

4 On three types of variation in resumption: evidence in favor of violable and ranked constraints

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ABSTRACT Variation in the last resort nature of resumption cross-linguistically and variation in dative resumption among and within Alemannic varieties of German strongly favor an evaluator component that makes use of violable and rankable constraints as in Optimality Theory rather than filters as in the Minimalist Program. At the same time, the range of variation is best restrained in a model of syntax like the Derivations and Evaluations framework (Broekhuis 2008) that combines a restrictive MP-style generator with a flexible OT-evaluator.

KEYWORDS resumption; Swiss German; variation; evaluator; reference set; candidate set; dative; constraints; oblique case; relative clauses; last resort; elementary operation

1. Introduction

Optimality Theory (OT, Prince and Smolensky 2004) and the Minimalist Program (MP, Chomsky 1995, 2000, 2001, 2004, 2007, 2008) are usually seen as two mutually exclusive models of grammar that differ fundamentally in their architecture. Broekhuis (2008: chapter 1), however, shows convincingly that the similarities are in fact much closer than is normally assumed: Both models contain a generator which is responsible for the universal properties of language, and both make use of an evaluator which selects the grammatical form from among the members of the output. The two frameworks differ, however, in that they focus on different components: while MP tries to explain linguistic phenomena largely by reference to properties of the generator and tends to neglect output constraints, OT assumes a relatively unconstrained generator and puts most of its emphasis on the evaluator. As a consequence of this difference in focus, the two frameworks also have conflicting views on the locus of language variation: In OT, language variation is due to the evaluator, that is, different constraint

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rankings. MP, on the other hand, attributes language variation largely to the lexicon (the so-called ‘Borer-Chomsky-conjecture’), that is, to differences in the inventory of lexical items (especially of functional heads) and in the presence of movement-triggering EPP/edge-features on those items. However, as Broekhuis (2008: 28–31) has pointed out, recent versions of MP (Chomsky 2000ff.) also make use of language-specific output filters/interface constraints, as is clear from Chomsky’s (2001) analysis of object shift. The difference in the treatment of language variation between OT and MP is thus narrowed down; in many cases it boils down to the question whether the evaluator takes recourse to output filters or to ranked constraints.¹ Language variation is thus a very important domain to test the validity of a given framework. To this end, I will investigate three variation phenomena obtaining with resumptive pronouns that all present different challenges for a theory of variation.

I will first introduce the basic facts about Swiss German relativization. In section 3 I will explain the distribution of resumptive pronouns as a last resort phenomenon. After that I show that resumptive relatives are best analyzed as involving base-generation. Section 5 introduces the variation facts. Section 6 discusses the implications of the variation facts and provides analyses for both OT and MP that show that an evaluator with ranked constraints is descriptively as well as explanatorily more adequate than one based on filters. Section 7 concludes the chapter. Since the argument requires a specific view on resumptive pronouns, the first part of the article will be devoted to many technicalities before the variation facts can be tackled. I therefore ask the reader to be patient.

2. Resumption in Swiss German relative clauses

Swiss German relative clauses are introduced by an invariant complementizer *wo* (*won* before unstressed vowels). There are no relative pronouns as in Standard German (except in certain adverbial relations).² In certain grammatical relations, a resumptive pronoun appears instead of a gap. In the default case the resumptives behave like weak personal pronouns and are fronted to the Wackernagel position or cliticized onto C (or, in the case of oblique objects, onto the governing preposition). According to earlier descriptions, the distribution of resumptive pronouns in restrictive local relativization follows the Accessibility Hierarchy by Keenan and Comrie (1977): Resumptive pronouns are used for dative objects and more oblique relations, but crucially not for subjects and direct objects. This is illustrated by the following examples from the High Alemannic dialect spoken in the Canton of Zurich (cf. Weber 1964; Van Riemsdijk 1989):³

- (1) (a) d Frau, wo (*si) immer z spaat chunt
 the woman C (she) always too late comes
 ‘the woman who is always late’ (SU: gap)
- (b) es Bild, wo niemert (*s) cha zale
 a picture C nobody (it) can pay
 ‘a picture that nobody can afford’ (DO: gap)

(c) de Bueb, wo mer *(em) es Velo versproche händ
 the boy C we (he.DAT) a bike promised have.1PL
 'the boy we promised a bike' (IO: re)

(d) d Frau, won i von *(ere) es Buech überchoo han
 the woman C I from (she.DAT) a book got have.1SG
 'the woman from whom I got a book' (P-object: res.)

the alignment is no longer correct: "es" should be aligned with "a" (and of course "Buech" should be aligned with "book", "überchoo" with "got" and "han" with "have.1sg")

Additionally, resumptive pronouns also occur inside islands, in positions from where regular *wh*-extraction is impossible (Salzmann 2006: 331, Salzmann 2011; islands are henceforth enclosed in angled brackets>):

(2) (a) de Sängler, won i mi fröi, <wänn i *(en) gsee>
 the singer C I me be.happy.1SG when I him see.1SG
 'the singer such that I am happy when I see him'

(b) * [Wele Sängler]_i fröisch di, <wänn t_i/en_i gseesch?>
 which singer be.happy.2SG you when you him see.2SG
 lit.: 'Which singer are you happy when you see?'

As (2b) shows, extraction of *wh*-phrases does not improve with resumption. I will briefly come back to the incompatibility of regular *wh*-movement with resumption in 4.2 below. Gaps and resumptives are thus in complementary distribution. Whenever a gap is possible, a resumptive pronoun is not, and vice versa (although we will see in sections 6.2 and 6.3 below that things are more complex with datives).

3. Explaining the distribution of resumptives in Swiss German

The distribution of resumptives in Swiss German can be related to two grammatical factors: on one hand, they occur to prevent violations of locality, on the other, they are a means of making oblique case visible. Resumptive pronouns can thus be understood as a last resort device that only comes into play when gap derivations fail (cf., e.g., Shlonsky 1992; Pesetsky 1998; Toman 1998; Boeckx 2003; Alexopoulou 2006; Guillot 2006; Rouveret 2008).

delete "a"

3.1 Resumptive pronouns amnesty locality violations

As shown in (2), resumptive pronouns are obligatory in cases where relativization involves a position inside an island. They are thus a means of amnestying a locality violations. Why resumptives have this property is not *a priori* clear and will be discussed in 4.1 below. The amnestying function also accounts for resumptive pronouns after prepositions as in (1d) since PPs form strong islands in German and its varieties (cf., e.g., Bayer 1996), as shown by example (3a): The PP *vo wem*

cannot be extracted from the complement PP introduced by a ‘at’. (3b) shows that extracting a PP from a direct object is fine:

- (3) (a) *[Vo wem]₁ häsch <an e Schwöschter__₁> tänkt?
 of who.DAT have.2SG at a sister thought
 lit.: ‘Who did think of a sister of?’
- (b) [Vo wem]₁ häsch [e Schwöschter__₁] gsee?
 of who.DAT have.2SG a sister seen
 ‘Who did you see a sister of?’

This interpretation of the facts is strengthened by the observation that the same contrast obtains when constituents of semantic types other than <e> are relativized. The following pair involves relativization of a predicate; in (4a) it originates in a transparent position, in (4b) it originates within a PP (i.e., within an island). While resumption is impossible in the first example, it is obligatory in the second (Salzmann 2006):⁴

- (4) (a) Er isch de **glic**h Idiot, wo scho sin Vatter (***das**) gsii isch.
 he is the same idiot C already his father that been is
 ‘He is the same idiot his father already was.’
- (b) Isch de Hans würcli de **Trot**tel, won en all *(**de**)füür haltet?
 is the John really the idiot C him all there.for hold
 ‘Is John really the idiot everyone regards him as?’

Importantly, amnestying a locality violation is not to be understood in a processing sense: Relative clauses with resumptive pronouns inside islands are perfectly natural in Swiss German and do not have a repair flavor like intrusive pronouns in English, cf. Chao and Sells (1983).

3.2 Dative resumptive pronouns realize oblique case

Dative resumptive pronouns cannot be related to locality since they occur in positions from where extraction is in principle possible. The following examples show that while *wh*-extraction of an indirect object is unproblematic, the corresponding relative clause requires a resumptive pronoun:

- (5) (a) [Welem Maa]₁ häsch__₁ es Buech ggëë?
 which.DAT man have.2s a book given?
 ‘To which man did man you give a book?’
- (b) de Maa, won t *__/em es Buech ggëë häsch
 the man C you he.DAT a book given have.2s
 ‘the man to whom you gave a book’

Instead, the occurrence of dative resumptive pronouns can be related to a language-internal PF-constraint that requires the overt realization of oblique case: As in Standard German, dative, which is the only oblique case in the Swiss German case system (genitive has been lost), requires special morphological licensing. I illustrate this on the basis of two contexts here which were discussed earlier in Bayer *et al.* (2001).

First, complement clauses cannot directly fill the slot of a dative argument (Bayer *et al.* 2001: 471). Since CPs cannot realize morphological case in German, a DP has to be inserted to rescue example (6b). The non-oblique (i.e., direct) cases nominative and accusative do not require this extra licensing, and as a result a DP realizing such a case is optional (6a).

- (6) (a) Wir bestritten, (die Behauptung) [dass wir verreisen wollten].
 we denied the.ACC claim that we travel.away wanted
 ‘We denied (the allegation) that we wanted to go away.’
- (b) Wir widersprachen ***(der Behauptung)**, [dass wir ... wollten].
 we rejected the.DAT claim that we ... wanted
 ‘We rejected the allegation that we wanted ...’

Second, topic drop is possible with nominally-marked (subjects) and accusative-marked DPs (direct objects), but not with dative-marked DPs, cf. Bayer *et al.* (2001: 489). On topic drop and the role of PF, see also Sigurdsson and Maling (2010):

- (7) (a) [_{ACC}] Hab’ ich schon gesehen.
 have I already seen
 ‘I have already seen (it).’
- (b) ***[_{DAT}]** Würde ich nicht vertrauen.
 would I not trust
 ‘I wouldn’t trust (him).’

The fact that the dative also stands out in Swiss German relativization is simply a consequence of the constraint that requires overt realization of oblique cases. The fact that there are no resumptive pronouns for subjects and direct objects and predicates like those in (4a), on the other hand, is little surprising: They are realized by non-oblique cases, which do not require any special morphological licensing so that resumptive pronouns are not necessary.⁵ The direct/oblique-split in resumption is by no means exotic. It is found in a number of languages in the sample of Keenan and Comrie (1977: 93), Toman (1998: 305) reports the same pattern for colloquial Czech and Alexopoulou (2006: 63) for restrictive relatives in Greek.⁶

4. Resumption in Swiss German as base-generation

4.1 Movement or base-generation?

While gap relatives can straightforwardly be analyzed as involving movement (but see Note 16), the analysis of resumptive relatives is less straightforward. While the literature up to the 1990s took a base-generation analysis for granted, movement analyses of resumption have become widespread in recent years.⁷ It is important to distinguish two cases: Languages where resumption is sensitive to (certain) locality constraints and languages (like Swiss German) where resumptives can appear inside strong islands. For the first type of language, an analysis in terms of movement, or at least in terms of Agree, is straightforward; see Boeckx (2003: 108ff.) for Swedish and Vata, Goodluck and Stojanovic (1996) for Serbo-Croatian, Alexopoulou (2006) for restrictive relatives in Greek and Rouveret (2008) for Welsh.

For the second group of languages, things are less clear. Several linguists have argued in favor of a separation between resumptives that occur outside (strong) islands and those inside strong islands, cf. Aoun *et al.* (2001), Bianchi (2004), Alexopoulou (2006). Aoun *et al.* (2001), for instance, have termed the first type of resumptive ‘apparent resumptives’ and the second type ‘true resumptives’. They posit a movement derivation for the first and a base-generation derivation for the second type and claim that movement is always preferred as the more economical option. Resumptives in transparent positions must therefore be motivated by reasons other than locality; resumptives inside islands must be base-generated. They further claim that this correlates with an asymmetry in reconstruction (see also Bianchi 2004: 97). Reconstruction is possible only if the resumptive is in a transparent position, but not if it is inside an island.

Demirdache (1991), Pesetsky (1998), Hornstein (2000), Boeckx (2003), Belletti (2006) and Boeckx and Hornstein (2008), on the other hand, have argued in favor of a uniform movement approach to resumptives and claim that movement out of islands is made possible by the presence of the resumptive. This predicts that we should also find reconstruction effects inside islands, contrary to what is claimed in Aoun *et al.* (2001).⁸

The proper analysis thus largely depends on the empirical question whether reconstruction is possible with resumptives inside islands. It is therefore important to look at the Swiss German facts: Reconstruction and Strong Crossover (SCO) effects systematically obtain in Swiss German relatives. The following pair illustrates reconstruction into transparent positions with a DO-gap relative and an IO-resumptive relative (the external head is enclosed in square brackets; the reconstruction site is indicated by means of underline):⁹

- (8) (a) Ich wett s [Fotti vo sinen_i Eltere] gsee,
 I want the picture of his_i parents see
 wo jede Schüeler_i ___ am beschte findt.
 C every pupil the best likes
 ‘I would like to see the picture of his_i parents that every pupil_i likes best.’ DO

- (b) de [Pricht über sin_i Frau], won em k_n Politiker_i ___
 the story about his wife C he.DAT no politician
 würd Glaube schänke
 would belief give
 ‘the story about his_i wife that no politician_i would believe’ IO

Crucially, reconstruction into islands is possible as well. Here are a few examples with resumptive pronouns inside strong PP-islands, some of which are even embedded in another island (for more data cf. Salzmann 2006, 2011); (9a/b) illustrate reconstruction and (9c) is an example of SCO. Of course, examples like (9b/c) are very complex and difficult to process, but their (potential) degradedness cannot be related to locality since (9a), where reconstruction is readily available, also involves a strong island.

- (9) (a) D [Ziit vo sin_i Läbe], wo niemert_i gern drüber redt,
 the time of his life C nobody likes.to there.about talks
 isch d Pubertät.
 is the puberty
 ‘The time of his_i life that nobody_i likes to talk about is puberty.’
- (b) de [Abschnitt vo sin_i Läbe], won i <d Bhauptig,
 the period of his life C I the claim
 dass jede Politiker_i stolz druf isch >, nöd cha glaube
 that every politician proud there.on is not can.1SG believe
 lit.: ‘the period of his_i life that I cannot believe the claim that every politician_i
 is proud of’
- (c) *de [Bueb]_i, won er_i für en Fründ vo im_i es Auto gschtole hät
 the boy C he for a friend of him a car stolen has
 lit.: ‘the boy_i who_i he_i stole a car for a friend of’ (SCO)

What these facts show is that reconstruction is systematic in Swiss German resumptive relatives. We thus arrive at a rather paradoxical situation: while resumption does not show the locality effects of movement dependencies, it does show the same reconstruction behavior.¹⁰ Consequently, a movement analysis will need a special explanation for the absence of locality effects, whereas a base-generation analysis will need a new mechanism to account for movement effects like reconstruction and SCO. I will adopt a base-generation approach here because it is directly compatible with theories of locality which are independently needed: movement operations are subject to certain constraints no matter how they are captured theoretically. I therefore do not need to appeal to the somewhat exotic means proposed by the proponents of the movement analysis to explain why movement out of islands is possible.

Demirdache (1991), for example, attributes the island-voiding nature of resumption to LF-movement of the resumptive, Pesetsky (1998), Hornstein (2000: 178) and Belletti (2006: 132) link it to overt movement of the trace while according to Boeckx (2003) and Boeckx and Hornstein (2008) it is the result of a movement operation without prior Agree.¹¹ I have argued against these proposals elsewhere in much detail

(Salzmann (2009a: 33–36; 2011: 156ff., 193ff.) so that I will not repeat the arguments here and conclude with McCloskey (2002) that to date there is no convincing explanation why resumptives make movement out of islands possible.¹²

Additionally, it has become clear in recent years that reconstruction effects are no waterproof diagnostic for movement. Reconstruction is also found in constructions without a direct movement relationship between the reconstructee and the reconstruction site. For instance, this generally holds for relative clauses (unless a Head Raising analysis is adopted) and pseudoclefts (Den Dikken *et al.* 2000: 42):

(10) What nobody_i bought was a picture of his_i house.

Nobody and the bound pronoun *his* are not part of the same clause and there is no obvious movement relationship that could reconstruct *nobody* into the same clause as *his* (see Den Dikken 2006, section 6 for an overview over possible analyses).

Furthermore, certain instances of scope reconstruction in relative clauses must be explained without the interpretation of the bottom copy of a movement chain, see, for example, Sharvit (1999), Cecchetto (2005), Hulsev and Sauerland (2006):

(11) The woman every man_i loves is his_i mother.

The multiple-individual reading (a different woman for every man) does not necessarily result from reconstructing the external head of the relative structure. Obviously, some other mechanism is available for the QP to c-command the bound pronoun in the matrix clause. This could be Quantifier Raising of the QP as in Hulsev and Sauerland (2006), or an analysis in terms of indirect binding, as in Sharvit (1999) and Cecchetto (2005). These mechanisms are also sufficient for the universal quantifier to gain wide scope with respect to the external head. But once such alternative mechanisms are ~~necessary anyway and thus in principle~~ available, it is no longer necessary to model variable-binding/scope reconstruction effects (also in cases without a bound pronoun in the matrix clause) by means of the interpretation of a lower copy of a movement chain.¹³

The parallel between movement and reconstruction is thus obviously not perfect so that alternative mechanisms are necessary anyway. This generally weakens the arguments for a movement analysis of resumption.

In principle, it would be possible to adopt base-generation for resumptives inside islands and movement for resumptives in transparent positions (i.e., the datives in (1c)), as in Aoun *et al.* (2001), Bianchi (2004) or Alexopoulou (2006). But at least for Swiss German this would be undesirable since there do not seem to be any fundamental differences concerning reconstruction possibilities. Since base-generation is needed independently (for resumptives inside islands), it is most economical to adopt base-generation for all resumptives.¹⁴ In sum, a base-generation account allows one to maintain well-known generalizations about locality: the absence of locality effects in Swiss German resumption is due to the absence of a syntactic dependency between the operator and the resumptive. For reconstruction under resumption, alternative mechanisms are necessary. Before I turn to these I briefly need to sketch my assumptions about base-generation.

4.2 The syntax of movement and base-generation

The syntax of movement is that familiar from regular A'-movement: A relative operator bears an uninterpretable (unvalued) case-feature and an interpretable (valued) Op-/Wh-feature. Suppose we are relativizing a matrix direct object: The operator is merged in direct object position and then undergoes Agree with *v*. As a consequence it is assigned accusative. The matrix C has an uninterpretable (unvalued) Op-/Wh-feature which is associated with an EPP-feature (or, following the terminology of Chomsky (2008), an edge-feature). C undergoes Agree with the operator, which is subsequently moved to Spec, CP because of the EPP-feature. The derivation is sketched in (12):

(12) [_{CP} Op C [_{VP} [_{VP} Θ_p V] v]] movement

<i>i</i> Op[x]	<i>u</i> Op[x]	<i>i</i> Op[x]
<i>u</i> Case[acc]	EPP	<i>u</i> Case [acc]
<i>i</i> Phi[z]		<i>i</i> Phi[z] <i>u</i> Phi[z]

replace with:
uWh-/uOp-

replace with:
EPP-

The syntax of base-generation is somewhat different and translating the traditional base-generation account adopted here into the Agree-framework requires some care. McCloskey (2002: 203) and Alexopoulou (2006: 73ff., 88) both argue that base-generation does not involve Agree between the complementizer and the operator. Rather they assume that the complementizer used in base-generation does not have an *uWh-/uOp-* feature, but only an EPP/edge-feature, which is then checked by the base-generated operator. Additionally, the silent relative operator cannot have an unvalued case-feature. This implies that the relative complementizer comes in two variants, one with and one without *uOp*. While this may be a desirable result for Irish where the complementizers are formally different (*aL* vs. *aN*), it is rather unattractive for Swiss German since the complementizer always appears as *wo* regardless of whether movement or base-generation is involved (the same problem obtains with Greek *pu*, cf. Alexopoulou 2006: 88). We therefore instead pursue the possibility that there is only one *wo*. Positing only one *wo* implies that base-generation must also involve feature checking. This can be done in at least two ways: Either – adopting a suggestion by Hans Broekhuis – one can assume that Merge is also triggered by feature checking so that the empty operator checks the *uOp/uWh* on C (while the resumptive is only involved in agreement with *v*, T or a prepositional head). Alternatively, one can adopt the possibility of expansion of the search space of a probe (Rezac 2004: 66ff.). If it cannot find a matching goal in its c-command domain, it can exceptionally probe its specifier. If applied to base-generation, C first probes its complement domain; since it fails to find a matching goal, it can probe its specifier where it finds the base-generated operator (again, the resumptive does not agree with C). I will not choose between these two options here. What additionally has to be assumed in both cases is that the resumptive is bound by the operator:

- (13) $[_{CP} Op_i C [_{island} [_{VP} [_{VP} pron_i V] v]]]$ base-generation
 $iOp[x]$ $uOp[x]$ $uCase[acc]$
 $iPhi[z]$ EPP $iPhi[z]$ $uPhi[z]$

4.3 Accounting for movement effects under base-generation

To my knowledge, there are basically two types of mechanisms that have been explored to handle movement effects for base-generated dependencies: semantic reconstruction (see Sternefeld 2000 for an overview) and the NP-ellipsis analysis of resumptive pronouns (Guilliot and Malkawi 2006, 2007, 2009; Rouveret 2008). In the latter, the resumptive is reanalyzed as a transitive determiner whose NP-complement has been elided under identity with an antecedent (PF-deletion is henceforth indicated by means of italics): $[_{DP} D NP]$. This would give the following schematic representation for an example like (9a) (strikethrough indicates LF-deletion; English words are used for ease of presentation):

- (14) the [~~time of his_i life~~] [[Op *time of his_i life*] C nobody_i likes to about
 $[_{DP}$ it $[_{NP}$ *time of his_i life*]] talk]

Importantly, this only works in the present context if the Matching Analysis of relative clauses is adopted as in, for example, Salzmann (2006, 2011), where the relative operator is just a D-element with an NP complement that is elided under identity with the external head. Reconstruction effects are thus not per se a problem for a base-generation analysis.

The same holds for SCO effects, which can also be handled by means of the NP-ellipsis theory of resumptives. In examples like (9c), the resumptive *im* would have *Bueb* ‘boy’ as its NP complement. As it ends up in the c-command domain of the co-indexed *er* ‘he’, the sentence is out due to a violation of Principle C, just as it would be under a movement derivation. More traditional approaches like McCloskey (1990) and Shlonsky (1992) define SCO on the basis of the A'-chain linking the operator with the resumptive pronoun. An SCO effect in an example like (9c) would then be due to the fact that the chain between the base-generated operator and the resumptive crosses a pronoun with the same index (again, I use English words for ease of presentation):¹⁵

- (15) *the boy_i, Op_i C he_i for a friend of him_i a car has stolen

In conclusion, I adopt a base-generation approach for resumptive relatives in Swiss German because it is directly compatible with established generalizations about locality. The reconstruction effects that obtain in all Swiss German resumptive relatives can be accounted for by independently available non-movement alternatives.¹⁶

4.4 Definition of the reference set/candidate set

Recall that gap relatives are only possible for the relativization of subjects and direct objects (1a/b). Since the base-generation mechanism is in principle available and there is no obvious syntactic constraint that prevents resumptives for subjects and direct objects, we must conclude that resumptive derivations converge for these relations as well.¹⁷ The question then is why only gap derivations are grammatical. In the explanation for the distribution of resumptives in 3.2 this was linked to the fact that subjects and direct objects do not have to be expressed overtly because they are not realized by means of oblique cases. In other words, resumptives would be superfluous. The resumptive derivation is thus blocked by the more economical gap derivation (we will come back to the issue of economy in 6.1.1 below). This statement is much less innocuous than it seems: The fact that resumptive derivations are blocked by gap derivations implies that the two types of derivations compete with each other. This in turn implies that they belong to the same reference set.

Normally, the reference set is based on identical numerations, but this cannot be correct for the case at hand because movement and base-generation derivations do not involve the same set of lexical items: the base-generation derivation has an additional pronoun (the resumptive); furthermore, the two operators differ in formal features. Rather, I take the competition of movement and base-generation derivations as evidence that the reference set is based on identical LFs (or perhaps rather LF-interpretations, cf. Salzmann 2009a: 44, fn. 26; 2009c: 75, fn. 6). This position is also advocated in Sternefeld (1997), Broekhuis and Dekkers (2000), Heck *et al.* (2002) and Broekhuis and Klooster (2007).¹⁸

At LF, a movement and a base-generation derivation will look very similar: Intermediate copies will have been deleted, and the bottom copy of the movement chain will be converted into a variable; the resumptive pronoun will likewise function as a variable through binding by the operator. By applying the preference principle (which favors minimally restricted quantifiers, cf. Chomsky 1995) to the movement derivation, the operator will be minimized and the restriction is kept in the bottom copy. Practically the same obtains in the base-generation derivation if the NP-ellipsis theory of resumptives is adopted (Guilliot and Malkawi 2006, 2007, 2009; Rouveret 2008, cf. 4.3):

- (16) (a) $[_{cp} Op_1 \dots [x_i NP]] \rightarrow \lambda x \dots x$ movement
 (b) $[_{cp} Op_1 \dots [pron_i NP]] \rightarrow \lambda x \dots x$ base-generation

If the bottom copy of the movement chain is also interpreted as a definite description as in Fox (2002: 67f.), the parallelism will be almost perfect:

- (17) (a) which boy Mary visited which boy \rightarrow Trace Conversion
 (b) which boy λx [Mary visited the boy x] (= the boy identical to x)

I take these two LFs to be sufficiently similar for both to be part of the same candidate/reference set (see Salzmann 2009a: 43ff./c: 67f. for more detailed discussion).¹⁹

5. On three types of variation involving resumption

So far things seem quite straightforward in Swiss German: Resumptive and thus base-generation, are a last resort that only becomes relevant when movement derivations fail. In all other contexts, movement is preferred. This would lend itself to a rather straightforward analysis in minimalist terms: Base-generation is the only converging derivation for relativization into islands and relativization of datives. For subjects and direct objects, some economy constraint (but see 6.1.1 below) prefers a movement derivation over a base-generation derivation.

This section will change this picture substantially, however, by showing that the last resort character of resumptives is not universal and that there is a fair amount of dialectal, inter-individual ~~variation~~ and even intra-speaker variation within Alemannic dative relativization.

5.1 Variation in the last resort character of resumptives

In the description of the Swiss German facts I have so far treated the last resort nature as an inherent property of resumption. While this seems to be correct for Swiss German and the other languages mentioned at the beginning of section 3, it is by no means universal. There are in fact quite a few languages where resumptive relatives exist side by side with gap relatives in identical environments, generally in transparent positions (but not in contexts such as islands where resumptives are unavoidable); that is, there is no complementary distribution and the choice between gap and resumptive is essentially free.²⁰ Examples can be found in Irish (McCloskey 1990), Hebrew (Shlonsky 1992), Slavic languages (Goodluck and Stojanovic 1996), varieties of Spanish (Suñer 1998), and several Italian dialects (Bianchi 2004). In these languages, resumptive pronouns represent a strategy that is in principle freely available and – contrary to what is the case in Swiss German – is not blocked by a gap derivation. In Irish, the optionality is found with matrix direct objects and embedded subjects/direct objects. (18) is an example with a matrix direct object (McCloskey 1990: 205). More examples can be found in Salzmann (2009a: 50f.).

- (18) (a) an fear a bhuail tú ___ (b) an fear ar bhuail tú é
 the man aL struck you the man aN struck you him
 ‘the man that you struck’ ‘the man that you struck’

5.2 Crosslinguistic/dialectal variation

Most traditional descriptions of Alemannic claim that dative relatives require a resumptive pronoun, see Bossard (1962: 141) for Zugovian, Fischer (1989: 429) for

Lucerne, Hodler (1969: 246) and Marti (1985: 235f.) for Bernese, Sonderegger and Gadmer (1999) for Appenzell, Suter (1992: 183) for Basel, and Weber (1964: 299) for Zurich German. However, there are exceptions: The Low Alemannic dialect of Oberrotweil (Germany), which is typologically very similar to the Swiss German varieties, has basically the same resumptive system as the Swiss German dialects, with gaps for subjects and direct objects and resumptive pronouns for PPs, but, crucially, there are no resumptive pronouns for datives, as shown in the grammatical description by Noth (1993: 418ff.):²¹

- (19) (a) *Alli, wun em __ ACC hab wellá machá, sí mr vrgoodá.*
 All C he.DAT have wanted make are me.DAT failed
 ‘All (e.g. cakes) that I tried to make for him, turned out bad.’ DO
- (b) *Sáli Firma, wu dr Sebb noch __DAT ebis schulded,*
 that firm C the Sebb still something owes
hed scho wider aagruáfa.
 has already again called IO
 ‘That company to which Sebb still owes something has called again.’
- (c) *Dr áinzig, wu sí vrhandlá míd em, ísch dr Aafíarer.*
 the only.one C they negotiate with him is the leader
 ‘The only one with whom they negotiate is the leader.’ PP

The same seems to be the case in Glarus German. Bábler (1949: 60) gives five examples with dative relativization all of which contain gaps. Otherwise, the resumption system is the same as in Zurich German. Here is one of the examples with dative relativization:

- (20) *Kánntscht du der Bueb, ... wo me __DAT de es Bremi gih het?*
 know.2sg you the boy C one then a prize given has
 ‘Do you know the boy to whom they then gave a prize?’

Importantly, the variation cannot be related to a different status of dative case in these varieties. As in Zurich German, dative has to be overtly realized in the contexts (6)–(7). Nor can the deviating behavior of dative relatives be attributed to the types of datives: Noth (1993) and Bábler (1949) list examples in which datives of various types are relativized without resumptives: datives of ditransitive verbs, of intransitive verbs, subcategorized datives and non-subcategorized ones (bene-/malefactive). In other words, the dialectal variation is real.

More evidence for variation comes from the *Idiotikon* (1999, XV, 13f.), a dictionary of Swiss German dialects. The entry of the relative particle *wo* contains several examples with dative relatives, some of which are constructed with a resumptive pronoun and some without. All the examples are taken from carefully written sources such as textbooks, grammatical descriptions, dialect literature, and so on. The examples without resumptive pronoun come from the following dialects: Bernese, Appenzell, Glarus and Wallis German while those with resumptive pronoun are from Basel, Bernese, Zugovian and Lucerne German.

5.3 Inter-individual variation

The fact that we find both variants in Bernese suggests that the variation is not just between larger dialect areas but also occurs among individuals of the same variety; we are dealing with inter-speaker variation. More evidence for inter-speaker variation is found in Hodler (1969: 246), who notes that the resumptive pronoun is normally obligatory in Bernese, but (for reasons he does not specify) sometimes does not occur. Similarly, while Sonderegger and Gadmer (1999) explicitly state that dative resumptive pronouns are necessary in Appenzell German, one of the examples in the *Idiotikon* from the same dialect (by the author Jakob Hartmann) does not contain a resumptive pronoun.

Since the examples without resumptive pronouns occur in contexts where the grammatical descriptions normally take dative resumptive pronouns to be obligatory, the variation cannot be due to different types of dative. Rather, we seem to be dealing with true inter-speaker variation (in Salzmann 2009b: 145–50, the empirical situation is discussed in more detail).

5.4 Intra-speaker variation

The data presented so far show that the use of dative resumptive pronouns is much less systematic than suggested by earlier descriptions. Two recent studies (Salzmann (2009b) on Zurich German and Salzmann and Seiler (2010) on Swiss German) have not only confirmed this fact, but also showed that variation in dative resumption is pervasive. Speakers of the same variety do not only differ from each other in their use of dative resumptive pronouns, but there is also a lot of variation within the grammar of an individual: Most speakers judged both the gap and the resumptive version grammatical, so that we may conclude that the use of dative resumptive pronouns is essentially optional. Importantly, the variation is restricted to dative relativization in transparent contexts. In island contexts, dative resumptive pronouns are obligatory. In other grammatical relations, the result is also categorical and confirms the earlier descriptions: Resumptive pronouns are prohibited for subjects and direct objects, but necessary for PPs and islands.

There is no evidence that the variation is related to sociolinguistic factors like age, sex, education, and so on. One cannot simply say that younger people are less likely to use dative resumptive pronouns. In fact, some of the sources in the *Idiotikon* mentioned above without dative resumptive pronouns are 50–100 years old. Conversely, a quick Google search reveals that dative resumptive pronouns are used frequently in communicative contexts which are most likely to be frequented by younger people like news forums, chat-rooms, and so on. Nor is it the case that the variation can simply be attributed to processing factors, for example, that the resumptive pronoun is dropped in sloppy speech or conversely that the resumptive pronoun is inserted as some repair strategy. As shown in the previous subsection, gaps and resumptive pronouns for datives are found in very carefully written sources such as textbooks, traditional dialect literature, and so on. It is highly unlikely that

they represent performance errors. But once gaps as well as resumptive relatives are a possibility in the grammar of many speakers of an Alemannic variety, it is unlikely that speakers who use gaps next to resumptive pronouns for dative relatives make performance errors when they use one of the variants. Furthermore, in the questionnaires, the majority of our informants explicitly marked both the gap and the resumptive variant as grammatical. Finally, a processing account would have to assume that one of the variants, the gap or the resumptive pronoun, is the basic variant while the other one is the result of a performance error. Given that both variants are attested in careful sources, both are equally good candidates for the basic variant. Choosing between the two seems not only arbitrary but plainly wrong. I conclude from this that intra-speaker variation in the use of dative resumptive pronouns is simply a fact one cannot deny. Both gap and resumptive pronoun are grammatical variants for one and the same speaker.²²

6. Implications of the variation: comparing MP and OT

In this section I will discuss the implications of the types of variation described in the previous section. It will be shown that a minimalist system is too rigid to accommodate them in a satisfactory way. Instead, I will argue in favor of a more flexible system that makes use of violable and rankable constraints as in Optimality Theory.

6.1 A crosslinguistically variable preference for elementary operations

6.1.1 *Against a solution in terms of economy*

In the description of the Swiss German facts (4.4) I concluded that movement and base-generation derivations belong to the same reference set and thus compete with each other. This conclusion is inevitable if resumptive derivations converge for subjects and direct objects, but are blocked by gap derivations. The question then is: Why does movement block base-generation? One possibility alluded to above is economy, but as we will see presently, there is good reason to be skeptical about such a solution. There are technical, conceptual, as well as empirical counterarguments.

First of all, it is far from trivial if not even impossible to find a (Minimalist) economy constraint that prefers a movement derivation over a base-generation derivation. Aoun *et al.* (2001) propose an account in terms of (global) derivational economy, arguing that a base-generation derivation involves more steps than a movement derivation. While this may be correct for their particular implementation of base-generation (see Salzmann 2009a: 39ff., 2009c: 66 for discussion), this is not obvious in the implementation adopted here (4.2) where at least the following operations are involved:

- (21) (a) Movement: Merge (operator) + Copy (operator) + Merge (operator)
 (b) Resumption: Merge (operator) + Merge (pronoun)

Given this, one might in fact expect resumption to be more economical than movement. Even if we add the non-syntactic binding relationship linking the operator with the resumptive under base-generation, the number of steps will still be identical. Furthermore, successive cyclic movement will lead to additional copy (and deletion) operations that are not found under base-generation. Without going too much into detail here (but cf. Salzmann 2009a: 46, 2009c: 70f.) it should be clear that it is far from obvious that movement is more economical from a derivational perspective.

Turning to representational economy, there are two possibilities that suggest themselves: SILENTTRACE (Pesetsky 1998) and the Avoid Pronoun Principle (APP, cf. Chomsky 1982: 63f.; Van Riemsdijk 1989; Heck and Müller 2000: 44). However, the two constraints cannot be applied to the analysis of resumption here because they only work if the representations that are to be compared are based on more or less the same syntax. But this is crucially not the case here: SILENTTRACE fails to apply to resumptive derivations because on my account resumption does not involve the phonetic realization of a copy of a movement chain. Conversely, the APP fails to apply to traces/copies of movement because it only chooses between overt and zero pronouns.²³

Furthermore, both constraints are inadequate because they refer to overtness. The possessor relativization facts discussed in Salzmann (2011) show, however, that what is crucial is not just a ban against variables with phonetic content, but against resumption/base-generation per se as there are also silent resumptive pronouns (see also Georgopoulos 1985, 1991; McCloskey 1990, for further evidence for silent resumptives). See Salzmann (2009a: 45–58, 2009c: 70ff.) for more details and additional evidence that resumption and representational economy are orthogonal dimensions.

There is one specific local economy constraint that is frequently appealed to, the Merge over Move principle (see McCloskey 2002: 204, for a particular case in Irish where it seems to be crucial). In its local form (i.e., applying at a particular stage in the derivation) it can arguably not be applied to the case at hand because the derivations are already too different after the initial merger of either verb + resumptive or verb + operator with *u*Case. In a global form it might in fact favor resumptives, but this would, of course, be the wrong result.

Postulating a Move over Merge principle instead may seem to be a possibility, but at least in a local form it would fail: as pointed out in the previous paragraph, the difference between movement and base-generation is already made when the verb is merged with the object. Insertion of an operator with *u*Case forces movement at a later stage while insertion of a resumptive forces merge of an operator later in the derivation. The selection of one derivation over the other thus can only be done trans-derivationally. A global principle favoring Move over Merge fares better, but it would fail to account for the language variation observed in 5.1, see the next subsection.

I conclude therefore that none of the minimalist economy constraints postulated to date can be used to explain why gap relatives block resumptive relatives in Swiss German. Next to these technical arguments, there are more general considerations that speak against an economy approach: Resumptive pronouns are unmarked in

many languages of the world (cf. Comrie and Kuteva 2005) – treating them as marked with respect to movement is the result of a Eurocentric, standard language-based perspective. Furthermore, resumptive relatives often constitute the first relativization strategy acquired by children (cf. Goodluck and Stojanovic 1996). Even more importantly, the fact that the blocking effect is not found in languages like Irish casts principal doubts on the viability of an economy approach. Since economy constraints are normally taken to be universal and not subject to parameterization (Müller and Sternefeld 2001: 29), the putative constraint should favor movement over base-generation in all languages, contrary to what was found in 5.1.

6.1.2 *Ranking the preference for Merge and Move*

As a consequence, I would like to argue in favor of a very different perspective: Contrary to what is sometimes claimed in the literature, I submit that movement and base-generation are two inherently equally costly operations (see also Broekhuis 2008; Broekhuis and Klooster 2007).²⁴ Given free access to the lexicon the computational system is confronted with an indeterminacy as to which of the two should be applied. The empirical facts show that in languages like Irish this indeterminacy is not resolved in that both derivations are optionally available (as long as they converge). The facts from Swiss German, however, show that other languages resolve the indeterminacy in favor of one of the two operations. There is also a third type of language, which only uses resumption and thus resolves the indeterminacy differently than Swiss German. Possible candidates are Palestinian Arabic (Shlonsky 1992: 445), Palauan (Georgopoulos 1985, 1991), and (from Comrie and Kuteva 2005) probably Baka, Babungo, Ngemba, Youruba and Kayah Li.²⁵

This variable preference for elementary operations cannot be modeled in an orthodox minimalist grammar. A system with violable and ranked constraints, however, has the necessary ingredients: I propose that the observed preferences are the result of the relative ranking of two constraints that each penalize an elementary operation. Following Broekhuis (2008), I adopt *MERGE and *MOVE. *MERGE penalizes external merge and thus also base-generation. *MOVE, on the other hand, penalizes internal merge and thus movement. Specifically, I argue that in languages where resumptives are a last resort *MERGE outranks *MOVE while in languages like Irish where resumptives and gaps occur in the same environment the two constraints are tied. In languages which only use resumption *MOVE outranks *MERGE.²⁶

- (22) (a) movement as a last resort (e.g. Swiss German): *MERGE >> *MOVE
 (b) optionality (Irish/Hebrew): *MERGE <> *MOVE
 (c) resumption only (e.g. Palestinian Arabic): *MOVE >> *MERGE

The ranking for Swiss German receives independent support from negation facts where movement of a negative XP is preferred over merging a negative adverb, cf. Salzmann (2009a: 54ff., 2009c: 72) and Broekhuis and Klooster (2007). At this point I cannot assess the implications of the ranking in Irish/Hebrew and will leave it for further research.

The two constraints and their possible rankings can be interpreted as instantiating a kind of (macro-)parameter. The proposal advanced here is thus similar in spirit to that in Müller (2009) where the resolution of an indeterminacy in the order of rule application at the vP-cycle classifies languages into two types: ergative and accusative languages. There is one crucial difference, however: While the constraints in Müller (2009) and the more classical Merge over Move constraint are local derivational constraints, the two constraints adopted here are representational and translocal. The choice between movement or base-generation cannot be made locally, that is, at a particular derivational point, because, as pointed out in the previous subsection, the decision is already made when the verb is merged with an object, that is whether a resumptive pronoun or an operator with *u*Case is inserted. However, since in both cases Merge is involved (since movement is not yet an option, of course), there is no way of favoring one over the other option locally. Even if this could somehow be done, there would not be enough information available to make the right decision. If the ranking *MERGE >> *MOVE applied, it would invariably block base-generation. This would lead to the wrong result in case a gap derivation eventually fails, for example, because the operator ends up trapped inside an island. Rather, complete LF-representations must be compared in terms of how a given uninterpretable feature is valued, that is, whether it is valued by external or internal merge.

But could there be an account in terms of parameterization that is compatible with the MP? Part of the problem associated with the phenomenon under discussion is the fact that it seems to instantiate a rather fundamental difference between languages, reminiscent of a macro-parameter. Work on macro-parameters, however, has been largely abandoned in MP, and it is relatively unclear at this point whether they are formulable at all in (recent versions of) MP (see Richards 2008: 144ff. for discussion). There is one conceivable alternative to derive variable preference for movement and base-generation that is compatible with minimalist assumptions, a possibility first suggested in Sternefeld (1997: 97ff.): the parametrization of the reference set. For languages like Swiss German where resumptives are always a last resort, the reference set would be based on identical LFs (one would still need an economy constraint favoring movement over base-generation). For languages like Hebrew/Irish where gaps and resumptives exist side by side in certain contexts, however, the reference set would be based on identical numerations. It is indeed by reference to different numerations that Shlonsky (1992) and McCloskey (2002: 205) explain the optionality in Hebrew/Irish. This would be a possible albeit quite radical move whose implications are difficult to assess. At any rate, there are two strong counterarguments. First, as shown in the previous subsection, it is difficult if not impossible to come up with MP-compatible constraints that could be used to prefer movement over base-generation. Second, it would be unclear how to derive the third type of language with resumption only. Basing the reference set on identical LFs in that case would require the opposite type of economy constraint as in Swiss German. It is unclear how this could be done in an MP-system. Third, and this is the topic of the next subsection, such an approach fails to account for the variation facts observed in Alemannic.

6.2 Dialectal and inter-individual variation in dative resumption

6.2.1 A grammar with obligatory dative resumptives

Before analyzing the variation facts I will first sketch the analysis for a grammar with obligatory dative resumptive pronouns. The occurrence of dative resumptives can be linked to a representational PF-constraint that requires oblique case to receive phonetic realization, *RealizeObl* (OT-constraints will henceforth appear in small capitals, MP-constraints only with capitalized initials).

(23) *RealizeObl*: Oblique case must be phonetically realized

As shown in (6)–(7), such a constraint is independently necessary. It can in principle be employed in both an MP and an OT framework. As long as dative resumptives are obligatory, the MP grammar derives the correct result. The movement derivation, which leaves dative unrealized, simply crashes while the base-generation derivation is the only converging alternative. Importantly *RealizeObl* is an inviolable constraint.²⁷

The corresponding constraint in an OT-framework would be essentially identical, the only difference being that it is in principle violable. In a grammar with obligatory dative resumptives, *REALIZEOBL* outranks **MERGE*, i.e., it overrides the preference for movement.

(24) Dative relatives

	<i>REALIZEOBL</i>	<i>*MERGE</i>	<i>*MOVE</i>
☞ a. Base-generation		*	
b. Movement	*!		*

When non-oblique cases are involved, **MERGE* prefers the movement/gap derivation:

(25) DO-relatives

	<i>REALIZEOBL</i>	<i>*MERGE</i>	<i>*MOVE</i>
a. Base-generation		*!	
☞ b. Movement			*

OT-accounts dealing with the left-periphery of relative clauses such as Pesetsky (1998) and Broekhuis and Dekkers (2000) assume that the syntactic basis of restrictive relative clauses universally involves an overt relative pronoun/operator + an overt complementizer both of which can be subject to deletion. Under such premises, the question arises why oblique case cannot be realized by a relative pronoun in Spec, CP in Alemannic relatives. One cannot say that there simply is a silent relative operator; the absence of overt relative pronouns should instead follow from constraint interaction. To put it differently: the inventory of relative elements is the

result of evaluation and not just simply given by the lexicon. As suggested to me by Hans Broekhuis (p.c.), one possibility involves the constraint LE(CP), which favors CPs whose first element is an overt complementizer. If this constraint dominates REALIZEOBL, the possibility of realizing oblique case in Spec, CP is ruled out. Other things being equal, this basically implies that there are never overt relative pronouns in Alemannic dialects. RECOVERABILITY, which outranks LE (CP), is arguably only an issue for datives and PPs. Due to the ranking LE(CP) >> *MERGE recoverability is satisfied by means of resumption in these varieties. The following table shows the evaluation for the relativization of a dative object, the revised version of (24) (since we have no evidence for the relative ranking between LE(CP) and REALIZEOBL we use a tie for ease of illustration):²⁸

(26) Dative relatives

	LE(CP)	REALIZEOBL	*MERGE	*Move
☞ a. Base-generation			*	
b. Movement + rel. pronoun	*!			*
c. Movement – rel. pronoun		*!		*

6.2.2 A grammar without dative resumptives: problems for an MP-approach

Section 5.2 provided ample evidence for the existence of a grammar that is essentially identical to the one discussed in the previous section, but with one important difference: it does not use dative resumptives in non-island contexts.

In current minimalist work, crosslinguistic variation (including idiolectal variation) is usually reduced to differences in the inventory of lexical items or differences in the specification of lexical items. Languages differ as to whether a particular functional head is equipped with an EPP/edge-feature (or, as in older versions of MP, a strong or a weak feature) and thus will trigger overt movement in one language but not in another. Since in the case at hand we are not dealing with differences in displacement, presence or absence of an EPP-feature cannot be at stake. Alternatively then, the crosslinguistic variation must root in the presence vs. absence of a given lexical item.

At first sight, one might want to argue that the varieties without dative resumptive pronouns simply do not have the required operator without *u*Case so that a movement derivation is the only option for dative relatives. However, this does not work: first, dative resumptive pronouns do occur in all varieties when the dative is inside an island:

- (27) de Maa, won i kās <Buech, won *(em) gib>, zrugg überchum
 the man C I no book C he.DAT give back get
 lit.: ‘the man who I don’t get any book back that I give to’

Second, since all varieties use base-generation whenever a (non-dative) variable is inside an island as in (1d) and (2), they all must have the operator without *u*Case

posited in 4.2. This implies that varieties without dative resumptives in transparent contexts in principle have both derivations at their disposal for datives. The variation in dative resumption thus cannot be due to a difference in the inventory of operators. But how can the absence of dative resumption in transparent contexts be derived?

One possibility would be to assume that there is no *RealizeObl* in those varieties so that gap derivations converge and are preferred over resumptive derivations for reasons of economy (assuming for the sake of the argument that one could find an appropriate constraint). But this leads to serious problems, since then one can no longer account for the pattern in (6)–(7). We are thus forced to assume that the general requirement to realize dative case, i.e., *RealizeObl*, still holds in the respective variety. But then this PF-constraint will filter out all derivations where dative remains unexpressed, including dative gap relatives. In other words, dative relatives with gaps cannot be derived given that *RealizeObl* is inviolable. The only possible way out is to make *RealizeObl* more specific so that it no longer applies to relative clauses. In that case, both gap and resumptive derivations will converge. The gap variant, which is more economical, then emerges as grammatical. In a non-transparent context such as (27), on the other hand, only the base-generation derivation will converge, not because of *RealizeObl*, but because the movement derivation crashes.

This strategy of handling language variation by means of rather specific interface constraints is exactly what Broekhuis (2008) criticizes about Chomsky's (2001) treatment of object shift, where the cross-linguistic differences are handled by very specific filters. As pointed out in Broekhuis (2008), such a strategy is feasible, but amounts to a reformulation of the descriptive generalizations. The difference between varieties with dative resumptive pronouns and those without is then due to a slight difference in the PF-filter *RealizeObl*. It holds across the board in the first group, while in the second, it does not hold for relatives. An MP approach can thus handle the variation, but only at a very high cost.

6.2.3 *A grammar without dative resumptives: in favor of violable constraints*

Under an OT account, the variation can be handled straightforwardly: the fact that *REALIZEOBL* does not hold in all contexts is not a problem because it is a violable constraint. In the case at hand, we can argue that the absence of dative resumptive pronouns is due to a different ranking between *REALIZEOBL* and **MERGE*. While *REALIZEOBL* dominates **MERGE* in the varieties with dative resumptive pronouns, the reverse ranking obtains in the dialects/idiolects without dative resumptive pronouns. To rule out the possibility that the oblique case is realized by means of a relative pronoun in Spec, CP, we again include *LE(CP)*:

(28) Dative relatives without resumptive pronouns

	<i>LE(CP)</i>	<i>*MERGE</i>	<i>REALIZEOBL</i>	<i>*MOVE</i>
a. Base-generation		*!		
☞ b. Movement – rel. pronoun			*	*
c. Movement + rel. pronoun	*!			*

The obligatoriness of dative resumptive pronouns in islands like (27) follows if *MERGE is dominated by a further constraint that penalizes locality violations (but see 6.4 below).

One might object that this solution is just as descriptive as the MP-analysis in the previous subsection. But this is certainly not correct. The OT approach fares better in a number of important aspects. First: in the OT-account, the variation is derived from primitive notions of grammar: all constraints are very general and independently needed while in the MP-account, the variation is handled by means of postulating two different filters, a general and a more specific one. Second, the OT description is more economical in that it only requires one version of REALIZEOBL while the MP-account requires two. Third, the OT approach makes interesting predictions about possible types of language: given the constraint set, one does not expect to find a language that consistently uses dative resumptive pronouns, but leaves dative unexpressed in contexts like (6)–(7). To my knowledge, this prediction is correct. Under an MP-account with very specific filters, it would be easy to formulate a constraint that leads to such an unattested pattern. I conclude, therefore, that an approach based on violable constraints is superior.

6.3 Intra-speaker variation in dative resumption

6.3.1 Problems for an MP-approach

The intra-speaker variation data are particularly interesting because they show a kind of optionality between gap and resumptive that is unexpected if resumptives are taken to be a last resort. Given that both the gap and the resumptive variants are grammatical for many speakers, we need a model of grammar that generates both variants. Importantly, we are dealing here with an instance of ‘semantically vacuous optionality’ (Biberauer and Richards 2006), in the sense that the two surface variants are identical in interpretation (only for wide-scope/specific readings, recall the discussion in Note 19).

The issue of optionality has generally been a difficult one for minimalist approaches (cf. Henry 2002, 2005). Unfortunately, the literature has almost exclusively been concerned with optionality of movement – a simple consequence of the fact that minimalism is mainly concerned with properties of the generator. Therefore, most minimalist approaches to optionality (optionally strong features/optional EPP-/edge-features, cf. Henry (2002: 275); optionality as an inherent property of movement, cf. Barbiers (2005: 254); Parallel Grammars, cf. Kroch (2000) or various pied-piping options, cf. Biberauer and Richards (2006)) cannot be applied to the optionality between gap and resumptive.

Within the lexical variation theory there is one recent approach by Adger and Smith (2005) and Adger (2006) that explicitly tackles intra-speaker variation. Simplifying somewhat, they propose that variation within a grammar arises if a grammar contains two featurally different, but semantically identical elements that – due to their feature difference – are realized differently in the morphological component. Depending on which element is chosen for a given derivation, we get either variant a or b.

The discussion on dialectal variation in 6.2.2 has shown, however, that the variation in dative resumption cannot be located in the inventory because all varieties have both gap and resumptive relatives and therefore require both an operator with *u*Case (for movement: SU/DO) and an operator without *u*Case (for base-generation: PPs, islands). The question is whether intra-speaker variation can be explained by the presence of both relative operators. In the case at hand it cannot, for principled reasons: in Adger’s approach the differences in the numeration are taken to be significant enough to constitute two different reference sets so that two given (converging) derivations will not compete and can both emerge as grammatical, thereby leading to optionality. However, since 4.4 has shown that the candidate/reference set must be determined on the basis of LF in Swiss German to explain the impossibility of resumptives for SU/DO, there will always be competition between gap and resumptive derivations. The optionality thus cannot result from different inputs. Rather, it must somehow be the result of PF-constraints. As discussed in 6.2.2, the general version of the MP-constraint *REALIZEOBL* will be too strong when dative relatives contain gaps. Derivations with gaps violate *REALIZEOBL* and therefore crash so that only the resumptive variant should be grammatical. The same problem obtains in intra-speaker variation: with the general *REALIZEOBL*, derivations with gaps violate *REALIZEOBL* and therefore crash. Again, only the resumptive derivations should be grammatical, contrary to fact. The only alternative is to use the specific version of *REALIZEOBL*, which in principle allows both gaps and resumptive pronouns for datives. But even that will not do: even though both gap and resumptive relatives converge in that case, whichever economy constraint generally penalizes resumption (to rule out resumptive pronouns for subjects and direct objects) will favor the gap variant. In other words, it is simply not possible for this type of grammar to generate both variants. See Salzmann and Seiler (2010, section 7) for more discussion of alternative approaches to intra-speaker variation.

6.3.2 How an OT-approach succeeds

In an OT approach optionality in transparent contexts follows straightforwardly from a tie between *REALIZEOBL* and **MERGE*. Both gap and resumptive pronoun can thus be optimal:

(29) Optional dative resumptive pronouns

	<i>REALIZEOBL</i>	<i>*MERGE</i>	<i>*MOVE</i>
☞ a. Base-generation		*	
☞ b. Movement	*		*

Importantly, this is a global tie (cf. Müller 2000 for an overview) so that lower-ranked constraints like **MOVE* do not interfere. Within islands (27), the resumptive variant is the only possibility because, as in dialects without dative resumptives, a higher-ranked locality constraint forces base-generation (but see the next subsection).

Salzmann and Seiler (2010) have shown that the basic optionality can be affected by certain grammatical factors, such as the referentiality/definiteness of the head noun, narrow scope of the external head and case matching contexts (i.e., dative case on the external head noun). These factors all lead to a variable and non-categorical preference for the gap variant. The empirical facts thus seem very similar in nature to what Henry (2005) observes for idiolectal agreement patterns in *there*-sentences where various contextual factors (type of verb, type of associate) favor agreement. While Henry (2005) argues in favor of a return to the concept of rules that may be associated with probabilities, Salzmann and Seiler (2010) take this as evidence in favor of a stochastic model of grammar.

6.4 Why only datives? Arguments for a restrictive generator

As we have seen, only base-generation is possible if relativization targets a position inside an island (2). In the previous sections, I have argued that some locality constraint, call it LOCALITY for the sake of the argument, outranks *MERGE. This derives the right result for all Alemannic varieties and for all relations, i.e., also for relations like the direct objects in (2) or the dative resumptives inside islands in varieties that normally do not use dative resumptives (27):

(30) Resumptives for dative inside an island in a variety without dative resumptives (27)

	LOCALITY	*MERGE	REALIZEOBL	*MOVE
☞ a. Base-generation		*		
b. Movement	*!		*	*

However, there are two aspects that raise doubts about the validity of such an approach: Given the constraints LOCALITY, REALIZEOBL, *MERGE and *MOVE it is easy to come up with a ranking that will lead to a language that arguably does not exist: Suppose the following ranking: REALIZEOBL >> *MERGE >> LOCALITY >> *MOVE. This would lead to a typologically unattested language, which has dative resumptive pronouns in all contexts, but no resumptive pronouns for non-oblique relations even when the extraction site is inside an island (which implies that there would be movement out of islands). This is clearly undesirable.²⁹ An MP approach is not confronted with this problem because locality is hardwired into the derivational system so that derivations that violate locality will invariably crash.

Furthermore, it is completely arbitrary under the OT approach that variation is restricted to datives. With the OT formalism it is just as easy to model a language where resumptive pronouns inside islands are optional, e.g., with a tie between *MERGE and LOCALITY. Again, this problem does not arise under an MP-approach since the constraints that lead to variation (i.e., the versions of REALIZEOBL) do not apply to the computational system but to PF-representations. This captures the fact that the variation we find in Alemannic relatives is restricted to an interface phenom-

enon (the realization of oblique case) rather than fundamental syntactic properties, thereby echoing the dichotomy between core and periphery. This insight is completely lost in the present OT account.

Since I have shown that the violability of certain constraints is necessary for a correct description of the facts, I do not want to give up an account based on violable constraints altogether. Rather, I would like to propose an alternative that preserves the insight of the analysis while at the same time helps restrict the possible grammars (and thus the range of variation): locality constraints on movement, at least those banning movement from strong islands, are reanalyzed as part of the generator (e.g. some version of the CED or phase theory). As a result, the grammar will never generate sentences that violate such islands. In the case at hand, this will correctly limit the variation to the realization of oblique case (5.2, 5.3, 5.4), and to the preference for external or internal merge (5.1).

The Derivations and Evaluations model proposed by Broekhuis (2008) provides exactly the necessary architecture to implement such an approach. It combines an MP-generator with an OT-like evaluator that includes constraints expressing (macro-)parameters (such as *MERGE), interface constraints (like REALIZEOBL) and constraints triggering displacement (so-called EPP-constraints). Constraints that are never violated, for example, the prohibition to move out of strong islands, are built into the MP-generator. This accounts for the universal properties of human language while the evaluator is responsible for cross-linguistic, and as we have seen, also inter- and intra-speaker variation.³⁰

7. Conclusion

I have investigated three types of variation involving resumption: (a) Variation in the last resort nature of resumption; (b) dialectal and inter-speaker variation in dative resumption in Alemannic; and finally (c) intra-speaker variation in Alemannic dative resumption. In all cases I came to the conclusion that a rigid minimalist system as it is generally assumed is ill-equipped to handle these types of variation. This largely has to do with MP's focus on constraints on the derivational system and the inviolability of the constraints. In the case at hand, however, what is at stake is macro-parameter-like variation and variation at PF, but not variation in terms of presence or absence of movement. The variation in the last resort nature of resumption requires a fundamental, macro-parameter-like division between languages, but the status and locus of macro-parameters and their possible format remains very much unclear in MP. Dialectal and inter-speaker variation in dative resumption requires sophisticated PF-constraints. Here it becomes obvious that this is a heavily underdeveloped aspect of minimalism. Postulating PF-constraints in minimalism is thus inevitable, but because of their inviolability they are not flexible enough to handle the variation in a straightforward way. Rather, to express the language variation, various very language-specific ad-hoc constraints are necessary. Intra-speaker variation, finally, also remains completely unaccounted for under an MP approach, mainly due to the lack of sophisticated PF-constraints and the general inviolability of the constraints.

Within OT, however, the types of variation can be formulated in a straightforward and non-arbitrary way in that the variation observed is the result of the interaction of general and independently needed constraints. At the same time, the range of variation can be better restrained if certain properties of language are not taken to be the result of constraint interaction, but rather of a restrictive generator. In this respect the facts discussed here argue for a combination of some elements of both the Minimalist Program and Optimality Theory, for example, as proposed in the Derivations and Evaluations framework by Broekhuis (2008).

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Notes

1. It should be mentioned that in some minimalist approaches island constraints, sometimes even the Phase Impenetrability Condition, are taken to be interface constraints (cf., e.g., Boeckx 2008: chapter 7, for discussion). Such minimalist systems are clearly less derivational and thus even closer to OT-models.
2. See Salzmann (2009b: 155, fn. 1) for qualifications.
3. For the transcription see Salzmann (2006: 320, fn. 259). Long-distance relativization, where resumptive pronouns appear across the board, can be argued to instantiate a different construction, cf. Salzmann (2006: chapter 4.9), Van Riemsdijk (2008), and also Salzmann and Bayer (forthcoming). For possessor relativization, cf. Salzmann (2011). Free relatives require *wh*-relative pronouns that leave gaps, cf. Van Riemsdijk (1989). Appositive relatives behave like restrictive relatives with respect to resumption, except for the indirect object. Resumptive pronouns also occur in comparatives, but not, or at least not systematically, in topicalization and *wh*-movement, see Weber (1964: 304), Salzmann (2006: 376, fn. 297, Salzmann 2011: section 4) for details.
4. In the b-example the resumptive pronoun is an R-pronoun, the pronominal part of a pronominal adverb. Pronominal adverbs occur when prepositions take an inanimate pronominal complement (see Salzmann 2006: 325f. for details). This extends to resumption. In the present case, the resuming element for a predicate would be *das*, which is turned into *de*.
5. Matching effects (Salzmann 2006: 348ff.; Salzmann 2009b: 150; Salzmann and Seiler 2010) provide additional evidence that resumption is related to the realization of oblique case. Problems with Bayer *et al.*'s generalization and other strategies to realize oblique case in German varieties are discussed in Salzmann (2009b: 156f., fn. 7/8).
6. There have been alternative – syntactic – proposals to explain resumptive pronouns for oblique cases most of which attempt to unify them with resumptive pronouns after prepositions. Some (e.g., Boeckx 2003; Bianchi 2004) have linked them to inherent case. As discussed in Salzmann (2006: 373; Salzmann 2009b: 140ff.), this does not work for Swiss German because datives require resumptive

pronouns irrespective of whether they are structural or inherent. Furthermore, inherent accusatives do not require resumptive pronouns. What is important in Swiss German is thus the morphological notion ‘oblique case’. Van Riemsdijk (1989) argues that datives are in fact PPs so that dropping the resumptive pronoun would violate recoverability. See Salzmann (2006: 369ff., 2009b: 140ff.) for evidence that dative resumptive pronouns cannot be reanalyzed as PPs. The variation facts to be introduced in section 5.2 clearly show that dative resumptives require a separate explanation and cannot be subsumed under the account for resumptives within PPs.

7. A terminological remark is in order here: whenever I speak of base-generation, I assume that what links the operator and the resumptive is not a syntactic dependency, but rather a semantic one. This type of derivation is to be distinguished from non-movement accounts as in Adger and Ramchand (2005), Alexopoulou (2006) and Rouveret (2008) which are based on Agree syntactic dependency. insert after "viz.":
to
8. Unfortunately, the issue is only addressed partially in these works. Pesetsky (1998) and Hornstein (2000) do not discuss reconstruction at all, and Demirdache (1991: 97f.) only discusses reconstruction into a weak island. Belletti (2006: 135) indeed argues for reconstruction into islands on the basis of Italian data while Boeckx (2003: 155ff.) and Boeckx and Hornstein (2008) relate the non-reconstruction into islands to different mechanisms, viz. a different resumption strategy (intrusion), and to properties of the reconstruction mechanism. Even though there is no general agreement and languages may differ from each other, it has become increasingly clear that reconstruction effects do not always pattern with locality. Guilliot and Malkawi (2006, 2007, 2009) and Guilliot (2007) have shown that reconstruction into islands is possible in Jordanian Arabic and French resumptive structures, respectively. Conversely, Adger and Ramchand (2005) have pointed out that island-sensitivity does not necessarily imply movement. They show for Scottish Gaelic that no reconstruction effects (or rather ‘identity effects’) obtain under resumption even though resumption is subject to locality constraints. For Greek and Welsh, on the other hand, for which pure agree-based analyses have been proposed, reconstruction effects under resumption have been documented, cf. Alexopoulou (2006: 82), Rouveret (2008: 182).
9. In (8b) the reconstruction site is indicated below the resumptive since this corresponds to the theta-position of the indirect object. The resumptive appears in a higher position because it undergoes weak pronoun fronting.
10. There is one important exception: Resumptive relatives tend to block scope reconstruction (at least pair-list, but not necessarily functional readings) in many languages, cf. Doron (1982), Suñer (1998), Sharvit (1999), Boeckx (2003), Bianchi (2004, 2008), Guilliot (2007), Guilliot and Malkawi (2009). For Swiss German, cf. Salzmann (2006: 355–66). For Welsh (Rouveret 2008: 181f.), Breton (Guilliot 2006: 1893), and Jordanian Arabic (Guilliot and Malkawi 2006, 2007) it has been observed that resumptive relatives do not show reconstruction for Principle C, contrary to gap relatives.
11. As pointed out to me by Mike Putnam, there seems to be an inherent conflict in Boeckx’ assumption that movement without Agree voids island constraints (because Agree cannot penetrate islands) and his assumption in later work (Boeckx 2008) that intermediate movement steps are not feature-driven: Given the latter possibility it should always be possible for the movee to circumvent an island and come so close to the probe that it can be attracted.
12. Note that I assume that island constraints are structural, i.e., either derivational or representational/interface constraints. There have been claims in the literature, e.g., in Levine and Hukari (2006), that island violations are rather the result of pragmatic/semantic inconsistencies and parsing difficulties. It is indeed the case that even extractions from strong islands are sometimes quite acceptable; but the assumption that movement is essentially unbounded runs into difficulties when trying to account for contrasts as in (2). Even if (2b) is optimized w.r.t. semantic/pragmatic considerations, it will never come close to (2a) in acceptability. If movement is essentially unbounded, it remains unclear why resumptive structures are so much better (and why they are necessary in some cases).
13. See also Cecchetto (2005) for convincing arguments that reconstruction in relative clauses should generally not be accounted for in terms of the copy theory of movement.
14. I must admit that I do not understand why in some of the works cited in this paragraph resumptives for possessors and complements of prepositions are taken to be cases of apparent resumption which consequently involve Agree and movement. To my knowledge possessors and PPs are

islands for extraction in some of these languages (certainly in Italian). The only resumptives that occur in unambiguously transparent positions are those for ~~subject~~ and direct objects.

15. The test case to tell apart movement and base-generation would involve reconstruction into intermediate positions. Such interpretations would be unexpected under base-generation since the reconstruction mechanisms for base-generation discussed above invariably lead to reconstruction to the tail of the A'-dependency since the external head is only related to the resumptive (mediated by the operator). With successive-cyclic movement, on the other hand, reconstruction into intermediate positions is expected to obtain. I discussed a number of cases in Salzmann (2006: 341–5), but the results are not clear enough to derive any conclusions from them. The problem is more general in that reconstruction into intermediate positions is generally degraded in German and its varieties, cf. Salzmann (2006: 92ff.). For resumption in Welsh, Rouveret (2008: 186) has claimed that cyclicity effects disappear, that is, reconstruction is always to the tail of the A'-dependency.
16. See Van Riemsdijk (1989) for an earlier proposal in terms of base-generation. There is one point where I crucially differ from Van Riemsdijk: Van Riemsdijk proposes that SU- and DO-relatives also involve resumptive pronouns, which, however, are fronted and then undergo deletion. In Salzmann (2009a: 41f., 2009b: 143ff., 2009c: 66f.) I rejected such an analysis among others because gap relatives allow scope reconstruction much more readily than resumptive relatives. This is unexpected if the difference between gap and resumptive relatives is only a matter of PF. Furthermore, relatives in which constituents of semantic types other than <e>, i.e. predicates or amounts are relativized, e.g., cases like (4a), cannot be analyzed as involving fronting and deletion of a weak pronoun: The only potential proform that could be used in such a case, *das* 'that', is arguably not weak enough to front and undergo deletion. In amount relativization there is no proper proform at all so that a movement analysis is the only option for those. But if movement is necessary anyway for certain gap relatives, it is most economical to assume movement for SU- and DO-relatives as well.
17. There is a line of research that argues that resumptives are barred from certain positions such as matrix subject/direct object due to A'-disjointness, that is, bound pronouns must be free in a certain domain. This means that resumptive derivations are taken to crash in such cases, contrary to what is claimed here, see Willis (2000: 545ff.) for discussion on Welsh and Irish. For Swiss German such a solution is inadequate because of the resumptives for indirect objects: since indirect objects (which can be shown to be DPs) do not differ with respect to the least Complete Functional Complex from direct objects (in both cases, it is the TP), the asymmetry cannot be derived by means of A'-disjointness.
18. Two possibilities need to be ruled out for the argument against identical numerations to be watertight: First, one has to exclude a resumptive basis for the relativization of subject and direct object with subsequent deletion of the resumptive (Van Riemsdijk 1989), cf. fn. 16. Second, one has to rule out the possibility that the resumptive is added during the derivation (Aoun *et al.* 2001). See Salzmann (2009a: 39–42, 2009c: 66f.) for critical remarks. For interesting discussion of the issue of candidate set within OT, see Kuhn (2003).
19. One caveat is in order here: As pointed out in fn. 10, resumptive pronouns often impose semantic restrictions on the external head, i.e., they block scope reconstruction. This has, of course, implications for the definition of the reference set if it is based on the notion of 'identical LF': There will not be any competition between movement and base-generation under the narrow-scope interpretation (only the gap derivation is possible in that case; the lower copy is then interpreted as an indefinite description unlike (17)). Competition is thus restricted to wide-scope readings, which are available in gap and resumptive derivations, see Salzmann (2009a: 52) for more details. I will briefly come back to this issue in 6.3.2 below.
20. But see Shlonsky (1992) who reinterprets the optionality as a last resort, see also 6.1.2. As discussed in the previous footnote, the freedom of choice is only found with wide-scope readings, but disappears under scope reconstruction.
21. Something similar seems to hold for the variety spoken in Stahringen on Lake Constance as described in Städele (1927) even though the description is not fully clear: He gives a gap example for an indirect object but notes that for the genitive an alternative construction based on a dative object is used (basically 'whose wife left' = 'to whom the wife left'), and in that case a dative resumptive is optional.
22. This is not to say that the distribution of gap vs. resumptive pronoun is completely random and free of processing effects. As discussed in Salzmann (2009b: 150) and Salzmann and Seiler (2010), there

- are a number of configurations where the gap variant is preferred: in matching contexts and with inanimate/non-referential head nouns. To what extent those factors are hard grammatical constraints or just soft/processing-related constraints and how they should be integrated into a model of grammar is something I wish to investigate in future research. See Salzmann (2009b: 153f.) and Salzmann and Seiler (2010) for first results. See also Salzmann (2009c: 75, fn. 8).
23. As pointed out to me by Hans Broekhuis, the APP could in principle be reinterpreted as a constraint favoring traces over pronouns. The question just is whether such a constraint would be particularly natural since it would refer to different concepts: traces have something to do with overtiness and movement chains while pronouns refer to the content of DPs. I consider it very unattractive to integrate heterogeneous concepts into the constraint formulation because this will in many cases lead to a restatement of the observational facts. I therefore reject this option.
 24. The view on cost of operations has changed in recent MP-work (e.g. Chomsky 2008) where both external and internal merge are considered equally free.
 25. The last five languages are those in the sample of the World Atlas of Language Structures that use resumptives in the relativization of subjects. I do not know, however, whether they also feature a movement/gap strategy.
 26. Admittedly, the pattern in these languages could also be explained by assuming that they do not have operators with *uCase* so that a movement derivation is not possible in the first place. Watertight evidence for the ranking *MOVE >> *MERGE would involve contexts where movement would emerge in such languages because resumption is impossible, for example, with semantic types other than <e> that often resist resumption, cf. ex. 4 above.
 27. As pointed out to me by Mike Putnam, nothing in principle requires such minimalist PF-constraints to be inviolable, although this seems to be what is normally assumed. Once violability becomes a possibility, one will need to specify under which conditions constraints may be violable. Arguably, this will quickly lead to a system of conflicting and ranked constraints as we know them from OT even if the resulting system may be called differently. In essence then, once violability becomes an option, the difference between MP and OT becomes blurred. To bring out the differences between MP and OT it therefore seems best to adhere to the strongest possible position, namely violability (OT) vs. inviolability (MP).
 28. I remain somewhat skeptical as to the necessity of such a step. The same result can also be derived by the assumption that Alemannic simply has silent relative pronouns/operators, without having to appeal to deletion. Eventually, the issue depends on whether the inventory is given or derived by means of constraint ranking and how empty elements are handled in syntax. If they are invariably the result of a deletion operation, as is assumed in much work on OT-syntax, an approach as sketched in the main text is inevitable.
 29. Pesetsky's (1998) system is confronted with the same problem: Given that he adopts an OT-constraint for locality (which actually penalizes unpronounced traces within islands) and a constraint (SILENTTRACE) that penalizes the pronunciation of traces, undesirable rankings like those mentioned in the text become possible.
 30. Languages like Standard German or Dutch cannot make use of resumptive pronouns and therefore do not have any options in island contexts; the result is absolute ungrammaticality/ineffability. Given the conclusion in this subsection, the most straightforward solution to this is to assume that the generator simply cannot generate any candidates in island contexts. In Salzmann (2011) this is related to the absence of operators without *uCase* in these languages.

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