as amalgamations of the preposition *a* 'to' plus pronoun. Deletion of the entire complex is then prohibited by the ban on recoverability of deletion, and moving only the clitic is impossible because it is in some way (which van Riemsdijk does not specify) not independent enough to move on its own.

There are a number of problems with this proposal, one conceptual, several empirical. As for the conceptual problem, van Riemsdijk has to assume that cliticiza-

tion is obligatory in relativization while it is optional elsewhere. The obligatoriness is derived from the Avoid Pronoun Principle, a transderivational constraint. The movement takes place so that the pronoun can later be deleted. Clearly, this involves non-trivial look-ahead: the grammar somehow has to know that it first HAS to move the clitic so it can later be deleted. Needless to say, such an approach is in stark contrast with the tendency within Generative Grammar to move away from transderivational evaluation.

There is a large number of empirical problems: The first involves the absence of A'-movement. Van Riemsdijk (1989: 344) explicitly states that Swiss German relatives — also those involving matrix subjects and direct objects do not involve A'-movement. This seems to imply that clitic movement is not an A'-movement process. Consequently, there is no A'-dependency in relative clauses. All he assumes is some co-indexing mechanism between the resumptives and the head-noun (perhaps mediated by C or Spec, CP). Such an approach makes strong predictions: Since there is no operator-variable relation, we expect the extraction site to have the semantics of a pronoun, and we do not expect any movement properties. The second point has been shown to be incorrect: Reconstruction effects and SCO effects clearly argue in favor of movement. The fact that resumptives also occur in islands does not mean that movement is never involved. Van Riemsdijk —like the other base-generation approaches— fails to distinguish between true and apparent resumption. Furthermore, the SCO effects and (28) and (29) show that resumptives are interpreted like gaps, not like pronouns. Even more problematic, it is not clear how such an analysis derives the correct semantics for restrictive relatives. It is normally assumed that movement inside the relative clause derives a predicate which combines with the head-noun via intersective modification. It is unclear to me how this can be achieved given van Riemsdijk's analysis. A further problem concerns datives. The explanation for the failure to delete the dative clitic is difficult to evaluate. There are many Swiss dialects that express dative with the additional help of a preposition-like element, *a* 'at' or *i* 'in', cf. Seiler (2001); this even holds though only sporadically for ZG. But if it is possible in ZG, it is highly unlikely that the forms we find without the extra element also represent PPs. Furthermore, in those dialects that make systematic use of this dative marker, it is incompatible with dative clitics (and unstressed pronouns more generally), cf. Seiler (2001: 251); it would be strange if ZG were an exception to this stable restriction. Also, Van Riemsdijk has to assume that it is possible to have a preposition governing prepositions e.g. when a preposition like *mit* 'with' assigns dative to a clitic: *mit em* 'with him'. According to him it would actually govern a PP. Interestingly, this happens to be impossible in those dialects which unambiguously use a preposition-like element, cf. Seiler (2001: 251). Furthermore, van Riemsdijk has to assume for those dialects which do not use dative resumptives that there the very same string *em* 'to him' does not have the status of a PP. While not impossible, such a solution is ad hoc and in the absence of independent evidence a restatement of the facts. There are also technical problems: If dative clitics are indeed PPs, one has to explain how they can actually cliticize onto a head in the left periphery. It is unclear why this option does not exist for normal PPs. Van Riemsdijk seems to assume that cliticization is rather phonological in nature, i.e. dative clitics are the only PP-elements that are light

enough to undergo this process. But then, it is unclear why in the case of the other PPs it is impossible to move only the light clitic and strand the preposition. If the movement is phonological, then there is nothing like the ECP that rules out preposition stranding.

The matching effects are generally unaccounted for in van Riemsdijk. They show that (some form of) deletion does play a role in the derivation of relative clauses in ZG, yet crucially does not involve subjects and direct objects. This suggests that properties other than the phonological weight of resumptives must be at stake but some sort of identity requirement that licenses the deletion of resumptives. I conclude that van Riemsdijk's approach is inadequate, both conceptually as well as empirically.

7. The account

In this section I present the assumptions necessary for a formal account. I first discuss the distribution of resumptives, which shows that they occur for reasons of morphological licensing of oblique case/prepositions and to prevent preposition stranding. Then, I discuss the derivation of relative clauses concluding that the head raising analysis is the most useful one for the data at hand, in particular because it provides a means (via incorporation) to link the relative clause internal context with the relative clause external context. This will be shown to underly the matching phenomenon. Non-matching configurations, on the other hand, are linked to the independently available mechanism of Distributed Deletion.

7.1. The distribution of resumptives in ZG relatives

7.1.1. *Subject/direct object vs. oblique*

From the data presented at the beginning, it becomes clear that there is a division between subject and direct object on the one hand and the other relations on the other. The distinction between subject/direct object (which I will refer to as direct arguments) and PP is unproblematic. The two direct arguments are licensed via abstract case, whereas PPs do not have to be case-licensed. The reason why there are resumptives in the latter case will be discussed in 7.1.2, in this subsection, I want to focus on the contrast between the direct arguments and datives. The division is, of course, reminiscent of the difference between structural and inherent case. This distinction correlates with a morphological distinction: While nominative and accusative are identical except for certain pronouns, the dative, which is the major (and almost only) case in oblique relations (some prepositions assign accusative), is clearly distinct. But is this correlation meaningful?

While it is undisputed that there are different types of datives and that some of them show certain properties reminiscent of structural arguments (predictability of their position, get-passive, cf. Wegener 1985, 1991, Gallmann 1992), all datives also differ systematically from nominative and accusative as shown convincingly in Vogel/Steinbach (1998) and Bayer et al. (2001). I will not review all of their arguments, but will simply mention two: Datives cannot bind anaphors while direct ob-

jects can, (30) (Vogel/Steinbach 1998: 73), and datives are barriers for extraction (31) (Vogel/Steinbach 1998: 74f.):

- (30) a) dass der Arzt_i **den** Patienten_j sich_{i/j} im Spiegel zeigte
 that the:NOM doctor the:ACC patient self:DAT in _the mirror showed
 'that the doctor showed the patient to himself in the mirror.'
 b) dass der Arzt_i **dem** Patienten_j sich_{i/j} im Spiegel zeigte
 that the:NOM doctor the:DAT patient self:ACC in _the mirror showed
 'that the doctor showed the patient to himself in the mirror.'
- (31) * [Über wen]_i hat der Verleger [einem Buch_j keine Chance gegeben?
 about whom has the editor self:DAT book no chance given
 Lit.: , About whom has the editor given a book no chance?'

This oblique behavior correlates with special morphological licensing conditions. Like the oblique case genitive, dative requires overt case marking to be licensed as the following four asymmetries show: First, complement clauses in German cannot directly fill the slot of a dative argument (Bayer et al. 2001: 471):

- (32) a) Wir bestritten, [dass wir verreisen wollten]. ACC
 we denied that we travel_away wanted
 'We denied that we wanted to go away.'
 b)* Wir widersprachen, [dass wir verreisen wollten]. DAT
 we objected that we travel_away wanted
 'We denied that we wanted to go away.'
 c) Wir widersprachen [der **Behauptung**, [dass wir verreisen wollten]]. DAT
 we objected the:DAT claim that we travel_away wanted
 'We denied that we wanted to go away.'

CPs cannot realize morphological case. A DP has to be inserted to rescue the example. The structural cases nominative and accusative do not require this extra licensing, abstract case is sufficient. Certain indefinite quantifiers in German do not inflect for case. Interestingly, they can function as bare subjects or direct objects but not as datives (Bayer et al. 2001: 472):

- (33) a) Wir haben **genug** / **nichts** / **allerlei** / **etwas** / **wenig** **erlebt** ACC
 we have enough nothin_a_lot something little experienced
 'We have experienced enough/nothing/a lot/something/little.'
 b)* Feuchtigkeit schadet **genug** / **nichts** / **allerlei** / **etwas** / **wenig** DAT
 humidity harms enough nothing_a_lot something little
 'Humidity harms enough/nothing/a lot/something/little.'

Some of these adjectives have an inflected form, which is optional for the structural cases, but obligatory for datives (Bayer et al. 2001: 472):

- (34) a) Wir haben schon viel-(es) / nur wenig-(es) erlebt.
 we have already much-(ACC) only little-(ACC) experienced
 'We have experienced much already/only little.'
 b) Das schadet/ gleicht/ ähnelt viel-*(em)/ wenig-*(em).
 that harms equals resembles much-(DAT) little-(DAT)
 'This harms equals/resembles much/little.'

ity violation. Just like datives, P can be dropped in very specific constellations, namely when the head noun of the relative clause is governed by the same preposition. In this constellation, the content of P is recoverable. A formal account is presented in section 8.2.

7.2. The derivation of relative clauses in ZG

I assume that restrictive relative clauses in ZG are derived via head raising. The head raising analysis (HRA) goes back to Brame (1968), Schachter (1973), and Vergnaud (1974). More recently, it has been revived by Kayne (1994), Bianchi (1999, 2000a, 2000b), Bhatt (2002), and De Vries (2002). The crucial argument in the present context in favor of the head raising analysis comes from reconstruction: Since the head noun starts out inside the relative clause, it comes as now surprise that it can be interpreted inside the relative clause via reconstruction/interpretation of the lower copy.²⁰ On the head external analysis (Chomsky 1977) reconstruction effects are at least problematic because the head noun is not directly linked to a relative clause internal position, but only via the *wh*-operator.²¹ For present purposes I simply follow recent work that takes reconstruction effect to be decisive evidence in favor of the HRA. When adopting the HRA, there are still a number of options that have been discussed in the literature:

The head NP stays inside the relative CP (Kayne 1994, De Vries 2002) or the head NP moves out of the relative CP (Bianchi 1999/2000a-b, Bhatt 2002). On Kayne's/De Vries' approach, if the relative operator is zero (as in *that*-relatives), there is just movement to Spec, CP, and nothing further happens, (38)a. If the operator is complex, the head noun moves to the specifier of the relative operator, (38)b, in de Vries (2002: 123ff.) with subsequent feature movement from N to the external D (38)c. On Bianchi's and Bhatt's approach, the head noun moves out of the relative clause to adjoin to the CP ((39)a, cf. Bhatt 2002) or moves to the specifier of some higher functional head ((39)b, cf. Bianchi 1999/2000a-b, Bhatt 2002: 84):

- (38) a) the [_{CP} [_{N_P} book]_i that John likes **t_i**]
 b) the [_{CP} [_{N_P} book]_j [_{N'} which **t_j**]_i John likes **t_i**]
 b) FF_j + the [_{CP} [_{N_P} book]_j [_{N'} which **t_j**]_i John likes **t_i**]
 (39) a) the [_{book_j}]_i [_{CP} [_{N_P} Op/which **t_j**]_i John likes **t_i**]
 b) the U [_{book_j}]_i [_{X'} X° [_{CP} [_{N_P} Op/which **t_j**]_i John likes **t_i**]]

The last two derivations are necessary to account for extraposition because the external determiner and the head noun form a constituent to the exclusion of the relative CP. Since I will not discuss extraposition here, I will ignore this complica-

²⁰ There is a large number of other (crosslinguistic) evidence for the HRA that I cannot review here, but see Kayne (1994), Bianchi (2000a), and De Vries (2002).

²¹ Admittedly, this assumption is to some extent theory internal and certainly has to do with the way reconstruction is handled in the Minimalist Program, i.e. as the interpretation of a lower copy. Reconstruction via binding of operators does not find a natural place within the Minimalist system even though it is by no means implausible as such.

tion and simply assume movement to an operator position within the relative clause. Another point where the approaches differ is the type of category that is raised. Kayne (1994) originally proposed that relatives only involve raising of an NP. There are a number of facts that lend some initial credibility to this proposal, for instance, there are no definiteness effects if a definite head noun combines with a relative clause involving there: *the book that there was on the table*, scope reconstruction with a definite head noun, and the exceptional compatibility of definiteness with proper names and idioms like *the Paris* *(I like). On the other hand, Bianchi (1999, 2000b), convincingly demonstrated that assuming the raising of only an NP is problematic: First, it has been shown (e.g. Longobardi 1994) that arguments are DPs while NPs can only serve as predicates. Second, the XP that is moved behaves like a referential phrase (in Cinque's 1990 terms) w.r.t. locality, i.e. it can be extracted across weak islands, and it can license PRO. So there are good reasons to assume both NP and DP raising at the same time. The paradox can be resolved in two ways: Movement to Spec, CP is movement of a DP, but then, the step that moves the NP out of the CP applies only to the NP as in Bianchi (2000b) and Bhatt (2002). Alternatively, there is DP-movement to Spec, CP with subsequent incorporation of an underspecified D into the external D (Bianchi 1999/2000b).

I will largely follow Bianchi (1999, 2000b) because there is hardly any evidence in ZG that only an NP is raised. The definiteness effect does not exist in ZG, the examples with idioms and proper names can be explained semantically (the relative clause affects to head noun so that it no longer denotes a unique individual) and finally, there is no scope reconstruction:

- (40) Ich ha de zwei Patienten aagglüüte, wo jede Tokter morn
 I have:1SG the:DAT two patients called C every doctor tomorrow
 untersucht.
 examines
 'I called the two patients that every doctor will examine tomorrow.'
 2 > every *every > 2

Such examples only have an individual reading, and crucially no distributive reading. This follows if what is reconstructed is a fully specified DP (this is where I differ from Bianchi as she assumes that D is underspecified for definiteness) so that the same reading obtains as in simple clauses.

Although there are no relative pronouns in ZG I assume that the DP that is moved is headed by a D with an operator feature, so that it corresponds to an empty relative pronoun (cf. De Vries 2002: 126). Movement is triggered by an operator feature on C against which the respective feature on D is checked, thereby avoiding some of the complications of Bianchi's (2000b) system, cf. De Vries (2002: 115). The final (simplified) derivation looks as follows (the incorporation of D will be discussed in the next section):

- (41) [_{DP}D + D_I[_{CP} [_{DP} [_{DP}t_iNP]_j] [_{IP} [_{VP} t_j V]]]]

7.3. Matching as incorporation

The major reason why datives and PPs have to be spelled out in ZG relative clauses is recoverability: As oblique phrases, they cannot be structurally licensed, but instead require morphological licensing. Under very specific circumstances, this licensing requirement seems to be lifted, namely when the head noun receives exactly the same type of morphological marking, i.e. under matching. I conclude from this that the oblique marking is recoverable under matching. For a formal account, we need a link between the external context, i.e. the external D and P and the internal context, i.e. the moved DP/PP. I propose that matching is to be understood as incorporation of relative clause internal material (i.e. D/P) into external material, i.e. D/P. If the complex heads derived via incorporation have compatible case features, the oblique case/the P is accessible for the relative clause internal copy because it is part of a (modified) chain that includes the required morphological expression, namely on the complex D/P head. This is why dative resumptives and prepositions can be dropped under matching. Incorporation leads to the following representations:

- (42) a) $[_{DP} D_i + D [_{CP} [_{DP} t_i NP]_j C [_{IP} [_{VP} t_j V]]]]$
 b) $[_{PP} P_k + P [_{DP} D_i + D [_{CP} [_{PP} t_k [_{DP} t_i NP]]]_j C [_{IP} [_{VP} t_j V]]]]$

These derivations raise three questions: a) What triggers this movement? b) Why aren't the PP-examples out because of a violation of the Head Movement Constraint (HMC)?²², and c) how are these complex heads spelled out?

Ad a): I assume that D (and P) can carry features that attract a head of the same category, but only if they (D, or, in the case of P, their complement) select a relative clause. This can be stated economically in the lexical entry of D (and P).

Ad b): The PP-derivations violate the HMC (Travis 1984) because D moves across P, and P moves across the external D: However, under the Minimal Link Condition (MLC, Chomsky 1995) a different interpretation is possible: An intervening head will only block movement if it could check the same feature, i.e. if it in some relevant sense of the same type. But since the attracting feature is only sensitive to the exact grammatical category, a D will not block movement of P, and neither will P block the movement of D. Similar arguments have been used for instances of long head movement, cf. Carnie et al. (2000).²²

Ad c) I assume a late insertion approach to morphology, in the spirit of Halle/Marantz (1993). This means that the syntax only manipulates features. When Vocabulary Insertion takes place at PF, the complex heads derived via head movement are spelled out as one lexical item if their parts agree in phi and case features (dative) and lexical features (prepositions). If insertion is successful, i.e. if a lexical item can be found that is compatible with the feature requirements, we obtain matching. If there are conflicting features (e.g. different case features) insertion fails, and the derivation crashes.

²² In those cases, the relevant distinction is usually between A vs. A'-head position. A possible analogy to the present case might be the requirement of T to have a DP in its specifier (i.e. the EPP). Intervening maximal categories like VP, vP, NegP etc. do not block movement of a DP because they simply belong to a different category type.

So far we know how matching cases are derived, but we still need to explain the non-matching cases. The next section shows that they are based on a mechanism that is independently available in ZG: Distributed Deletion.

7.4. A'-splits as Distributed Deletion

ZG A'-movement generally allows for a peculiar way of spelling out operator and case information: In addition to regular full category movement, it is optionally possible to spread operator and case information over two copies: A case-unmarked DP appears in the operator position while case (including prepositions) is realized in the base position. This is an instance of Distributed Deletion. I will refer to these constructions as A'-splits. The following examples illustrate this for wh-movement:

- (43) a) **Wer** häsch gsäit, dass ich *(em) das Buech cha verchaffe?
 who:-OBLIQUE have:2SG said that I he:DAT the book can sell
 'To whom did you say that I can sell the book?'
 b) **Wer** häsch gsäit, dass=t *(mit=em) wettsch go tanze?
 who:-OBLIQUE have:2SG said that=you (with=he:DAT) would_like go dance
 'With whom did you say that you would like to go dancing?'

These constructions are derived as follows: The case feature can optionally be deleted after checking. As a consequence, the moved phrase will only have an operator feature on D but no longer a case feature. Both case and operator information must be spelled out (their features are strong), but because they are not present in the same copy, parts of both copies are spelled out, expressing the respective feature content. There is a certain amount of overlap (D is realized twice) because D hosts the two crucial features.²³

It remains to be explained why case is realized as a pronoun and not just as a D element, i.e. as a determiner. I suggest that this follows from a constraint that requires the resulting copies to conform to the normal structure of DPs. This type of regeneration is generally found with split DPs, cf. Fanselow/Cavar (2002).

What determines the availability of this type of splitting? I assume that ZG has a crucial property that makes this possible: Case is only represented on D, but no longer on N.

The crucial point for the current discussion is that such a derivation lies at the heart of resumption in ZG: The case feature is only present in the base position and has to be spelled out there. The DP that moves on is underspecified for case so that as a consequence there will never be a feature clash on the complex D head. The following section provides an explicit account of all the derivations.

²³ The precise mechanism assumed here for Distributed Deletion is somewhat different from e.g. Fanselow/Cavar (2002).

8. ZG relative clauses and distributed deletion

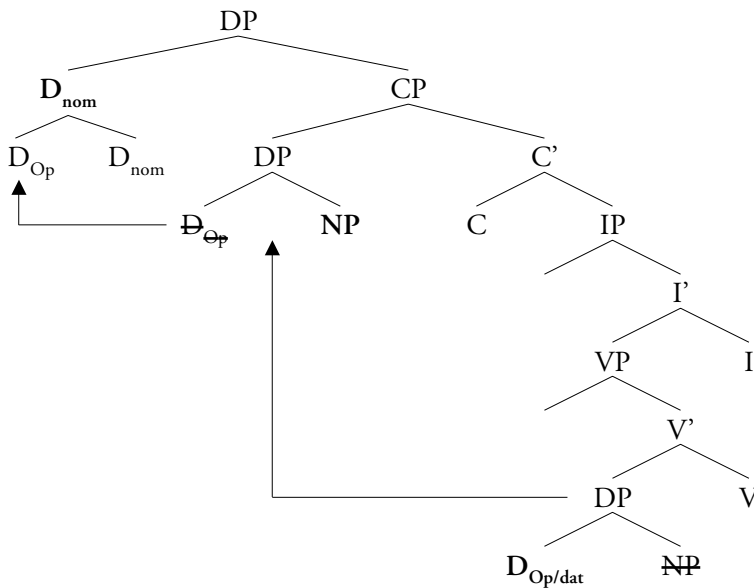
8.1. Dative

I will first discuss the non-matching examples, cf. (1)c, repeated here:

- (44) **De** **Bueb**, [wo mer *(em) es Velo versproche händ], isch tumm.
 The:NOM boy C we (he:DAT) a bike promised have:1PL is stupid
 'The boy who we promised a bike is stupid.'

Suppose a normal A'-derivation with movement of a fully specified DP to Spec, CP. Subsequent incorporation of D into the external D will lead to a case clash (nom vs. dat) so that insertion fails and the derivation crashes. An A'-split derivation, however, derives the desired result: the fronted DP is underspecified so that incorporation of D and insertion succeed. Spelling out the case feature in the base position leads to a resumptive. The following structure represents the converging derivation (bold-faced constituents are spelled out, strike-through means non-pronunciation, irrelevant parts are omitted):

- (45) [_{DP} D_{Op} + D_{nom} [_{CP} [_{DP} ~~D_{Op}~~ NP] C [_{IP} [_{VP} [_{DP} D_{Op/dat} ~~NP~~] V]]]]

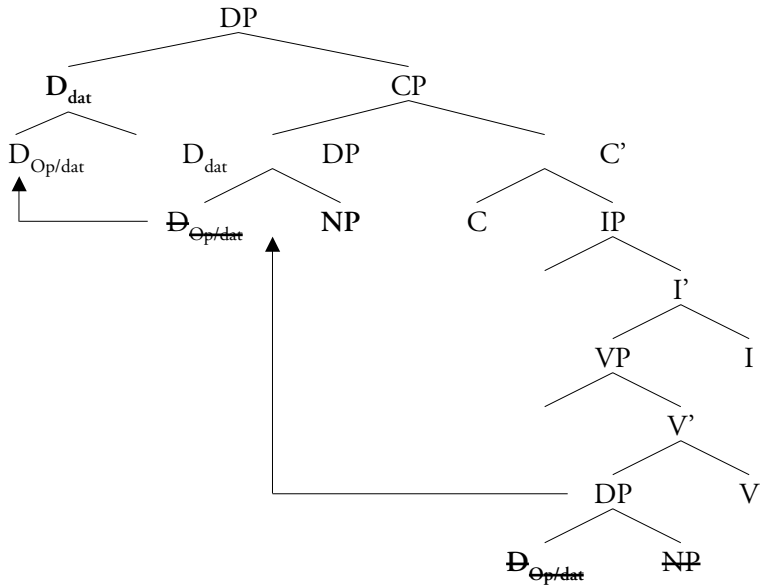


Tree 1

A matching derivation simply involves moving of a fully specified DP. Subsequent incorporation leads to case compatibility so that insertion succeeds. No case feature is left inside the relative clause and as a consequence no resumptives appears, cf. (13)a, repeated here:²⁴

²⁴ The same derivation applies to (15).

- (46) Ich han **em** Bueb, [wo=t (*em) es Buech versproche häsch],
 I have:1SG the:DAT boy C=you (he:DAT) a book promised have:2SG
 es schöns Exemplar ggee.
 a beautiful copy given
 'I gave the boy who you promised a book a beautiful copy.'
 (47) [_{DP} D_{Op/dat} + D_{dat} [_{CP} [_{DP} ~~D_{Op/dat}~~ NP] C [_{IP} [_{VP} [_{DP} ~~D_{Op/dat}~~ NP] V]]]]



Tree 2

8.2. PPs

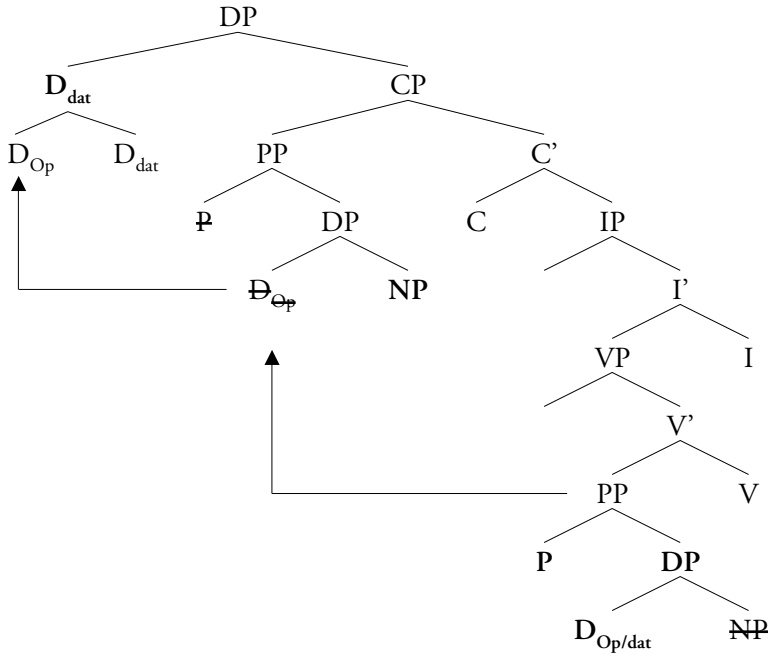
I will first discuss a case where there is only an external D but no P and case matching, cf. (16), repeated here:

- (48) Ich han **em** Maa, [won=i *(von=em) es Buech übercho
 I have:1SG the:DAT Man C=I (from=he:DAT) a book received
 han], zwänzg Stutz ggee.
 have:1SG twenty bucks given
 'I gave the man from whom I had received a book twenty bucks.'

Movement of a fully specified DP with subsequent incorporation leads to compatible case features so that no resumptive is expected. However, this leads to preposition stranding, and the derivation crashes. The only converging derivation involves Distributed Deletion. As a consequence, case is spelled out in the base position. It remains to be explained why the preposition is also spelled out in the base position and not in Spec, CP. It is again the ban preposition stranding which favors pronunciation of the lower copy (P would be

without a D in Spec, CP). The final output is thus due to a conspiracy of factors.²⁵

- (49) [_{DP} D_{Op} + D_{dat} [_{CP} [_{PP} P [_{DP} D_{Op} NP]] C [_{IP} [_{VP} [_{PP} P [_{DP} D_{Op/dat} NP]] V]]]]]



Tree 3

The same derivation applies if there is a non-matching external case. More interesting are cases with a PP both externally and internally. In the following example, there is case matching, but the prepositions differ, cf. (18), repeated here:

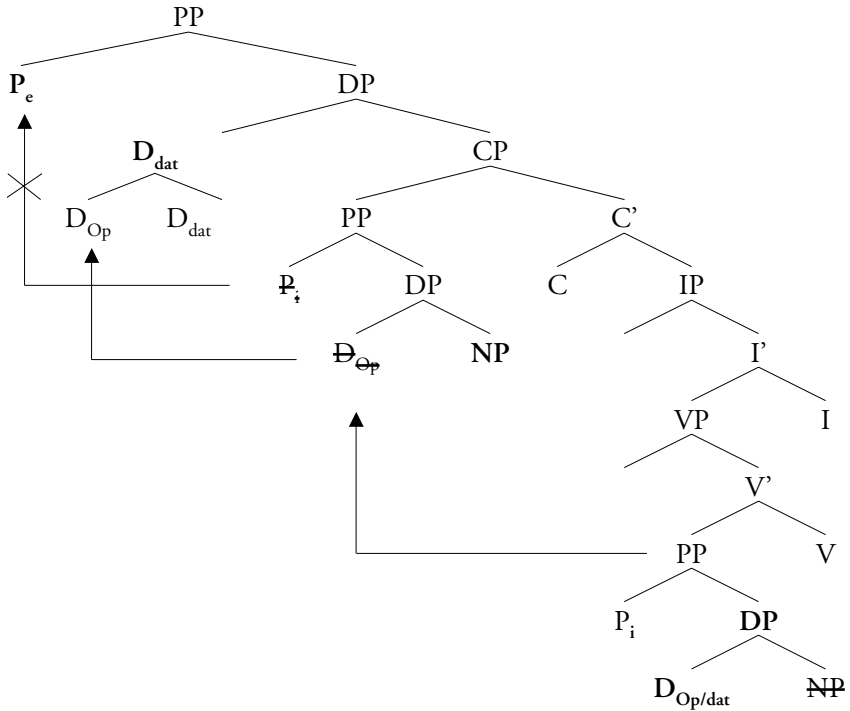
- (50) Ich ha vo de Lüüt, [won=i *(mit=ene) i
 I have:1SG from the:DAT people C=I (with=they:DAT) in
 d=Schuel bin], scho lang nüüt me ghöört.
 the=school am already long nothing anymore heard
 'I have not heard for a long time from the people with whom I went to school.'

Incorporation of the internal D does not lead to a case clash so that no resumptive is expected. However, P-incorporation leads to a clash in lexical features. Conse-

²⁵ Note that the notion of preposition stranding employed here is to be understood as a PF constraint, which rules out representations where P does not have a DP complement. If P were spelled out in Spec, CP, it would have an NP complement, but crucially, D would be empty. It might be possible to derive this restriction from the morphological licensing requirement on oblique case, assuming that P always assigns oblique case.

quently, P needs to be realized inside the relative clause.²⁶ This in turn requires case to be spelled out to prevent preposition stranding. Both P and D are realized in the base position due to a conspiracy of factors: Case can only be spelled out in the base position (due to the A'-split derivation) so that the preposition is spelled out there as well:

$$(51) [_{PP} P_e [_{DP} D_{Op} + D_{dat} [_{CP} [_{PP} P_i [_{DP} D_{Op} NP]] [_{IP} [_{VP} [_{PP} P_i [_{DP} D_{Op/dat} NP] V]]]]]]]$$



Tree 4

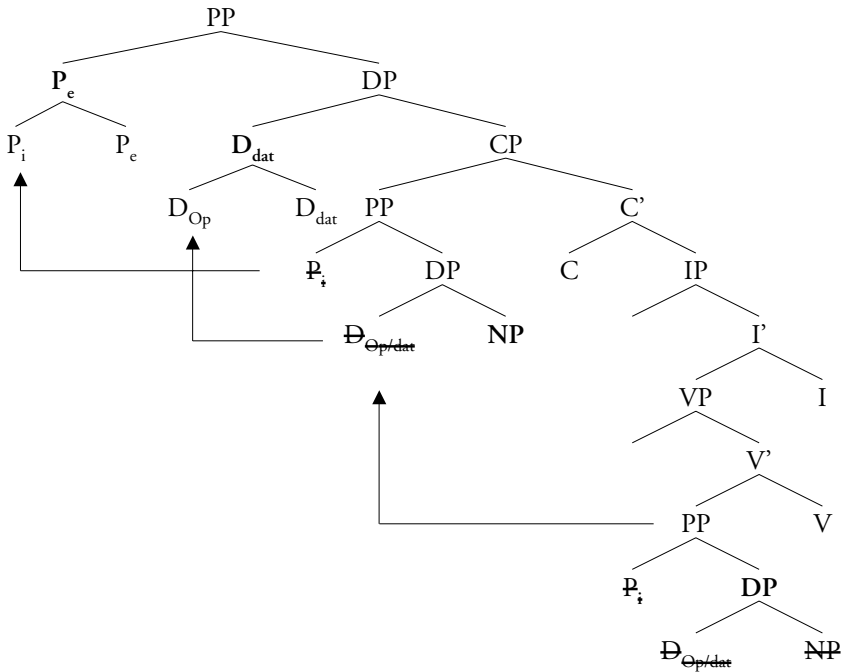
The same derivation applies to the configuration where both case and preposition are different, cf. (17) and the derivation in (19), where the prepositions are identical but the cases differ. In the latter case, P-incorporation and fusion fails because homophonous prepositions that can assign different cases differ in their lexical features. The last case to consider involves identical prepositions and case matching cf. (13)b, repeated here:

²⁶ For this account to work, I need to assume that P-incorporation (as opposed to D-incorporation) is optional.

- (52) Ich ha vo de Frau, [won=i scho geschter (*von=ere)
 I have:1sg from the:DAT woman C=I already yesterday (from=she:DAT)
 es Buech übercho han], wider äis übercho.
 a book received have:1SG again one received
 'I received from the woman from whom I had already received a book yester-
 day another one.'

Here both D and P incorporation result in compatible features. Neither D nor P needs to be spelled out inside the relative clause:

- (53) $[_{PP} P_i + P_e [_{DP} D_{Op/dat} + D_{dat} [_{CP} [_{PP} P_i [_{DP} D_{Op/dat} NP]]] C [_{IP} [_{VP} [_{PP} P_i [_{DP} D_{Op/dat} NP]] V]]]]]$



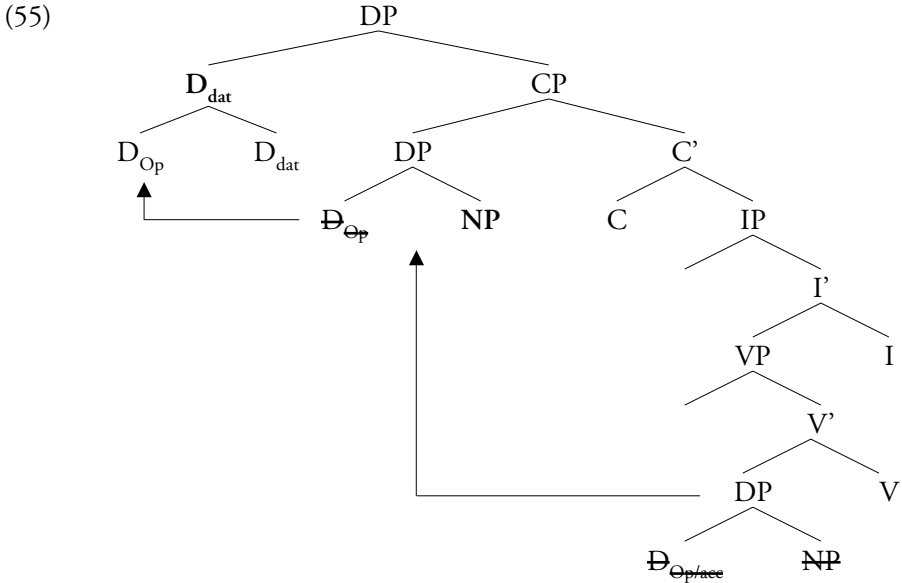
Tree 5

8.3. Subject and direct object

Relativization of subjects and direct objects with an oblique external D is problematic:

- (54) Ich ha de Frau, won=i geschter __ käne gleert ha,
 I have :1SG the:DAT woman C=I yesterday ACC know got have :1SG
 Blueme gschänkt.
 flowers given
 'I gave flowers to the woman who I met yesterday.'

Since there is a case clash, insertion fails and the only converging derivation would be of the A'-split type. However, we do not find resumptives, the stranded case feature does not have to be realized:



Tree 6

In the following section, I will discuss solutions to this and one further problem.

8.4. Conditions on PF chains, Spell-out, and recoverability

We are not in a position to formulate the licensing conditions for oblique case and prepositions on the one hand and for structural cases on the other. Cases normally have to be realized unless they are recoverable. Crucially, the conditions on recoverability are stricter for oblique cases and PPs.

Structural cases do not need morphological licensing, they are always structurally recoverable in relative clauses because a part of its (modified) chain receives case, namely the external D. This requirement overrules the spelling out of the stranded case feature in (55): Dative and PPs, however, always need morphological licensing. Crucially, oblique case must be unique within a given (modified) chain. It is either realized in the base position as a resumptive or on the head noun, which also forms part of the chain. This uniqueness condition is necessary to rule out a further possible derivation: Nothing so far ruled out applying Distributed Deletion under matching. At the point where the case feature is erased, the computational system does not yet know that eventually a matching configuration obtains. Preventing Distributed Deletion in this case would involve non-trivial look-ahead. Instead, Distributed Deletion is always an option. If it applies under matching, a representation results

where the (modified) chain contains two occurrences of oblique case/prepositions. The uniqueness condition on oblique case at PF rules out such a case.

8.5. The Importance of the surface forms

So far, I have presented no evidence in favor of a late insertion approach to the matching phenomena discussed in this paper. Example (23), repeated here, crucially showed that the surface form is crucial for matching:

- (56) \emptyset_D Mane, won=i (*ene) es Buech gib, müend intellektuell sii.
 D men(NOM) C =I (they:DAT) a book give:1s must:PL intellectual be
 'Men to whom I give a book must be intellectual.'

This follows under the approach advocated here: The fully specified internal D incorporates into the external D. This results in a case conflict: nominative vs. dative. One expects that insertion fails. However, there is an underspecified lexical item that can resolve this conflict: For indefinite plural, the empty determiner is inserted. It seems unreasonable to posit three homophonous (i.e. empty) determiners with different case specifications. Instead, it is much more plausible that there is only one, and it is underspecified for case. Insertion is subject to the specificity principle. Since the empty determiner is the most specific form available and since it does not conflict with the feature specifications, insertion is successful and the derivation converges. A similar reasoning applies to cases where there is a nominative-accusative clash. Since these cases are no longer morphologically different (except for certain pronouns), one can safely assume that most lexical items will be underspecified. If there is a nominative-accusative clash, insertion is still possible due to underspecified forms.²⁷

8.6. Overview over the matching configurations

The following table summarizes all configurations discussed in this paper:

| | external case | internal spell-out |
|--------------------------------|--------------------------|------------------------------------|
| | nom/acc | nom/acc |
| = (1)c, (44) | nom/acc | dat |
| = (1)d, (37) | nom/acc/dat | P + nom/acc/dat |
| = (13)a, (46) <i>matching!</i> | dat | dat |
| = (54) | dat | nom/acc |
| = (18), (50) | P _a + dat | P _b + dat |
| = (15) <i>matching!</i> | P + dat | dat |
| = (13)b, (52) <i>matching!</i> | P _a + acc/dat | P_a + acc/dat |
| = (19) | P _a + acc/dat | P _a + dat/acc |
| = (17) | P _a + acc | P _b + dat |

²⁷ Underspecification of nominative/accusative must not mean that they do not have any features whatsoever. They still need to be differentiated from dative case. One can assume that they are only specified for [- oblique], the second feature that distinguishes between nominative and accusative being neutralized.

9. Conclusion

The study of resumptives in ZG is very important because it reveals a new pattern of resumption that must be made available by UG. Resumptives in ZG are crucially linked to the licensing of oblique case and PPs. They occur to license oblique relations unless the case assigned by the external case of the head noun makes the very same morphological information available via a modified chain. These properties follow straightforwardly under the proposal advanced here: Restrictive relatives in ZG are derived via head raising and incorporation of relative clause internal material into relative clause external material. Matching is formalized as incorporation under identity while resumption is a result of Distributed Deletion.

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