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“Resumption, Movement Effects, and a Matching Analysis of
 \bar{A} -Dependencies”

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WHEN PEOPLE ASK FOR STEP-BY-STEP DIRECTIONS, I WORRY THAT THERE WILL BE TOO MANY STEPS TO REMEMBER, SO I TRY TO PUT THEM IN MINIMAL FORM.

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Introduction

This thesis will examine the phenomenon of resumption and how it relates to the theory of movement, locality, and binding.

The syntactic analysis of resumption yields insights in three areas that have been at the center of theoretical interest over the past decades: the theory of locality (what are the bounds to syntactic dependencies?), the theory of movement (how are syntactic elements displaced?), and the theory of binding (how do pronominal elements receive their interpretation?).

In the first part of the work, I will provide a descriptive overview of the occurrence of resumption, take a look at the syntactic properties of resumptive elements and their relation to their antecedents, and draw an outline of their treatment in the theoretical literature of the past decades. In doing so, I will focus on an intriguing paradox that resumption presents: it comes with many of the hallmarks of movement-derived structures, yet strongly resists a movement analysis.

The second part of the work will focus on one particular resumptive construction in German dubbed *resumptive prolepsis*, and discuss in detail [Salzmann's \(2006a\)](#) study thereof, as well as his related proposal of a new Matching Analysis of relative clauses and other \bar{A} -dependency constructions.

Chapter 1

The Phenomenon of Resumption

The occurrence of resumptive elements instead of gaps in \bar{A} -dependency constructions is a widespread phenomenon cross-linguistically.

- (1) a. de bueb, wo mer ***(em)** es velo versproche händ
the boy that we **(him)** a bike promised have
'The boy that we promised a bike' (Zürich German, [van Riemsdijk 1989:345](#))
- b. ha-'iš še ra'iti ('oto) ..
the-man C saw-I **(him)** ..
'The man that I saw' (Hebrew, [Shlonsky 1992:452](#))
- c. àlÓ ***(Ò)** nÛ mÍ la'
who **he** did it WH
'Who did it?' (Vata, [Koopman and Sportiche 1986:360](#))

Resumptive elements such as those marked boldface in (1) as a rule correspond to morphologically identical elements that are found as free or bound pronouns in configurations such as (2):

- (2) Johann thinks that Mary likes **him**

What sets the pronominal elements in (1) apart from these “regular” pronouns are two properties¹:

First, resumptive pronominal elements are obligatorily bound by their \bar{A} antecedents, and cannot merely pick up a referent that is contextually salient, as the pronouns of the (2) type can. In this respect they behave like traces of wh-movement, which are of course obligatorily bound as well.

Second, they appear in positions that are usually associated with gaps, i.e. the variable positions of \bar{A} -dependency constructions such as the wh-question in (3):

- (3) Who_i did Mary say she had spoken to t_i

A definition of the term *resumptive pronoun* offered by (Sells 1984:16,26), which captures both these properties, is the following:

- (4) A resumptive pronoun is a pronoun that is operator bound at s-structure.

This definition, though cast in Government and Binding terms, will suffice for the present purposes.²

1.1 The occurrence of resumptive pronouns

Constructions where resumptive elements can play a role are of the unbounded dependency type, which include (but aren’t limited to) relative clauses, wh-questions,

¹I draw on McCloskey (2006) for this characterization

²But see Asudeh (2004:4ff) for some discussion

topicalization, scrambling, (clitic-) left dislocation, comparatives, and clefts. The following brief subsections illustrate the occurrence of resumption in these constructions, and provide a set of examples from a broad range of languages. Emphasis (resumptive elements marked boldface) is mine in all examples.

1.1.1 Relative clauses

- (5) a. Inen faka se ku n va mpon **ku-e**
 3PL knife DEM REL 1SG cut bread with-3SG
 ‘These knives that I cut the bread with.’ (São Tomense creole, [Adger 2011:347](#))³
- b. ‘əfna l-bənt yalli hannət-*(a) l-mʕallme
 saw.1P the-girl that congratulated.3SF-*(her) the-teacher
 ‘We saw the girl that the teacher congratulated.’ (Lebanese Arabic, [Aoun 2000:16](#))

Among resumptive constructions, relativization has undoubtedly received the most attention in the theoretical literature of the past decades - so much so that, as [Sells \(1984:20\)](#) points out, it used to be a commonly-held view that resumptive pronouns only appear in relative clauses.

One substantial reason for this may be that, as Sells observes, if a language has resumptive pronouns in any unbounded dependency construction, it has them in relative clauses. Semitic languages have traditionally been at the center of interest in the study of resumptive relative clauses (cf. [Doron 1982](#); [Borer 1984](#); [Shlonsky 1992](#); [Aoun et al. 2001](#); [Ouhalla 2004](#), among many others).

³attributed there to [Hagemeijer \(2000\)](#)

1.1.2 Wh-questions

If resumptive relative clauses come first in terms of the amount of literature, wh-questions with a resumptive element at the extraction site come in a distant second.

- (6) a. o cei o a soli-a **kina** na nomu iselee?
 D who 2SG.SU PAST give-TRANS RP D 2SG.POSS knife
 ‘Who did you give your knife to?’ (Fijian, [Potsdam 2009:758](#))
- b. Pwy gest ti ’r llythyr ’na ganddo **fe**
 who get.PAST.2S you the letter DEM with.3MS him
 ‘Who did you get that letter from’ (Welsh, [Borsley et al. 2007:115](#))

Resumption in wh-questions in general seems to be more restricted than in relative clauses, with many languages showing a preference for gaps (cf. [Alexopoulou 2010:487](#), [Boeckx 2003:80,158](#)).

1.1.3 Left dislocation

The construction known as *contrastive left dislocation* ([Anagnostopoulou 1997](#); [Grohmann 2000](#)) involves a phrase that is dislocated to a high position in the left periphery of the clause, and a (tonic) resumptive pronoun in the C-domain:

- (7) Diesen Frosch, **den** hat die Prinzessin gestern geküsst.
 this frog-ACC RP-ACC has the princess yesterday kissed
 ‘This frog, the princess kissed (it) yesterday.’ (German, [Grohmann 2000](#))

Contrastive left dislocation is distinguished from *hanging topic left dislocation* (classically referred to as *nominativus pendens*), which also involves resumption, but in the case of German has no obligatory case agreement on the dislocated phrase, and may have the RP in a low position:

- (8) Dieser Frosch, die Prinzessin hat **ihn** gestern geküsst.
 this frog-NOM the princess has RP-ACC yesterday kissed
 ‘This frog, the princess kissed (it) yesterday.’ (German, [Grohmann 2000](#))

1.1.4 Clitic left dislocation

Clitic left dislocation ([Cinque 1990:ch. 2](#)) involves an NP or PP that is dislocated to the left periphery of the clause, and a co-referring pronominal clitic clause-internally. Although usually discussed in the context of root clauses, there are cases of CLLD in embedded clauses as well. Large parts of the discussion of CLLD have centered around the Romance languages, Greek, and some varieties of Arabic, but the phenomenon is more widespread, as (9c) indicates.

- (9) a. Ho sentito che di Piero_i, non **ne**_i parlano più.
 ‘I heard that of Piero_i, they don’t talk-of-him_i (clitic) anymore.’ (Italian, [Cinque 1977:410](#))
- b. Ta klidia **ta** stilame sti maria
 the keys them sent to-the Maria
 ‘We sent the keys to Maria.’ (Greek, [Alexopoulou et al. 2004:332](#))
- c. Omaly ny lamba dia nanasa ***(azy)** Rasoa
 yesterday DET clothes TOP PST.AT.WASH 3.ACC Rasoa
 ‘The clothes, yesterday, Rasoa washed them.’ (Malagasy, [Flegg 2003](#))

1.1.5 Topicalization

Although both contrastive left dislocation and clitic left dislocation can serve to topicalize the dislocated phrase, there are resumptive topicalization structures that aren’t usually classified as either of them. Resumptive topicalization in Tongan, and resumptive VP fronting in Hungarian are two examples:

- (10) a. Ko hono_i kolo na'a mau taki taha_i 'alu ki **ai**.
 PRT 3-SNG village PAST we each one go to it.
 'Our village, we each went to it.' (Tongan, [Hendrick 2005:111](#))
- b. Annát meglátogatni, **azt** szokta Mari.
 anna-ACC pv-visit-INF that-ACC HABIT Mari.
 'To visit Anna, Mari usually does that.'⁴ (Hungarian, [Lipták and Vicente 2009:651](#))

1.1.6 Cleft constructions

Although apparently not the object of much intense study, resumptive elements are also attested in cleft constructions in some languages:

- (11) a. Mbuya ndi Humale aki-tama na-**ko**
 Grandmother is-indeed Humale PAST-stay with-3SG
 'It was grandmother that Humale stayed with.' (Ndendeule, [Ngonyani 2006:55](#))
- b. ì bì buf gras we wì kòt **àm**
 it COPULA bush grass C we cut RP
 'It is bush grass that we cut' (Ghanaian Pidgin English, [Huber 1999:186](#))

1.1.7 Scrambling

Scrambling (a term coined by [Ross 1967](#)) is the (mostly clause-internal) displacement⁵ of arguments in so-called *free-word-order* (or *non-configurational*) languages. Japanese (cf. e.g. [Saito and Hoji 1983](#)) and German (cf. e.g. [Haider and Rosengren 2003](#)) have been most widely studied with regard to this phenomenon. I'm ignoring here the

⁴PV = preverb(al element); HABIT = habitual marker (auxiliary);

⁵I'm using the term agnostically as to whether in fact movement is involved or not

question whether or not scrambling involves an \bar{A} -dependency and movement (but see Müller and Sternefeld 1994 for some discussion). What is at interest here is that in Japanese, local scrambling may involve a resumptive pronoun:

- (12) Toyota-ni-sae Nissan-ga **so-ko-ni** syatyoo-to-no mendan-o
 Toyota-DAT-even Nissan-NOM that-place-DAT president-with-GEN appointment-ACC
 moosiiretekita.
 requested
 ‘Even to Toyota, Nissan applied to it for an appointment with the president.’
 (Japanese, Ueyama 1998:69)

1.1.8 Comparative clauses

Although comparatives haven’t received much attention in this regard, there is resumption in this construction as well:

- (13) Tháinig níos mó daoine ná a raibh súil leo
 came more people than COMP was expectation with-3-PL
 ‘More people came than were expected.’ (Irish, McCloskey 1990:113)⁶

1.2 The form of resumptive elements

As already demonstrated by the clitic left dislocation example in (9), it is clear that not only tonic pronouns but also weak pronouns/clitics can function as resumptive elements:

⁶citing the 2011 reprint

- (14) a. čovjek za koga znaš da **ga** Marija voli
 man for whom know that him.CLITIC Marija loves
 ‘The man of whom you know that Marija loves him’ (Serbo-Croatian, [Bošković 2009](#))
- b. Cil-in libër e solli Ana
 Which-the.ACC book 3S.CL.ACC brought Ana.NOM
 ‘Which is the book that Ana brought?’ (Albanian, [Kallulli 2008:239](#))

Resumptive pronouns can also take the form of inflection markers on prepositions, most notably in Semitic and Celtic languages.

- (15) a. Ra’iti ’et ha-yeled she-/asher rina xashva **‘alav**
 saw-I ACC the-boy that Rina thought about-him
 ‘I saw the boy that Rina thought about.’ (Hebrew, [Borer 1984:220](#))
- b. Cé **leis** a raibh tú ag caint?
 Who with-him C were you talk PROG?
 ‘Who were you talking to?’ (Irish, [McCloskey 2002:213](#))

A resumptive form related to this are possessive suffixes on nouns, as in (16). Resumption is obligatory in these NP-internal positions in a number of languages:

- (16) a. l-bint ?illi šufti beet-*(**ha**)
 the-girl that you.F saw house-3.SG.F
 ‘The girl whose house you saw’ (Palestinian Arabic, [Shlonsky 1992:445](#))
- b. ha-’iš še ra’iti išt-*(**o**)
 the-man that-(I) saw wife-3.SG.M
 ‘The man whose wife I saw’ (Hebrew, [Shlonsky 1992:445](#))⁷

⁷The original glossing in [Shlonsky \(1992\)](#) involves possessive pronouns. I’m glossing ‘house-3.SG.F’ and ‘wife-3.SG.M’ here to make the point that the resumptive element in these cases takes the form of ϕ -feature markers on the noun.

Another type of expression that can be used as a bound variable and fulfill a resumptive function in some languages is epithets. This observation is often attributed to [Kroch \(1981\)](#). Epithet phrases, as characterized by [Aoun and Choueiri \(2000\)](#), are definite DPs which consist of either a definite article or a demonstrative with an NP, whereby the NP contributes mainly affective meaning to the phrase, which is typically negative: contempt, anger, irony and the like. The resumptive relative clause in (17a) has an epithet at the extraction site, which is co-indexed with its head. This construction is on a par with (17b), which uses a resumptive pronoun in place of the epithet:

- (17) a. *ʃəft lbənt yalli btiftikro ʔənno ha-l-habiile ma rafi tərbafi s-sabaʔ*
saw.1P the-girl that think.2P that this-the-idiot NEG FUT win.3SF the-race
‘I saw the girl that you think that this idiot will not win the race.’
- b. *ʃəft lbənt yalli btiftikro ʔənno ma rafi tərbafi hiyye s-sabaʔ*
saw.1P the-girl that think.2P that NEG FUT win.3SF she the-race
‘I saw the girl that you think that she will not win the race.’ (Lebanese Arabic, [Aoun and Choueiri \(2000\)](#))

1.3 Intrusive vs. genuine resumption

Most research on resumptive pronouns is focused on what is varyingly called “true”, “grammatical”, “syntactic” or “productive” resumption: resumptive elements in \bar{A} -dependency constructions regardless of context, i.e. in positions where no grammatical principle bars the appearance of a gap. This is the resumption of the Hebrew, Irish, and Arabic kind that we have seen above.

There is however a separate phenomenon that since [Chao and Sells \(1983\)](#) and [Sells \(1984\)](#) has come to be called “intrusive” resumptive pronouns or “processor resumptives” ([Asudeh 2011](#)). These are described as a saving device that is employed to either “repair” island or ECP violations and/or ease the processing load in certain environments, particularly when the tail end of a dependency chain is deeply embedded. The

following examples from [Ross \(1967:432f\)](#), who first called attention to the phenomenon, are often cited in this context:

- (18) a. I just saw that girl who Long John’s claim that **she** was a Venusian made all the headlines.
 b. Didn’t that guy who the Game Warden and **him** had seen a flying saucer crack up?
 c. Palmer is a guy who for **him** to stay in school would be stupid.

In each of these cases, the presence of a pronoun seems to “amnesty” a violation of a constraint on dependencies - a violation of the CNPC in (18a), an illicit extraction out of a conjunct in (18b), and a violation of the Sentential Subject Constraint in (18c).

The occurrence of these “island-fixing” resumptives is not restricted to languages that have no “true” resumption otherwise. Irish and Hebrew, which both have fully grammatical resumption, have intrusive resumption as well:

- (19) a. ra’iti ’et ha-yeled she-/asher dalya makira ’et ha-’isha she-xashva
 saw-I ACC the-boy that Dalya knows ACC the-woman who-thought
 ‘**alav**
 about-him
 ‘I saw the boy that Dalya knows the woman who thought about him.’
 b. ra’iti ’et ha-yeled she-/asher rina ’ohevet ’oto ve-et ha-xavera **shelo**
 saw-I ACC the-boy that Rina loves him and-ACC the-friend of-his
 ‘I saw the boy that Rina loves him and his friend.’ (Hebrew, [Borer 1984:221](#))

(19a) and (19b) show a CNPC and a coordinate-structure-constraint violation respectively, each fixed by the insertion of a RP at the extraction site.

Another area where intrusive resumptive pronouns are found is dependencies that span a long distance. A RP is unacceptable at a short distance in (20a), but improves to

full acceptability in (20d) as the distance to its antecedent increases (examples from Erteschik-Shir (1992)).

- (20) a. This is the girl that John likes $t/*her$
 b. This is the girl that Peter said that John likes $t/??her$
 c. This is the girl that Peter said that John thinks that Bob likes $t/?her$
 d. This is the girl that Peter said that John thinks that yesterday his mother had given some cakes to $?t/her$

Erteschik-Shir (1992) attributes this effect to a fundamental difference in the way gaps and RPs are processed. In processing, gaps are passive in that they can only be paired with their antecedent by an independently-triggered SEEK operation. Since this operation (i) skips islands and (ii) only goes for a certain distance, gaps fail to be processed in island- and long-distance contexts, leading to ungrammatical or at least degraded results. Resumptive pronouns, inserted in the same positions, can - under certain conditions - initiate a SEEK operation of their own, allowing them to be paired with their antecedent and processed both in island- and multiple embedding contexts.

In recent years, however, a number of empirical studies have started casting doubt on the presumed island-fixing properties of resumptive pronouns in English and other languages. Alexopoulou and Keller (2007) present an empirical study that looks at object extractions in English, German, and Greek. The evidence, which is largely consistent across these languages, suggests that in fact no such island-fixing properties exist. In both weak islands and strong islands (CNPC), RPs were judged at most as acceptable as constructions involving a gap, never more acceptable. RPs were only judged more acceptable with increasing distance, compared to short-distance RPs.

Heestand et al. (2011) report similar results, using different methods. Their three-part experiment failed to find island-rescuing effects for English CNPC violations in an offline judgment task, in an online task using the same stimuli, and in an online task testing adjunct condition violations. As in Alexopoulou and Keller (2007), RPs were judged

at best equally acceptable to gaps, again disconfirming standard assumptions about intrusive pronouns in English.

Farby et al. (2010) look at intrusive pronouns in a language with fully productive resumption, Hebrew. In contrast to the above cited studies, they do find a significant improvement of RPs in islands as compared to gaps. However, the extent of the improvement is negligible, falling far short of acceptability ratings that would indicate full grammaticality. These results are somewhat in contradiction to an earlier study on Hebrew, Friedmann et al. (2008), which found support for the idea of island-fixing RPs by eliciting relative clauses in children with hearing impairment.

Pending further investigation, the solution to this puzzle may lie in Ferreira and Swets's (2005) finding that there is a stark asymmetry in production and comprehension of RPs in islands: test subjects who produced structures with island-fixing RPs in an elicitation task later judged those same sentences as ungrammatical when they were visually presented. As Heestand et al. (2011) point out, if the use of RPs in islands is merely to keep up the production chain under performance pressure, the phenomenon may just fall outside of the domain of grammar.

1.3.1 Intrusive resumption and impairment

Another angle from which the issue of intrusive resumption and processing can be viewed is that of impaired speech. Friedmann and Szterman (2006), Friedmann et al. (2008), and Friedmann and Costa (2011) present small empirical studies looking specifically at the production and comprehension of resumptive relative clauses and other resumptive structures by subjects with hearing impairment and agrammatic aphasia.

The study presented in Friedmann et al. (2008) examines 14 Hebrew-speaking children with hearing impairment, aged 7;7-11;3 against non-impaired controls of similar age.

In a first step, comprehension of structures derived by \bar{A} -movement (subject relatives, object relatives, and topicalization – all without resumption) was tested, using a sentence-picture matching task. This revealed severe difficulties of the impaired group in comprehending object relatives and topicalizations, leading Friedmann et al. to diagnose a general deficit in processing \bar{A} -movement in the subjects.

The second part of the study focused on the production of \bar{A} -movement derived structures, by eliciting relative clauses in a preference task and a picture description task. Compared to the controls, the impaired group showed a strong tendency towards producing relative clauses with resumptive pronouns. Hearing-impaired children were more likely to produce an ungrammatical sentence than they were to produce a relative clause without a resumptive pronoun. They also produced resumptive structures that are not licit in Hebrew (RP in subject relatives), and in a number of cases doubled the full relative head at the extraction site, which is also ungrammatical in Standard Hebrew:

- (21) Zo ha-yalda she-ha-safta mesareket et ha-yalda
This the-girl that-the-grandma combs ACC the-girl
‘This is the girl that grandma combs the girl’ (Hebrew, [Friedmann et al. 2008:280](#))

These results are interpreted by Friedmann et al. to support the conclusion that for these “ \bar{A} -impaired” speakers, resumption is a last-resort alternative to forming a movement-derived structure. Impaired syntax starts the derivation with the same lexical array as the regular kind does. At the point where the derivation is about to crash because movement is unavailable, a pronoun is created at the extraction site. This yields a grammatical output without the need for movement. Friedman et al. take the idea of post-syntactical insertion of pronouns from [Hornstein \(2001\)](#), who analyzes intrusive resumption in this manner.

Friedmann et al. do not fully hash out the technical implementation of this analysis, but as it is laid out there are some challenges. First, within the minimalist derivational model adopted here, it is difficult to imagine how two identical numerations would yield such vastly different results (a head-raised relative clause with a trace on the one hand,

and a head-external one with an operator-bound resumptive on the other). To cite only one problem, whatever features are involved in moving the head clause-internally in a head-raising derivation would have to remain unchecked when constructing a head-external relative clause from the same numeration.

Second, Friedmann et al. interpret the head doubling cases like (21) as evidence for the copy-theory of movement: two links of a chain are pronounced, instead of just one in intact syntax. If this is how impaired syntax derives these sentences, it seems rather inconsistent with the notion that movement per se is impaired in the subjects under consideration.

Friedmann and Costa (2011) tie up an end left loose by Friedmann et al. (2008), and look at comprehension of resumptive relatives. The subjects are two groups of hearing-impaired children and adolescents speaking Hebrew and Palestinian Arabic respectively. A picture matching task is used to measure performance in the comprehension of subject- and object relatives against the performance of age-matched control groups.

Hebrew-speaking hearing-impaired subjects are shown to perform significantly better in the comprehension of object relatives if the clause contains the optional resumptive pronoun. This is consistent with the subjects' preference for resumptives in production.

In the Palestinian Arabic-speaking hearing-impaired subjects however, comprehension of resumptive object relatives is shown to be poor. The results cannot be compared to non-resumptive version, because that strategy is unavailable in Palestinian Arabic.

Friedmann and Costa proceed in their analysis similarly to Friedmann et al. (2008): hearing-impaired Hebrew speakers, who lack the possibility of movement derivations, score higher with resumptive relatives because they allow them to assign the input a structure without movement.

The poor comprehension of (resumptive) relatives by impaired Arabic speakers is surprising, since one might expect resumption to bring about a boost in comprehension

similar to the Hebrew pattern. To accommodate this finding, Friedmann and Costa point to the fact that resumptives in Palestinian Arabic are clitics, whereas in Hebrew they are full pronouns. Clitics, being functional elements that need to be licensed by a functional head, cannot enter the derivation post-syntactically, in the way Hebrew full pronouns can. Thus Palestinian Arabic lacks a last-resort strategy for impaired speakers to interpret relative clauses without movement, explaining why comprehension in impaired speakers does not benefit from resumption.

Summing up, the body of research briefly reviewed here firmly establishes that resumption aids comprehension of \bar{A} -dependency constructions in Hebrew, a language with optional tonic resumptive pronouns. Some more work needs to be done in order to see if the postulated last resort nature of resumption in this context is technically feasible. It would be interesting to see if the empirical results can be replicated in other languages with grammatical resumption, like Irish or Welsh.

Chapter 2

Movement Effects

We have seen in the previous chapter that resumption is mostly found in constructions that are in its absence often analyzed as derived by movement operations: wh-questions, relative clauses, dislocation structures. Thus it isn't surprising that one of the focal points of interest in this area has long been the relationship between resumption and movement.

As James McCloskey puts it, since resumptive pronouns..

.. appear in positions which are canonically associated with the appearance of gaps, one can also ask a series of questions about how resumptive elements interact with the processes which create gaps. If we follow much recent work in assuming that gaps in relative clauses and questions are always created by movement operations, this second question then becomes the following: to what extent does the relation between a resumptive element and its binder exhibit the properties of movement? ([McCloskey 2006](#))

Most work on resumption is thus aimed at understanding what McCloskey calls the

Janus-like nature of resumptive elements — one face towards the domain of pronouns and anaphoric elements, the other towards the theory of movement.

2.1 Classic movement diagnostics

A good starting point for a look at the intricate relation of resumption and the theory of movement is [Chomsky's](#) (1977:86) diagnostic criteria for wh-movement:

- a. It leaves a gap.
- b. Where there is a bridge, there is an apparent violation of subjacency, the PIC⁸, and the SSC⁹.
- c. It observes the CNPC.
- d. It observes wh-islands.

Apart from the ability to violate subjacency under bridge conditions, resumptive \bar{A} -dependencies don't meet these criteria. Obviously resumptive structures don't leave a gap. And as already discussed to some extent in section 1.3 above, it is a well-known fact that \bar{A} -dependencies involving resumption by and large do not observe island constraints. [McCloskey](#) (2006) calls it “the single most celebrated property” of resumptive pronoun binding, and it remains the consensus view despite lingering doubts about the empirical base of the island-fixing properties of resumption mentioned in section 1.3. The following examples demonstrate the failure to observe islands for the complex noun phrase constraint (22a) and the wh-island constraint (22b):

⁸Propositional Island Constraint

⁹Specified Subject Condition

- (22) a. Ra'iti 'et ha-yeled 'ašer/še-ha-cayad harag 'et ha-'arie 'ašer/še-radaf
saw-I ACC the-child COMP-the-hunter killed ACC the-lion COMP-chased
'axarav
after-him
'I saw the child that the hunter killed the lion that chased (him)' (Hebrew,
Boeckx 2003:20)
- b. Sin fear nachN bhfuil fhios agam cén cinéal mná aL phósfadh
that a-man C.NEG I know which kind woman C would-marry
é
him
'That's a man who I don't know what kind of woman would marry him.'
(Irish, McCloskey 1979:33)

(22a) shows that in Hebrew relative clauses, a resumptive dependency in apparent violation of the CNPC is fine. In the Irish relative clause in (22b), a resumptive dependency is shown to span a wh-island. Most languages with productive resumption appear to behave in this way.¹⁰

Since the criteria of wh-movement don't allow the diagnosis of a movement-derived structure in the face of these data, the alternative of a base-generation analysis of the resumptive pronouns in these cases is unquestionably the default option.

The analysis in Chomsky (1977:81), consequently, assumes two separate mechanisms by which relative clauses can be derived for cases like Hebrew. One mechanism involves a movement rule with optional deletion of the pronoun, which results in a relative clause with a gap. A second rule starts with the base-generation of a free pronoun inside the

¹⁰However, a number of languages like Vata ((Koopman and Sportiche 1982) and Serbo-Croatian do have island effects in resumptive dependencies, like in this example of a wh-island violation:

- (1) *čovjek što se sećam gde sam ga upoznala
man COMP REFL remember.1PSG where AUX.1PSG him.ACC met
'...man that I remember where I met him' (Serbo-Croatian, Goodluck and Stojanović 1996:292)

relative clause, which is then bound by the head noun by way of a “rule of predication”: the relative clause is an open sentence satisfied by the referent of the head NP, which must be linked to a clause-internal NP (i.e. the resumptive pronoun) that has no independent reference.

In the rendering of Borer (1984:222), this means the insertion of an abstract relative operator which is co-indexed with the head and binds the RP, ensuring obligatory co-reference between antecedent and RP. Chomsky (1977) assumes a similar rule for the derivation of resumptive left-dislocation structures. The rule of predication involved here is not subject to the kinds of constraints that movement rules are, yielding the island-insensitivity of resumptive relative clauses.

In the years since Chomsky (1977) and its classic criteria of wh-movement, additional criteria have come to be accepted (to varying degrees and none entirely without controversy) as signaling derivation by movement. As a growing number of languages was investigated with regard to resumption, doubts were raised by some as to whether a base-generation analysis of resumption really was the only conceivable option.

The remainder of this chapter will review some of the evidence of movement effects in resumptive constructions, and then briefly discuss two movement accounts of the phenomenon.

2.2 Parasitic gaps

Engdahl (1983) describes the licensing of *parasitic gaps* as a property attributed to traces of \bar{A} -movement, and suggests that in languages that allow them, it might serve as a diagnostic for dependencies of the wh-movement type.

The wh-question in (23) involves a gap t and what Engdahl calls a parasitic gap p , both bound by the wh-phrase:

- (23) Which articles did John file t without reading p ? (Engdahl 1983:5)

A parasitic gap construction like (23), but without movement, is ungrammatical: in (24), a plausible antecedent for a parasitic gap has not been \bar{A} -moved, but resides in the position that it has been base-generated in:

- (24) *John filed a bunch of articles without reading p ? (Engdahl 1983:12)

Having established this relation between movement and the licensing of parasitic gaps, Engdahl (1985) shows that resumptive pronouns in Swedish license parasitic gaps just as easily as traces do:

- (25) Det var den fången_{*i*} som läkarna inte kunde avgöra [om **han**_{*i*} verkligen
it was that prisoner that the-doctors not could decide if he really
var sjuk] [utan att tala med p personligen]
was ill without to talk with in person
'This is the prisoner that the doctors couldn't determine if he really was ill
without talking to in person' (Swedish, Engdahl 1985:7)

The same thing seems to be true for Hebrew, although not to the same extent and attached with some controversy concerning both the data and the analysis¹¹:

- (26) rina hi ha'iša še_{*i*} [[ha'anašim še_{*j*} 'ani šixnati _____{*j*} levaker _____{*i*}]
Rina is the-woman that_{*i*} the-people that_{*j*} I convinced _____{*j*} to-visit _____{*i*}
[te'aru 'ota_{*i*}]]
described her_{*i*}
'Rina is the woman that people that I convinced to visit described.' (Hebrew,
Sells 1984:40)

¹¹cf. Shlonsky (1992:462f) for some discussion of the Hebrew data. Boeckx (2003:ch.4), no doubt a strong advocate of a movement analysis of resumption, is very cautious about using parasitic gaps licensing to argue for a movement derivation.

To add to the evidence, [Ngonyani \(2006:57\)](#) reports on parasitic gap licensing in Kiswahili resumptive relatives, arguing directly for a movement analysis of the resumptive clitic in question on this basis.

2.3 Weak crossover

A property closely linked to movement derivations is crossover effects ([Wasow 1972](#); [Postal 1971](#)). Weak crossover is the effect whereby an element is displaced across a co-referring pronoun that does not c-command the trace:

- (27) *?Who_i does his_i mother like t_i ?

If resumptive dependencies were to show evidence of this effect, this would seem like another property likening resumptives to traces of movement. However, most languages with productive resumption do not show weak crossover effects in these instances (cf. [McCloskey 2006](#)). The following example demonstrates this fact for Irish, where weak crossover effects arise in gap relatives ([28a](#)), but not in the corresponding resumptive relatives ([28b](#)):

- (28) a. *fear a d'fhág a bhean t
 man COMP left his wife
 ‘a man that his wife left’
 b. fear ar fhág a bhean é
 man COMP left his wife him
 ‘a man that his wife left’ (Irish, [McCloskey 1990:110](#))¹²

However, there are cases like Vata, which do show evidence of weak crossover:

¹²citing the 2011 reprint

- (29) *àló_i ò_i nó gùgù nā ò_i mli là
 who_i his_i mother think that he_i left WH
 ‘who did his mother think left’ (Vata, [Koopman and Sportiche 1982:143](#))

2.4 Strong crossover

Parallels between wh-traces and resumptives seem to be more evident when it comes to strong crossover - a violation of the requirement that traces of \bar{A} -movement not be bound by a co-referring element in an argument position ([Postal 1971](#)):

- (30) *Who_i does he_i like t_i ?

Although somewhat difficult to test¹³, it has been shown that resumptive constructions give rise to strong crossover effects in Irish, Hebrew, and Arabic, just as the corresponding constructions with gaps do:

- (31) a. *Sin an fear ar dhúirt an bastard go maródh sé muid.
 that the man C said the bastard C kill.COND he us
 ‘That’s the man_i that the bastard_i said that he_i would kill us.’ (Irish, [McCloskey 2006](#))
- b. *Ze ha-baxur_i še yida’ti ’et ha-idiot_i še ha-more yaxšil
 This-is the-guy_i that I-informed ACC the-idiot_i that the-teacher will-flunk
 ’oto_i
 him_i
 ‘This is the guy that I informed the idiot that the teacher will flunk’ (Hebrew, [Shlonsky 1992:461](#))

¹³The difficulty, as laid out in [McCloskey \(2006\)](#) is that the interfering element in A-position cannot be a pronoun as usual, since it would end up being the one \bar{A} -bound, instead of the resumptive pronoun. Thus the desired testing configuration would not obtain. That is why the examples in (31) all have an epithet as the interfering element, which refuses \bar{A} -binding in the relevant context.

- c. *miin_i χabbarto ha-l-habiile_i ?ənno rafyzittu-u_i b-l-fiabs
 who told.2P this-the-idiot that FUT.throw.3P-him in-the-prison
 ‘Who did you tell this idiot that they will throw him in Prison’ (Lebanese
 Arabic [Aoun and Choueiri 2000:6](#))

2.5 Reconstruction

Reconstruction (cf. [van Riemsdijk and Williams 1981](#); [Lebeaux 1988](#)) is the phenomenon whereby dislocated elements are in some regard interpreted in their position prior to dislocation:

- (32) a. [Which picture of herself_i] does Mary_i hate *t*
 b. [*Which picture of Mary_i] does she_i hate *t*

Presumably, (32a) is grammatical because the displaced element occupies the position of its trace at the point at which Binding Principle A applies, and (32b) is ungrammatical because Principle C applies at its trace position. Reconstruction effects (sometimes subsumed under the terms *identity*- or *connectivity* effects) are closely associated with movement derivations, although they have been observed not to obtain in every movement-derived structure, and to obtain in some structures that resist a movement analysis. [McCloskey \(2006\)](#) views reconstruction as a newly central diagnostic tool in the analysis of resumption.

While, as the term implies, reconstruction was originally thought to actually restore (at least part of) a dislocated element to its base position for interpretation, it receives a straightforward analysis under the copy theory of movement ([Chomsky 1993, 1995](#)). Instead of leaving a co-indexed trace, the operation *move* yields identical copies of the dislocated phrase at the extraction site and at the landing site. At the interfaces PF and LF, deletion rules apply respectively, creating the possibility of a phrase being interpreted in one place, and pronounced in another:

- (33) a. PF: [Which picture of herself] does Mary hate [~~which picture of herself~~]
b. LF: [Which ~~picture of herself~~] does Mary hate [~~which~~ picture of herself]

Analyzed in this way, reconstruction effects become a reliable diagnostic of movement derivations. Turning again to the analysis of resumption, the question whether resumptive structures show evidence of reconstruction is of great interest, consequently. As McCloskey (2006) points out, this question was asked early in a squib by Zaenen et al. (1981), and answered positively:

2.5.1 Pronominal Binding

- (34) [Vilken av sina_i flickvänner]_j undrade du om det att Kalle_i inte längre fick träffa
which of his girlfriends wonder you if it that Kalle no longer sees
henne_j kunde ligga bakom hans dåliga humör
her could lie behind his bad mood
'Which of his girlfriends do you wonder if the fact that Kalle no longer sees her
could lie behind his bad mood?' (Swedish, Zaenen et al. 1981:681)¹⁴

The dislocated wh-phrase in this example contains a pronoun which can only receive the intended bound interpretation if the wh-phrase reconstructs to the position of the resumptive pronoun *henne*.

Reconstruction for pronominal binding has since been well documented for Arabic (Aoun et al. 2001; Aoun and Benmamoun 1998), Hebrew (Shlonsky 2004), and Welsh (Rouveret 2008), among other languages. Looking beyond Celtic and Semitic, Ngonyani (2006:57) shows that in Ndendeule, there is reconstruction for pronominal binding in resumptive relative clauses:

¹⁴Gloss original, translation mine.

- (35) n-choko-mundu_i wa kwanza ywa-i-lɔngɛl-a na-ko_i kila hokolo_i
 1-grandchild-person of first 1REL-1SM-talk-FV with-3SG every grandpa
 i-pat-a ma-langu
 1SM-get-FV 6-brains
 ‘His first grandchild who every grandfather talks to becomes very intelligent.’
 (Ndendeule, Ngonyani 2006:57)¹⁵

In this example, the possessive marker *mundu* is bound by the relative-clause-internal quantified expression *kila hokolo* ‘every grandfather’, allowing for a pair-list reading of the sentence. This requires reconstruction of the relative head to the resumptive position *na-ko* inside the relative clause.¹⁶

2.5.2 Idioms

Binding theory is not the only thing that has been used to test constructions for reconstruction effects. Another test that is often used is the interpretation of idioms. The following example is taken from Sportiche (2003):

- (36) How much care do you think Mary took *t* of Bill

The idea, usually attributed to Chomsky (1993), is that the idiomatic interpretation of the expression *take care* can only be preserved if the displaced chunk of the idiom (*care*) is interpreted at its base position, where it is united with the rest of the idiomatic expression. A dislocation structure where this idiomatic interpretation is preserved is thus often argued to be derived by movement.

¹⁵FV=final vowel, SM=subject marker

¹⁶The QNP doesn’t c-command the RP at PF, but the RP presumably has its base position further down. Ngonyani (2006) explicitly argues for reconstruction into a resumptive position in this case at any rate.

As is the case with pronominal binding, there are plenty of cases of reconstruction for idioms involving resumption as well. [Rouveret \(2008\)](#) for example reports identical reconstruction effects for gap relatives (37a) and resumptive relatives (37b) in Welsh:

- (37) a. *y fantais a gymerodd Mary ar Bill*
 the advantage REL took Mary on Bill
- b. *y fantais y dywedodd John fod Mary wedi ei chymryd ar Bill*
 the advantage that said John be Mary PERF CL take on Bill
 (Welsh, [Rouveret 2008:190](#), fn.9)

2.5.3 Scope

The scope of dislocated quantified expressions is yet another area where reconstruction effects are attested:

- (38) [Every one of these problems] seems to a teacher *t* to be likely *t* to be solved *t* by John

The example in (38) (taken from [Fox 1999](#)) allows both a reading where $\forall > \exists$ (a different teacher for every problem), as well as $\exists > \forall$ (one teacher for every problem), the latter arguably requiring the dislocated phrase to be interpreted in its base position by way of reconstruction, to obtain the necessary configuration of the quantified expressions. As in the case of pronominal binding and idioms, this is often taken as evidence for movement.

[Aoun et al. \(2001\)](#) report on this kind of reconstruction effect in the resumptive clitic left dislocation construction in Lebanese Arabic:

- (39) ʕaleemit karim fakkarto ʔanno ʒabbarna kəll ʔəsteez ʔanno leezim titʔayyar
 grade.SF Karim thought.2P that told.1P each teacher that should change.3SF
 ‘Karim’s grade, you thought that we told each teacher that it should be changed.’
 (Lebanese Arabic Aoun et al. 2001:383)

(39) allows both a reading consistent with the dislocated phrase ‘grade’ taking scope in its surface position (non-distributive, one grade for all teachers), as well as a reading where it takes scope in the position of the resumptive¹⁷ in the complement clause (distributive, a different grade for each teacher).

2.5.4 No Reconstruction

Although, as the previous sections have shown, there is ample evidence of reconstruction effects in resumptive constructions, there is also plenty of evidence of its absence.

Aoun et al. (2001) demonstrate that in Lebanese Arabic, there is no reconstruction to resumptive positions in clitic left dislocation constructions, if that position is inside an island. This goes for pronoun binding, quantifier scope, and Principle C effects. Aoun et al. therefore argue for two distinct types of resumption - *apparent* resumption, which is movement-derived and consequently shows reconstruction effects, and *true* resumption, which originates from base-generation, and therefore shows no signs of reconstruction.

Rouveret (2008) examines Welsh resumptive relatives, and notes that while there is reconstruction for anaphoric binding and pronominal binding by quantifiers, there is no reconstruction for Principle C effects:

¹⁷The resumptive in this case consists of the prefix *ti-* (‘she’) incorporated in the verbal form *titʔayyar*

- (40) Yn ddiweddar dygwyd darlun o Siôn_i yr oedd ef_i wedi ei roddi i Mair
recently was-stolen picture of Siôn that was he PERF it give to Mair
‘Recently was stolen a picture of Siôn which he had given to Mair’ (Welsh,
Rouveret 2008:181)

If the relative head containing an R-expression in (40) were reconstructed to the position of the resumptive pronoun *ei*, a Principle C violation should occur, due to the c-commanding position of the pronoun *ef*. This does not seem to be the case.

A similar pattern obtains in Breton (Guilliot 2006), where resumptive relatives don’t reconstruct for Principle C, but do so for anaphoric binding and pronominal variable binding.

Szczegieliński (2004) notes that in Polish relative clauses, a resumptive pronoun is incompatible with degree/amount readings on the head, and with the relativization of idiom chunks. He argues that this is because resumptives block reconstruction in these cases. Krapova (2010) documents those same facts for Bulgarian resumptive relatives, and also notes an absence of reconstruction for binding, scope, and Principle C.

Similarly, Scottish Gaelic doesn’t appear to show reconstruction effects in resumptive relatives (Adger and Ramchand 2005).

If resumption is regarded as a unitary phenomenon across languages, using reconstruction as an analytical tool thus seems to pose more questions than answers. Consequently, it is no surprise that there are those who doubt the significance of reconstruction in diagnosing movement derivations altogether, arguing instead for an entirely different approach. Guilliot and Malkawi (2006) bring evidence from French and Jordanian Arabic, showing reconstruction effects even to resumptive positions contained in strong islands:

- (41) La photo₁ de sa₂ classe, tu es fâché parce que chaque prof₂ l₁’a déchirée.
‘The picture of his class, you are furious because each teacher tore it.’ (French,
Guilliot and Malkawi 2006:170)

In order to obtain the bound variable reading for *sa*, the dislocated constituent has to reconstruct into the adjunct island. [Salzmann \(2009\)](#) reports similar facts for Zürich German relative clauses.

With a movement analysis off the table in these cases, [Guilliot and Malkawi](#) suggest that while reconstruction does require a copy of the antecedent in the resumptive position, that copy doesn't have to originate from movement. It can also be merged as an NP-complement of the resumptive, and then deleted under identity with the antecedent:

- (42) [La photo de sa₂ classe]₁, tu es fâché parce que chaque prof₂ [l- ~~[photo de sa₂ classe]]₁ 'a déchirée.~~

2.6 Two movement accounts of resumption

The fact that resumption doesn't respect island constraints in most languages crucially determines its standard analysis. Base-generation plus binding of the resumptive is plainly the most natural way of accounting for this fact. But the properties that don't sit as well with a base-generation analysis which were outlined above - the licensing of parasitic gaps, the evidence of crossover and reconstruction effects - inspired the exploration of different approaches to the phenomenon.

2.6.1 Trace/Copy-Spellout

Building on the copy theory of movement, and Perlmutter's (1972) shadow pronoun hypothesis, [Pesetsky \(1998:361ff\)](#) proposes an analysis of resumptive pronouns as partially spelled-out copies of the displaced element, as illustrated in (43) (taken from [Grohmann \(2000\)](#))

- (43) [Diesen Frosch], die Prinzessin hat [\langle den Frosch $\rangle \Rightarrow$ den] geküsst.
 This Frog the Princess has the frog it kissed
 ‘This Frog, the Princess kissed it.’

In Pesetsky’s optimality-theoretic system, a violable constraint *Silent Trace* demands that traces not be pronounced. If this constraint is out-ranked by some other constraint (like for example an island constraint), the violation of Silent-t can result in the minimal pronunciation of the trace/copy, which means at least its ϕ -features are phonetically realized in the form of a resumptive pronoun.

Outside of the domain of optimality theory, [Grohmann \(2000, 2003\)](#) and [Bianchi \(2004\)](#) have devised different versions of the copy-spell-out analysis of resumptive constructions.

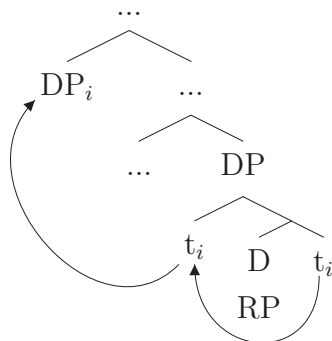
A problem for this kind of analysis (as pointed out by [Kayne \(2002\)](#)) lies in the fact that an additional mechanism is required to get from the full copy of the antecedent to the pronunciation of the pronoun, which may constitute a violation of Chomsky’s (1995) inclusiveness condition.

Another problem is the kind of mechanism it would take to account for epithets occurring in the place of resumptive pronouns in similar structures. If resumptives really aren’t independent lexical items but (parts of) copies or traces spelled out, it is hard to imagine how a resumptive epithet would end up in its place.

2.6.2 Stranding

Adopting the widely held view that pronouns are determiners, [Boeckx \(2003, 2008\)](#) proposes an analysis of resumption as the result of sub-extraction of the antecedent out of a “big DP” and stranding of the remnant.

(44)



This is in some aspects reminiscent of Sportiche’s (1988) seminal stranding analysis of quantifier float, and indeed there are resumptive structures that are, too. The complex Hebrew relative clause in (45), for example, seems to allow the placement of resumptive pronouns at all the steps in the path of successive-cyclic \bar{A} -movement from the bottom up:

- (45) Ha-’iš še (‘alav) ’ani (‘alav) xošev še (‘alav) ’amarta
 The-man that (about-him) I (about-him) think that (about-him) said.2SG
 še (‘alav) Sarah katva (‘alav) šir
 that (about-him) Sarah wrote (about-him) poem
 ‘The man that I think that you said that Sara wrote a poem about.’ (Hebrew,
[Sells 1984:92f](#))

To account for the island-insensitivity of resumption, ([Boeckx 2003](#)) proposes a re-definition of islands in terms of generalized conditions on chains, instead of sets of structural configurations:

- (46) *Principle of Unambiguous Chains* (PUC)

A chain may only contain one strong occurrence (one instance of EPP checking). If a chain contains more than one S-OCC, two options are available to avoid a PUC violation:

- i. an Agree relation obtains among the S-OCCs

- ii. The moving element is sufficiently complex so as to allow the chain to be split into two distinct EPP checkers.

This results in two kinds of movement:

- Movement under Match + Agree, which is subject to island conditions (i.e. barriers for Agree) and leaves a gap.
- Movement under Match, which is less restricted than the above, can thus “ignore” islands, and comes with the stranding of resumptive pronouns.

One challenge for this account is the apparent rareness of overt signs of agreement on complementizers in the structures in question. Clear-cut cases of complementizers alternating in strict correlation with the pattern of resumption are rare, and in the case of Irish (which Boeckx relies on for the most part), it’s far from clear that the distinction is due to agreement.

2.7 Phasal Agreement

[Rouveret \(2002, 2008\)](#) offers a novel account of resumption in Welsh and Irish that aims to reconcile movement effects with a non-movement derivation.

At the center of this approach is the notion of the derivational phase, introduced by [Chomsky \(2000, 2001\)](#). In the system laid out by Chomsky, derivations proceed not continuously but in stages (*phases*), whose content is transferred to the interfaces PF and LF upon their completion. After a phase is thus completed, anything contained within it becomes inaccessible to further syntactic operations. The only exceptions are

the head and the edge ¹⁸ of the phase. This opacity effect is encoded in the *Phase Impenetrability Condition* (PIC):

(47) Phase Impenetrability Condition

In the configuration $[_{ZP} Z \dots [_{HP} [H YP]]]$, HP a phase, ZP the next higher phase: the domain of H (= YP) is not accessible to operations outside HP (= at ZP); only H and its edge are accessible to such operations.

(Chomsky 2001:13, in the rendering of Rouveret 2002)

CP, vP (and, varyingly, DP) are taken to be phases.

At the point of transfer to the interfaces, all uninterpretable features contained in the object marked by the phase must have been valued and deleted, in order for the transferred material to be legible by the interfaces and the derivation to converge. This is accomplished by the operation *Agree*, which establishes a relation between two objects (*probe* and *goal*) bearing uninterpretable and interpretable versions of the same feature, valuing and deleting the former. *Agree* can be followed by the operation *Move*, if the probe in the *Agree* relation carries an EPP feature.

As a consequence of the PIC, operations across a distance have to apply in cyclical fashion: since a probe higher up cannot directly “reach into” a completed phase further down, a long distance relation has to be mediated by phase heads and edge positions along the way.

Rouveret (2002, 2008) makes use of the phase apparatus to develop an account of Welsh and Irish resumptive relative clauses that relies on cyclical *Agree* without *Move* for establishing the relation between the resumptive and its antecedent.

In Welsh, as in Irish, relative clauses come with with a gap (48a) or a resumptive pronoun (48b) at the relativization site:

¹⁸i.e. the specifier(s) or adjuncts

- (48) a. *y llong a werthodd y dyn*
 the boat REL sold the man
 ‘the boat that the man sold’
- b. *y dyn y soniais amdano*
 the man C I talked about-AGR
 ‘The man I talked about’ (Welsh, [Rouveret 2008:170](#))

What distinguishes the two strategies in Welsh is not only the presence of a resumptive pronoun, but also the choice of the relative complementizer - *a* in gap (*direct*) relatives, and *y* in the resumptive relatives.

In Rouveret’s analysis, gap relatives like (48a) are formed by by Head-Raising. The relative C (as realized by the complementizer *a*) is endowed with uninterpretable ϕ -features, and an interpretable [Rel] feature with the EPP property. The argument to be relativized, conversely, bears interpretable ϕ -features and an uninterpretable [Rel] feature.

Since the arguments in question are plausibly merged at the edge of the vP phase (or undergo object-shift there), they are accessible for the establishment of an Agree operation between them and the relative C, followed by Move. This eliminates all uninterpretable features and satisfies the EPP property on C, yielding a head-raised relative clause with a gap at the relativization site.

For resumptive relatives like (48b) on the other hand, Rouveret assumes a derivation with the head merged directly in its clause-external surface position. The resumptive pronoun is bound by an operator in Spec,CP, and its relation to the external head is established by what constitutes Rouveret’s central proposal: phasal Agree.

- (49) DP [*y* T [... v ... pronoun]]
 u- ϕ u- ϕ i- ϕ
 i-Rel/EPP u-Rel u-Rel

Since the RP is not merged at a vP edge position, but lower, the PIC renders it inaccessible to the relative complementizer higher up. It is however accessible to *v*, which, bearing the relevant features (but, crucially, no EPP property), establishes Agree with the pronoun. Once the CP phase is reached, *C* establishes an Agree relation with *v*. The result is an Agreement chain including *C*, *v*, and the RP. Thus, Agree between *C* and the RP is mediated by *v*.

So the difference in the derivations of gap relatives and resumptive relatives boils down to this: gap relativization (i.e. Agree followed by Move) happens when the object to be relativized is directly accessible to the minimal relative *C*. This is the case when it is first merged at the edge of the vP Phase or necessarily moved there by way of object shift. In case relative *C* doesn't have access to the relativization site, the referential dependence between the head and the RP is established by Agree alone.

A defining aspect of any theory of resumption is how it deals with the behavior of resumptive constructions with regard to locality and reconstruction.

On the locality front, Rouveret points out that Welsh is one of the few languages that has subjacency effects in resumptive relatives:

- (50) ?? Dyma'r dyn y cusanaiſt ti'r ddynes a siaradodd amdano
 here the man that kissed you the woman REL talked about-AGR
 'Here's the man that you kissed the woman that talked about him' (Welsh,
 Rouveret 2002:127)¹⁹

He rejects the notion that different rules should apply to Agree and Move with regard to the PIC. Instead, he proposes that island effects stem entirely from barriers to Agree: island structures introduce additional phasal boundaries, whose heads aren't endowed with the necessary features to keep up an Agree chain. Taking (50) as an example, it is the DP *'r ddynes ..* that presumably introduces a phase blocking Agree between the

¹⁹translation mine

relative head and the RP, resulting in a CNPC violation.

For those cases where there are no subjacency effects with resumptives, Rouveret assumes base generation. In Welsh, this analysis neatly explains the absence of connectivity effects in these instances.

As for reconstruction, Rouveret notes that in contrast to the gap variant, resumptive relatives do not show the full range of effects. In Welsh, resumptive relatives do reconstruct for binding, in that anaphora and pronouns contained in the antecedent can be bound by nominals and quantifiers contained in the relative clause, as (51a) shows. However, there is no reconstruction for Principle C (51b).

- (51) a. Fe'm hysbyswyd am y clecs amdano ei hun y mae Siôn
 PRT me was-reported about the gossips about himself C is Siôn
 wedi eu clywed yn y cyfarfod
 PERF them hear at the party
 'The gossips about himself that Siôn heard at the party were reported to me'
- b. Yn ddiweddar dygwyd darlun o Siôn i yr oedd efi wedi ei roddi
 recently was-stolen picture of Siôn that was he PERF it give
 i Mair
 to Mair
 'Recently was stolen a picture of Siôn which he had given to Mair' (Welsh, Rouveret 2008:181f)

In order to solve this puzzle, Rouveret has to devise a theory of reconstruction that accomplishes the effect without taking recourse to movement, and build into it a mechanism that yields reconstruction in the binding cases, but not in the Principle C cases.

Referring to a proposal by Freidin and Vergnaud (2001), Rouveret adopts an analysis of resumptive pronouns as definite descriptions with a silent NP or N component:

- (52) a. $D = [[+def] \phi]$
 b. $pron = [_{DP} D [_{NP} \cancel{N-DP}]]$
 c. $pron = [_{DP} D \cancel{N}]$

Resumptive pronouns consist of a $[+def]$ feature and ϕ -features, and a silent part representing the antecedent, which comprises either (52b) a full NP with its complements and adjuncts or (52c) just the N head. Reconstruction effects arise from the silent NP or N part being interpreted at LF.

The choice between (52b) and (52c) determines the range of reconstruction effects. If (52b) is the case, reconstruction encompasses NP complements like the anaphor in (51a), enabling reconstruction for Principle A. If on the other hand option (52c) is the representation of the resumptive, complements and adjuncts are not part of the material reconstructed, offering an explanation for the lack of Principle C effects in (51b).

An important question is what determines the choice between the two resumptive representations. Rouveret proposes a Preference Principle, analogous to the familiar one of Chomsky (1993), which makes (52c) the default LF representation of resumptives, but can be overridden to allow the representation in (52b).

Clearly, more work needs to be done within this framework in order to see if it can accommodate the patterns of resumption, reconstruction and locality in languages other than Welsh and Irish without over-generating.

2.8 Conclusion

A question that has been of central importance in the research on resumption of the last two decades is this: How can a phenomenon that so strongly resists a syntactic movement analysis nonetheless bear so many of the hallmarks of movement?

We have seen that resumptives are insensitive to island constraints in most languages that make productive use of them, and mostly do not show evidence of weak crossover. Island sensitivity being the least controversial diagnostic of movement, this makes a base-generation analysis the first choice.

However, the compounding evidence from reconstruction effects, strong crossover, and the licensing of parasitic gaps forces a second look. These are phenomena closely associated with movement derivations, and a blanket base-generation analysis of resumption that does not deny the validity of the data would have to include special provisos to deal with each of them. We have seen what such provisos could look like for the case of reconstruction.

A movement account, in its strongest form, predicts island-sensitivity, and the full range of movement-associated phenomena: strong and weak crossover, the licensing of parasitic gaps, and reconstruction effects. Most languages with productive resumption do not seem to match this pattern, and the movement accounts of resumption we examined deal with this in two ways:

- (i) By assuming different derivational histories for resumptives inside and outside islands, à la [Aoun et al. \(2001\)](#)
- (ii) By re-imagining the notion of island ([Boeckx 2003](#)).

We have also seen how an account that uses on phasal Agree to establish the relation between a resumptive and its antecedent can avoid the pitfalls of a movement derivation while retaining an explanation for various connectivity effects.

At this point, it seems safe to say that a new consensus on the analysis of resumptive pronouns is not within reach. In the meantime it may be useful to approach the vast cross-linguistic differences and analytical ambiguities by attempting a sort of typology of resumption. [Asudeh \(2011, 2012\)](#), while regarding resumption as a unitary phenomenon, identifies three major types of resumptive pronouns:

- Syntactically active resumptives

These do not behave like gaps in unbounded dependency constructions. They are island-insensitive and do not show weak cross-over effects. Languages with resumptives of this type include Irish, Hebrew, and varieties of Arabic.

- Syntactically inactive resumptives

These behave like gaps with respect to islands and weak cross-over. Languages include Vata ([Koopman and Sportiche 1986](#)), Gbadi ([Koopman 1984](#)), and Swedish ([Engdahl 1985](#)).

- Processor resumptives

This is the “intrusive” type discussed at length in section 1.3 above. Asudeh divides this category into two subtypes: island/ECP resumptives (which “fix” island and ECP violations) and complexity resumptives (which facilitate deep embedding).

Chapter 3

A Matching Analysis of \bar{A} -Dependencies

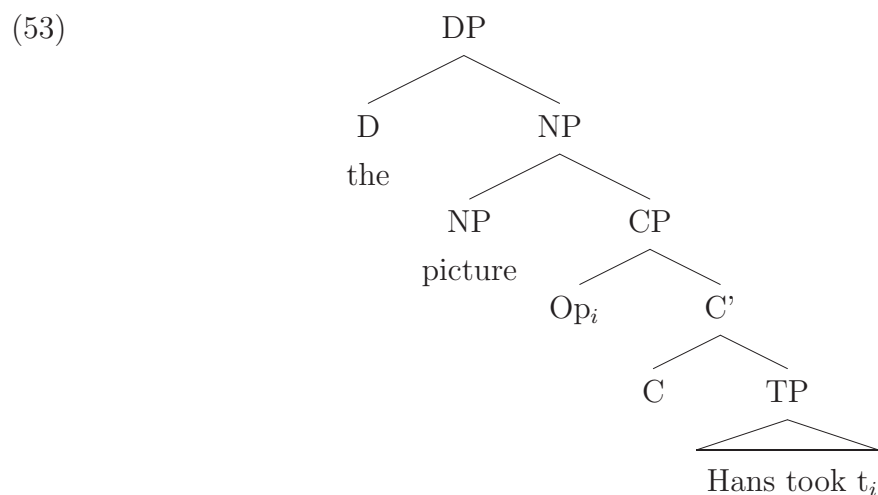
This chapter will be concerned with a new and extended Matching Analysis of \bar{A} -dependencies proposed by [Salzmann \(2006a\)](#), and how it deals with the challenges presented by the occurrence of resumptive elements in these dependencies.

3.1 The analysis of relative clauses

In dealing with [Rouveret's \(2002; 2008\)](#) phasal agree approach to resumption, and with [Friedmann et al. \(2008\)](#) on resumption in impaired syntax, we already briefly touched upon competing analyses of relative clauses. There are three major ways in which relative clauses have been analyzed in generative grammar:

3.1.1 The Head-External analysis

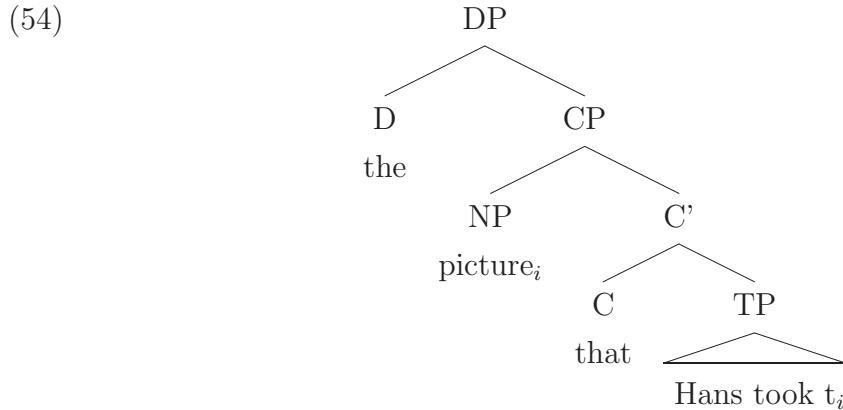
The *Head-External analysis* was the dominant approach to relative clauses all the way through to the advent of the Minimalist Program. It is often attributed to [Chomsky \(1977\)](#), although some trace its origins further back (cf. [Bhatt 2002:44](#) for some discussion). The HEA assumes the relative head to originate externally to the relative clause, without being directly represented within it. The relative clause is adjoined to the head. An operator (either overt or phonetically null) moves from the relativization site to the periphery of the relative clause, and is identified with the head by way of being co-indexed with it.



3.1.2 The Head-Raising Analysis

The first versions of the *Head-Raising Analysis* are usually attributed to [Schachter \(1973\)](#) (*promotion analysis*) and [Vergnaud \(1974\)](#). After leading what [McCloskey \(1979:35\)](#) calls an 'underground existence' for several years, the approach was modified and re-popularized two decades later in the immensely influential work of [Kayne \(1994\)](#). More recent versions include [Bianchi \(1999\)](#) and [Bhatt \(2002\)](#). Under the HRA, the head NP originates inside the relative clause, and is moved to a peripheral position

(either plainly or as a complement of the operator). The CP that obtains is then selected directly by an external determiner.



Crucially, this means that the relationship between the relative head and the relativization site is established directly by movement, not indirectly by co-indexing the external head with an internal operator as in the HEA.

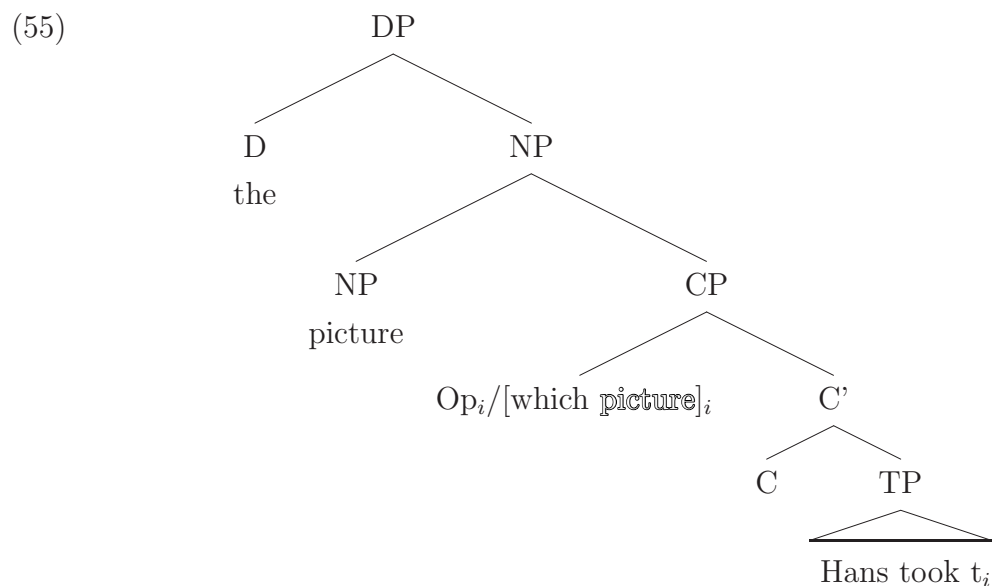
Also, the resulting structure is in line with Kayne’s influential theory of phrase structure, specifically the *Linear Correspondence Axiom*, which disallows right-adjunction and rightward movement. This puts the HRA in contrast to the HEA, which relies on right-adjunction for post-nominal relative clauses.

3.1.3 The Matching Analysis

The third approach to relative clauses, the *Matching Analysis*, is originally ascribed to Lees (1960, 1961) and Chomsky (1965). More recently, it has been picked up and modified by Munn (1994), Sauerland (1998), and Salzmann (2006a), which will be the subject of more in-depth discussion in this chapter.

The Matching Analysis postulates two heads for a relative clause. One *external* head

in the complement of a determiner, and one *internal* to the clause, merged at the relativization site. The internal head is PF-deleted under identity after the derivation has been completed. The two heads are not related by a movement chain as they are in the HRA, as illustrated in (55). I'm using Salzmann's (2006a) notation, putting PF-deleted material in outline.



3.2 Salzmann (2006) against the HRA

In his quest to develop an updated Matching Analysis, Salzmann (2006a) first mounts an in-depth critique of the HRA as applied to English and German, which has since the mid-nineties perhaps acquired the status of the predominant analysis of relative clauses in the field, as Salzmann remarks.

While the main thrust of Salzmann's rejection of the HRA is based on reconstruction data, he also notes a few technical shortcomings in the derivation of head-raised relative clauses.

First, it's the trigger for movement of the head noun to it's 'surface' position, after having been \bar{A} -moved to the operator position in a first step:

- (56) the $[_{CP} [_{DP_j} book_i [_{D'} Op/which t_i]] [_{TP} John likes t_j]]$

Salzmann notes problems motivating this step (or its theory-specific equivalent) in all versions of the HRA he discusses, but taking the derivation in (56) as an example, the head N *book* moves to Spec, DP to check phi-features against the D head (the relative pronoun *which*). This, however, leaves the case features of N unchecked, requiring a special way of case checking against the external D that is only admissible in relative clauses - an assumption that is very undesirable from a conceptual viewpoint. The case problem is manifest in languages with overt case marking on the relative head, such as in the Polish example in (57)

- (57) Widziałem tego pana który zbił ci szybę
saw.1SG the.ACC man.ACC who.NOM broke your glass
'I saw the man who broke your glass' (Polish, Borsley 1997:635)

These types of arguments against the HRA have been raised before, at least as early as Borsley (1997), as far as I can determine. They are in part addressed by Bianchi (2000), by a proponent of the HRA, in the following way. The raising of the head is triggered by an N-selectional feature on the external D, which can be checked from the target position of the head²⁰. As for the case-marking of the head, Bianchi assumes that case is a property of the D position. As the head NP moves from the domain of the relative D to that of the external D, its case morphology ends up agreeing with that of the target D.

Without going into any more detail, Salzmann's charge that the basic derivation of the HRA requires non-standard and seemingly ad-hoc mechanisms is hard to deny.

²⁰since Spec, CP of the relative clause is still within the *minimal domain* of the external D, as defined by Bianchi

The bulk of Salzmann’s argument against the HRA is empirical however, and rests largely on reconstruction data. As discussed in section 2.5 above, reconstruction has emerged as a valued diagnostic tool in the analysis of \bar{A} -dependency constructions in the wake of the minimalist program. Since under a movement analysis reconstruction phenomena have a straight-forward explanation as the interpretation of the lower end of a movement chain, their existence in relative clauses is a strong point that the HRA has going for it. In building his case for a Matching Analysis, however, Salzmann aims to show that reconstruction effects are conspicuously absent where they are necessarily expected under a HRA.

In English relative clauses, there is systematic reconstruction for idiom interpretation, variable binding, scope, and also for the binding of anaphors. With respect to these principles, elements contained in the relative head or in the operator are interpreted as if they occupied a position internal to the relative clause (or at least allow for that reading):

(58) a. **Idiom interpretation**

the [careful track] that she is **keeping** ___ of her expenses

b. **Variable binding**

the [picture of **his**_{*i*} girlfriend] that **every man**_{*i*} likes ___ best

c. **Quantifier scope**

the [two patients] that every doctor will examine ___ tomorrow
 $\forall > \exists; \exists > \forall$

d. **Principle A**²¹

²¹Salzmann advises caution with using supposed reconstruction for Principle A as a test at least in

the [picture of **himself_i**] **John_i** likes ____ best

These are the same reconstruction effects that one finds in cases of wh-movement. There is, however, a point where the parallels to wh-movement structures end, and that is Principle C effects. Contrary to what one might expect looking at the pattern in (58), English relativization does not yield ungrammatical results if the clause-internal base position of a relativized element containing an R-expression is in the c-command domain of a co-indexed pronoun. The examples (59) illustrate this contrast to wh-movement:

(59) **Principle C effects**

- a. the picture of [**Bill_i**] that **he_i** likes ____
- b. I have a [report on **Bob's_i** division] **he_i** won't like ____
- c. *[Which picture of **Bill_i**]_j does **he_i** like _____j

This asymmetry leaves a bare HRA at a loss, since modeling the relation between head and relativized position as a regular \bar{A} -chain predicts the full range of reconstruction effects for relatives. Consequently, this piece of evidence plays the central role in Salzmann's rejection of the HRA, and his Matching Analysis proposal.

The head-raising approaches to relative clauses that Salzmann discusses have two ways of circumnavigating the Principle C problem. One is to assume a head-raising derivation to occur only in those cases where there is no material in the head phrase that can't be fully licensed in the target position. This effectively confines the HRA to those cases

English, noting that picture-NPs often allow for logophoric use of anaphors.

where there is reconstruction, and requires an entirely different analysis for those cases where there is none. [Bhatt \(2002\)](#) and [Sauerland \(1998\)](#) are cited as proponents of this approach.

The other way to keep with a HRA and get around the Principle C problem is more original. It involves the reduction of the offending R-expression in the “reconstructed” clause-internal copy of the head to a pronoun in a process called *Vehicle Change*:

- (60) a. the $[_{XP} \text{ [~~picture of Bill}_i~~]}_2$ $[_{CP} \text{ [Op [~~picture of Bill}_i~~]}_2]_1$ that **he**_i likes
 $[_x \text{ picture of him}_i]_1]$
- b. Bill_i likes a picture of him_i .

As applied by [Safir \(1999\)](#), Vehicle Change can turn the lower copy left by movement of the head noun *Bill* in (60a) into the corresponding pronoun, thereby lifting the conditions that would result in a Principle C violation, and making the result just as plainly grammatical as (60b)²².

Salzmann points out the obvious problem with this mechanism, if it is allowed to apply across the board - it leads to over-generation. If R-expressions can be turned into pronouns freely, one wouldn’t expect Principle C effects in reconstruction anywhere, ever, contrary to fact.

Salzmann concludes that all versions of the HRA solve the problem posed by the lack of Principle C effects unsatisfactory. Either they awkwardly combine HRA with MA, or they end up predicting no Principle C effects anywhere at all. This is why Salzmann opts for a Matching Analysis.

²²One would expect a Principle B effect in this case, but pronouns and anaphors seem to be in free variation in English “picture-NPs”. [Reinhart and Reuland \(1993:660f\)](#) generalize that Principle B effects only materialize if the pronoun and its antecedent are co-arguments

3.3 A new Matching Analysis

A Matching Analysis obviously avoids the problems that the HRA is confronted with in terms of triggering certain movement steps, since the external and internal representations of the relative head are related not by movement, but by ellipsis:

(61) The [book]_i [_{CP} [Op/which book_i] John likes _i]

At the same time, reconstruction can be handled without recourse to movement of the external head, plainly by interpreting the clause-internal representation of the head (or a copy of it, left by clause-internal movement).

What remains problematic however even under an MA are the cases where apparently there is no reconstruction, like the lack of Principle C effects. Matching Analyses solve this problem either by resorting to Vehicle Change ([Sauerland 1998](#)), or by having the lower copy of the internal head exceptionally deleted, like in the version of [Citko \(2001\)](#).

It is here that [Salzmann \(2006a\)](#) aims to innovate, by including both Vehicle Change as well as exceptional deletion in his version of the MA, presumably attaining results that both cover more ground empirically and are more attractive conceptually.

In developing his new MA, Salzmann turns to German relative clauses, presenting a voluminous survey of reconstruction effects with regard to a range of phenomena: the binding principles, idioms, scope, variable binding, adjective construal and others. He also examines correlations between those phenomena, i.e. cases where reconstruction with regard to one effect forces reconstruction with regard to a different effect. The most attention, however, is again devoted to the absence of Principle C effects, which German relative clauses display just like the English cases discussed above:

- (62) Das [Bild von **Peter_i**] das **er_i** — am besten findet
 the picture of Peter which he the best finds
 ‘The picture of Peter_i that he_i likes best’

Keeping with the standard MA, Salzmann assumes clause-internal movement of the operator phrase to Spec, CP, followed by deletion of the internal head from the complement position of the operator under identity with the external head²³:

- (63) das Buch_j [_{CP}[das Buch_j]₁ er —₁ mag]
 the book which book he likes
 ‘the book which he likes’

To capture the full pattern of reconstruction effects in German, Salzmann proposes that while by default the relative head reconstructs to its base position (courtesy of the Preference Principle), parts of the relative-clause-internal copy can be *exceptionally deleted*. The result is that there is no reconstruction effect. Exceptional deletion, however, only applies to elements that are characterized by a *positive licensing requirement* that cannot be met in the position in which they reside. A positive licensing requirement is the need for the presence of a distinct element for licensing. For an anaphor, it is the presence of a local antecedent. For an NP that is part of an idiomatic expression, it is the adjacency of the rest of that expression. The following are LF representations of these two cases:

- (64) a. das [~~Bild von sich_t~~]_j [_{CP} [das [~~Bild von sich_t~~]]₁ Peter [x Bild von sich_i]₁
 the picture of self which picture of self Peter picture of self
 am liebsten mag
 the most likes
 ‘The picture of himself that Peter likes the best’

²³In keeping with Salzmann’s notation, number indices indicate movement dependencies, letter indices indicate co-reference.

- b. die [~~Rede~~] _{CP} [die ~~Rede~~]₁ er [x Rede]₁ geschwungen hat
the speech which speech he speech swung has
‘The speech that he gave’

In Salzmann’s system, reconstruction of the anaphor and the idiom chunk in (64) follows from the Preference Principle, enabling the anaphor to be licensed and the idiom chunk to be interpreted in their respective base positions. Since both of these elements carry positive licensing requirements, their occurrence in the external head may be exceptionally deleted, deriving the desired result of an unambiguous structure at LF.

A second proposal regards elements with a *negative licensing requirement*, such as R-expressions. Here it is the absence of a certain element (namely, a co-indexed one in a c-commanding position) that forms the requirement. Salzmann proposes that these cannot be exceptionally deleted, but they do undergo Vehicle Change in the process of ellipsis.

- (65) das [Buch über Peter]_i_j [_{CP} [das ~~Buch über ihn~~]₁ er_i [x Buch über ihn]₁]₁
the book about Peter which book about him he book about him
am besten findet]
the best finds
‘The book about Peter which he finds the best’

Again the lower clause-internal copy is kept and the higher one deleted due to the Preference Principle. But since the R-expression cannot be licensed in the low position due to its negative licensing requirement, it undergoes Vehicle Change and is transformed into a pronoun when ellipsis under identity with the external head takes place.

In evaluating Salzmann’s proposal, there are two things to look at: whether it is attractive from a conceptual point of view, and whether it covers more empirical ground than previous approaches do.

Conceptually, the proposal starts out on a general disadvantage because, like any Matching Analysis, it goes against the tide of the last decade and a half in assuming right-adjunction. Right-adjunction is not permissible under an anti-symmetric view of phrase structure that has been widely adopted since [Kayne \(1994\)](#) and the advent of the Minimalist Program.

Second, it requires two mechanisms to explain the intricate reconstruction patterns that are examined: exceptional deletion and Vehicle Change. Viewed on its own, this puts it on a disadvantage to [Citko \(2001\)](#), who uses only exceptional deletion, even to deal with the lack of Principle C cases.

What works in Salzmann's favor is the fact that his proposal applies a single analysis to relative clauses across the board, not having to combine it with a HRA for the reconstruction cases, like [Sauerland \(1998\)](#) and [Bhatt \(2002\)](#) do.

As regards the empirical side, Salzmann's own claims of superiority over what he considers to be the the next-best model of [Citko \(2001\)](#) are modest: an improvement in two aspects of the German Principle C reconstruction pattern. I will argue in the following that at least one of these improvements actually fails to materialize.

As mentioned briefly above, Salzmann looks at cases of relative clauses where reconstruction is forced by one requirement (like variable binding) and examines the obtaining results with respect to a different effect (like Principle C):

- (66) a. das [Buch von **Peter_i** über ihre_j Vergangenheit], das er_i jeder
 the Buch of Peter about her past which he every.DAT
 Schauspielerin_j sandte
 actress sent
 'the book by Peter_i about her_j past that he_i sent every actress_j'

- b. [Dasjenige von Marias_i Portraits seiner_j zukünftigen Frau], das sie_i
 that of Mary's portraits his.GEN future wife which she
 jedem_j schenkte, war in Öl
 everyone gave was in oil
 'That one of Mary's_i portraits of his_j future wife which she_i gave everyone_j
 was in oil.' (attributed to Heck (2005))

To gain a bound-variable reading of *ihre* and *seiner* in (66), the head NP would have to reconstruct into a position c-commanded by an element co-referring with the R-expression contained in it, thus triggering a Principle C effect. Salzmann, however, judges the examples to be fine, and attributes this to the possibility of Vehicle Change contained in his MA of the structure. Since the competing Matching Analysis of Citko (2001:140) does predict a Principle C effect (because the lower copy of the internal head cannot be exceptionally deleted under the circumstances), Salzmann's analysis is ostensibly more adequate. In my judgment and that of my informants however, (66) is strongly ungrammatical, a bound-variable reading of the pronouns is all but impossible to get. Things improve somewhat with focal stress on the determiners *das/dasjenige*, but then again, focal stress yields unpredictable results in other areas as well ²⁴. The ungrammaticality of (66) goes parallel to that of the corresponding facts in English (which Salzmann does not dispute):

- (67) *The letters by John_i to her_j that he_i told every girl_j to burn ___ were published.

If my judgment on the German case is correct, Salzmann's Vehicle Change yields the wrong results, and Citko's (2001) analysis turns out superior both empirically as well as conceptually - making do with only the single operation of exceptional deletion to explain the Principle C patterns, instead of requiring Vehicle Change in addition.

²⁴For example, stress on *er* seems to alleviate the following Principle C violation:

- (1) ?Welches Bild von Peter_i hat ER_i ausgewählt?
 'Which picture of Peter did HE choose?'

3.4 The proleptic construction

The \bar{A} -Dependencies discussed so far in terms of the new Matching Analysis were regular relative clauses. Salzmann (2006a) turns his attention to a rarely studied construction in German dubbed the *proleptic construction*, which in some varieties serves as an alternative to long \bar{A} -Movement:

(68) a. Wh-Question

Von [**welchem Maler**] glaubst du, dass Petra **ihn** mag?
of which painter think you that Petra him likes
'Which painter do you think that Petra likes?'

b. Relative clause

Ein [**Maler**], von dem ich glaube, dass Petra **ihn** mag
a painter of who.DAT I think that Petra him likes
'A painter who I think Petra likes'

c. Topicalization

Von [**dem Maler**] glaube ich, dass Petra **ihn** mag
of the.DAT painter think I that Petra him likes
'The painter, I think Petra likes'

In the proleptic construction, the extracted element is selected by the preposition *von*, thus forming the *proleptic object*, in Salzmann's terminology. At the presumed extraction site in the embedded clause, there is an obligatory resumptive pronoun, co-referring with the proleptic object.

The \bar{A} -dependencies between the fronted constituents and the embedded resumptive pronouns in (68) form an alternative to long \bar{A} -movement in the respective cases of wh-questions, relative clauses, and topicalization. Salzmann is certainly right in his assessment that this construction occurs most naturally in relative clauses.

The alternative of direct long \bar{A} -movement in these cases is disfavored by many speakers of Standard German and other (in particular northern) varieties of German ²⁵:

- (69) a. ?? [Wen] glaubst du, dass Petra ___ liebt?
 who.ACC think you that Petra loves
 ‘Who do you think that Petra loves?’
- b. ?? Ein [Maler], den er glaubt, dass Petra ___ mag
 a painter who he thinks that Petra likes
 ‘A painter who he thinks Petra likes’
- c. ?? [Den Maler] glaubt er, dass Petra ___ mag
 the painter thinks he that Petra likes
 ‘The painter, he thinks that Petra likes’

The proleptic construction shares a lot of the features exhibited by the corresponding \bar{A} -movement alternatives. In analyzing the construction and ultimately building a case for a Matching Analysis, Salzmann again closely examines reconstruction patterns.

As (70) shows, reconstruction into the embedded clause of the proleptic construction is systematic for idiom interpretation, variable binding, and anaphors (taking the case of proleptic relatives for illustration, resumptives underlined):

- (70) a. die [Rede], von der ich sagte, dass er sie geschwungen habe.
 the speech of which I said that he it swung has
 ‘The speech I said he gave’
- b. Die [Periode seines_i Lebens], von der ich glaube, dass **keiner**_i gerne dar-an
 the period his.GEN life.GEN
 denkt ist die Pubertät of which I believe that no.one there-at thinks is the
 puberty
 ‘The period of his_i life that I think no one_i likes to remember is puberty.’

²⁵Incidentally, all the long \bar{A} -movement examples (69) are perfectly acceptable in my own Austrian variety

- c. das [Gerücht über **sich_i**], von dem ich glaube, dass **Peter_i** es nicht
 the rumor about self of which I believe that Peter it not
 ertragen kann
 bear can
 ‘the rumor about himself_i that I think Peter_i cannot bear’

This shows that reconstruction of the proleptic object all the way down to the embedded clause is the rule. It also suggests that the relationship between the proleptic object and the resumptive position in the dependent clause is an \bar{A} -dependency. In light of its strong similarities to \bar{A} -movement structures illustrated in (69), the first reflex might thus be to analyze the proleptic construction as a result of long \bar{A} -movement of the proleptic object out of the dependent clause into the periphery of the matrix clause. [Salzmann \(2006a\)](#) argues very convincingly against this idea with a number of points.

The most striking argument is perhaps that there is an *in-situ* version of the construction, serving as the basis for the other variants. The in-situ variant is a declarative sentence, leaving the proleptic PP at a vP-internal position inside the matrix clause:

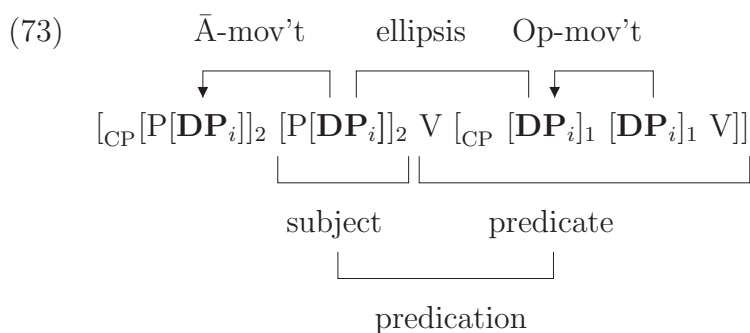
- (71) Ich hoffe von [**diesem Buch**], dass es ein Erfolg wird
 I hope of this.DAT book that it a success becomes
 ‘I hope that this book will be a success.’

If movement from the subordinate clause were involved in the derivation of (71), it would have to be \bar{A} -movement, followed by A-movement to the position in the matrix clause. This succession of movement steps is generally thought to be impossible under the ban on improper movement ([Chomsky 1986](#)). It thus follows that the proleptic object is directly inserted in its base position in the matrix clause.

Having ruled out all-through movement as a viable derivation, Salzmann moves forward in a way that reconciles apparent movement effects with the evident impossibility of movement: with a Matching Analysis that is remarkably similar to the one he proposes for relative clauses in general, and which I discussed above.

Thus the wh-movement variant of the proleptic construction as exemplified by (72) is derived by way of (73):

- (72) Von **welchem Maler** glaubst du, dass Petra **ihn** mag?
of which painter think you that Petra him likes
‘Which painter do you think that Petra likes?’

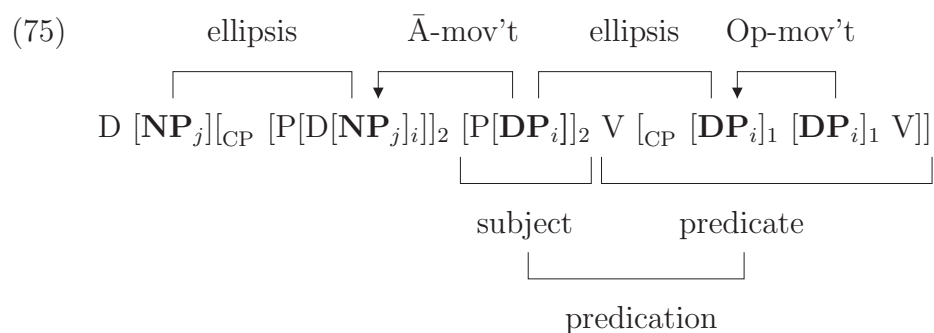


The derivation unfolds as follows. The embedded clause contains an operator in the form of a full copy of the proleptic object. This operator moves from its base position (i.e. the position where the resumptive pronoun resides) to the periphery of the embedded clause. It thus creates an unsaturated predicate, an “open sentence”, analogous to a relative clause without its head. This unsaturated predicate is selected by the matrix verb, which also combines with the proleptic object in the matrix clause. The proleptic object (contained in a PP for case reasons) saturates the original predicate, co-indexing the operator and its movement copy in the embedded clause. This is followed by ellipsis of the operator under identity with the proleptic object in the matrix clause. Regular \bar{A} -movement of the proleptic object into the matrix periphery completes the formation of the proleptic wh-clause or topicalization structure.

As he does in his Matching Analysis of regular relative clauses discussed in section 3.3 above, Salzmann forms a long-distance \bar{A} -dependency without depending on movement all the way. What ends up doing the job is a mixed chain that contains movement steps and steps performed by way of matching and ellipsis.

As for the relative clause variant of the proleptic construction (i.e. the case of (68b), repeated in (74) for convenience), the Matching Analysis of regular relative clauses is combined with the operator movement + Matching analysis of the proleptic construction, to form (75):

- (74) Ein [**Maler**], von dem ich glaube, dass Petra **ihn** mag
a painter of who.DAT I think that Petra him likes
‘A painter who I think Petra likes’



As (75) illustrates, the formation of a proleptic relative clause involves two instances of matching and ellipsis. It applies once to dispose of the full copy of the proleptic object that is present in the embedded clause, and a second time to dispose of the copy in the matrix clause - in familiar fashion under identity with the external relative head. The result is, again, an \bar{A} -dependency that spans the entire way between the external relative head and its putative extraction site in the embedded clause - a dependency which consists of a mixed chain of movement and matching + ellipsis links.

The elaborate derivations in (73) and (75) have the main point of accommodating the reconstruction phenomena that are evident in the proleptic construction (cf. (70)). The presence of an \bar{A} -dependency predicts systematic reconstruction, which is the desired outcome. Complications arise again, however, with reconstruction for Principle C, which forms an exception just like in the case of regular relative clauses (cf. 3.2). There does not seem to be reconstruction for Principle C in proleptic relative clauses:

- (76) Das [Bild von **Peter_i**] von dem ich glaube, dass **er_i** es am besten mag
 the picture of Peter of which I believe that he it the best likes
 ‘the Picture of Peter_i that I think he_i likes best.’

In a fashion familiar from his treatment of regular relative clauses, Salzmann attributes the absence of a Principle C effect in these cases to the mechanism of Vehicle Change: R-expressions undergoing reconstruction are turned into pronouns, and thus don’t violate Principle C. Since reconstruction patterns for proleptic relatives match those of regular relative clauses, Vehicle Change delivers the same results.

There is one particularly striking result in the application of Matching and ellipsis in Salzmann’s analysis of the proleptic construction, namely with the topicalization and wh-clause variants. First, recall that unlike relative clauses, regular wh-clauses and topicalizations do exhibit Principle C effects:

- (77) * [Welches Bild von **Peter_i**]₁ glaubst du, dass **er_i** —₁ am besten findet?
 Which picture of Peter believe you that he the best finds
 ‘Which picture of Peter_i do you think he_i likes best?’

In Salzmann’s analysis, this follows from the fact that in a structure purely derived wh-movement, there is no ellipsis operation licensing Vehicle Change. Since, however, proleptic wh-clauses do involve ellipsis (namely between the representation of the proleptic object internal to the matrix clause, and its representation as an operator in the embedded clause, cf. (73)), Vehicle Change is predicted to apply and alleviate the Principle C effect in proleptic topicalizations and wh-questions. This is neatly borne out by the facts:

- (78) Von [welchem Bild von **Peter_i**]₁ glaubst du, dass **er_i** es am besten findet?
 of which picture of Peter believe you that he it the best finds
 ‘Which picture of Peter_i do you think he_i likes best?’

However, another prediction of the Vehicle Change approach, in my view, goes wrong. The approach predicts Principle C effects to be suppressed even in those cases where reconstruction is forced (and exceptional deletion thus presumably impossible), because of variable binding:

- (79) Von welcher Meinung von Hans_i über ihren_j Aufsatz denkst du, dass er_i jeder
 of which opinion of John about her essay think you that he every
 Schülerin_j rät, sie ernst zu nehmen?
 student advises it seriously to take
 ‘Which opinion of John_i about her_j essay do you think that he_i advises every
 student to take seriously?’

Like in the corresponding case of Principle C in regular relative clauses discussed above (p. 53), I disagree on the data. (79) is strongly ungrammatical under a bound-variable reading in my view and that of my informants.

The complexity of examples such as (79) as well as the added difficulty of having to establish the right co-reference and binding relations prior to judging could be argued to skew the results in favor of ungrammaticality. What makes the point clearer is to judge (79) not as an absolute, but in comparison to its direct wh-movement version, where according to Salzmann’s analysis no Vehicle Change should be possible and thus a Principle C effect is correctly predicted to re-emerge under variable binding²⁶.

- (80) * Welche Meinung von Hans_i über ihren_j Aufsatz denkst du, dass er_i jeder
 Which opinion of Hans about her essay think you that he every
 Schülerin_j rät — ernst zu nehmen?
 student advises seriously to take
 ‘Which opinion of John_i about her_j essay do you think that he_i advises every
 student to take seriously?’

²⁶Note that this was tested in my own Austrian variety of German, which allows long wh-movement in these cases.

I detect no improvement of the proleptic (79) over its wh-movement version in (80) under a bound-variable reading.

This, I believe, casts some doubt on Salzmann’s chief argument for having Vehicle Change involved in the derivation of indirect \bar{A} -dependencies. My conclusion is the same as in the corresponding case of Principle C in regular relative clauses: since exceptional deletion of the reconstructed proleptic object in the vein of Citko (2001) would deliver the right (ungrammatical) result in this case, and since having one instead of two kinds of operations involved in the derivation is more attractive conceptually, the preferable way is to make do without Vehicle Change.

3.5 Prolepsis and resumption

One defining aspect of the proleptic construction has so far escaped all scrutiny in this chapter, namely the main reason it is being discussed in the context of this thesis: the fact that it involves resumption.

Chapters 1 and 2 discussed resumption tacitly assuming the resumptive elements to reside at the tail end of clear-cut direct \bar{A} -dependencies. We explored the possibility of movement being involved in how resumptive pronouns come about, examined some of the evidence for that, and considered how resumptive pronouns can be thought to arise in the process of movement.

The resumptive proleptic constructions that Salzmann (2006a) analyzes – relative clauses, wh-clauses and topicalizations – involve *indirect* \bar{A} -dependencies, with one or more of the links established by ellipsis under identity. However, the part of the derivation that involves the resumptive pronoun in the embedded clause, assumes that position to be the tail end of an (operator-) movement operation:

- (81) Von [**welchem Maler**] glaubst du, dass Petra **ihn** mag?
of which painter think you that Petra him likes
‘Which painter do you think that Petra likes?’

- (82)
- | | | |
|---|---|---|
| \bar{A} -mov’t | ellipsis | Op-mov’t |
| ↓ | | ↓ |
| [_{CP} [P [DP_i] ₂] | [P [DP_i] ₂ V | [_{CP} [DP_i] ₁ [DP_i] ₁ V]] |
| | | ihn mag |
| | | him likes |

We saw in sections 2.5 and 2.6 that the apparent movement effect of reconstruction is the main reason why movement accounts of resumption are being upheld by some, against significant odds. Salzmann (2006a,b) joins those ranks.

Resumption in the proleptic construction shares a key characteristic of many resumptive constructions in that it seems to void locality constraints:

- (83) Der [Mann], von dem ich denke, dass Marie <jedes Buch liest, das er schreibt>
the man of who I think that Mary every book reads which he writes
‘the man who I think Mary reads every book that he writes’

If one is to assume operator movement from the position of the resumptive to the periphery of the embedded clause in (83), that movement step will have to cross a strong island boundary. Salzmann recognizes that this puts a base-generation analysis of the resumptive in a strong advantage, but an examination of reconstruction effects in the context of islands leads in a different direction. Evidently, reconstruction into islands is very much possible in the proleptic construction:

- (84) a. PP island + reconstruction for Principle A

[Das Bild von sich_i] von dem ich glaube dass **Peter**_i zufrieden da-mit
the picture of self of which I believe that Peter satisfied there-with
ist.
is
‘The picture of himself_i that I think Peter is satisfied with.’

b. Adjunct island + reconstruction for variable binding

[Die Periode **seines**_i **Lebens**], von der ich denke, dass man ganz froh
the period his.GEN life of which I think that one quite
ist, <wenn beim Stammtisch **keiner**_i darüber redet >, ist die
glad is if at.the piss-up no.one there.about talks is the
Pubertät.
puberty
‘The period of his_i live that I think one is quite relieved if no one_i talks
about it at a piss-up is puberty.’

Though duly acknowledging the controversial nature of any proposal that requires movement out of islands, Salzmann considers the need for a movement account of resumption in this case to be established, and moves to discuss the options.

We have already seen two movement accounts of resumption laid out in section 2.6. These are also the ones Salzmann considers and evaluates with respect to the nature of resumption in the proleptic construction.

Boeckx’s (2003) “Big-DP”/stranding approach to resumption yields the right results on the island-insensitivity and reconstruction facts. Movement out of islands, as presumably required, is possible, if the conditions are right, i.e. if the complementizer involved is of the non-agreeing kind. Thus, operator movement in the embedded clause happens under Match (instead of Agree), and the resumptive pronoun is the stranded remnant of a Big DP at the base position, out of which the antecedent has moved. Consequently, this makes syntactic reconstruction into islands possible, as desired.

Salzmann’s criticism of this account is related to the one I offered in section 2.6.2: since

in Boeckx's system the distinction between agreeing and non-agreeing complementizers is not tied to any tangible features of the element itself, there's a danger of circular logic: whenever an \bar{A} -dependency is resumptive and island-insensitive, the complementizer involved (whether null or otherwise) must be non-agreeing - which often amounts to only a re-statement of the facts.

In the final analysis, Salzmann stakes out a rather unambitious position. Resumption in German is simply an option. The option is, however, severely restricted by a requirement that only one link of a movement chain be phonetically realized. This makes resumption possible in the case of the proleptic construction, because the operator involved in the movement operation in the embedded clause is covert (cf. (73)). It also correctly rules out resumption in regular \bar{A} -movement, which in German always has overt operators.

However, it leaves unaccounted for the fact that resumption is obligatory in the proleptic construction. Conversely, it leaves open the question why in comparatives, which are arguably another case of an \bar{A} -dependency with a covert antecedent, a resumptive does not appear to be an option:

- (85) Es kamen mehr Patienten, als der Arzt (*sie) behandeln konnte.
 there came more patients than the doctor them treat could.
 'There came more patients than the doctor could treat.'

In conclusion, Salzmann's take on resumption is faced with all the usual challenges. Solid evidence for movement effects (reconstruction) clashes with solid evidence for base-generation (non-locality). Salzmann nonetheless takes a bold step in opting, in principle, for a movement account. His final argument for applying movement and syntactic reconstruction across the board is theory-internal: the alternative of resorting to base-generation and semantic reconstruction to account for difficult cases of movement effects would be inconsistent, and it would weaken the analytical tool that the testing of reconstruction effects has become in recent years.

Salzmann's generalization is that resumption in German occurs only where the resump-

tive is part of a chain that phonetically realizes none of its other links. This explains why resumption is allowed in the proleptic construction but barred from nearly all other \bar{A} -dependencies. However, Salzmann ultimately falls short of explaining why resumption is obligatory in the proleptic construction. Moreover, he is forced to stay agnostic between Spell-out and the Big-DP implementation of resumption.

Conclusion

In the concluding remarks of his *Companion to Syntax* article on resumption, James McCloskey (2006) senses a deep mystery lurking at the bottom of it all:

It is known that resumptive elements may serve the purpose of marking variable positions in unbounded dependency constructions. It is known that resumptive elements may occur in positions from which movement is impossible (hence apparently allowing greater expressive power than is permitted by movement alone). It is also known that resumption imposes a considerably lighter burden on the human sentence processor than does the production and resolution of syntactic movement configurations. Why, then, is movement used at all in the creation of these structures? (McCloskey 2006)

This thesis offers a critical survey of inroads that have been made into that mysterious territory.

Chapter 1 delivered a crosslinguistic overview over the phenomenon of resumption, and the structures in which it occurs. The sample of languages for the examples was drawn in such a way as to maximize typological variation to the extent possible. The chapter also discussed the distinction between true and intrusive resumption, and the role of resumption in impaired syntax.

Chapter 2 introduced the paradox of movement effects under resumption. Resumptive structures were shown to bear many of the features of movement-derived structures, but also to be hard to analyze in terms of movement. Among those movement effects are the licensing of parasitic gaps, crossover phenomena, and reconstruction. Two movement accounts of resumption were discussed, as well as a novel one based on phasal agreement.

Chapter 3 offered a critical discussion of [Salzmann \(2006a\)](#) and his new Matching Analysis of relative clauses and other \bar{A} -dependency constructions, particularly *resumptive prolepsis* in German. While [Salzmann \(2006a\)](#) is largely successful in modeling movement effects where they are independent of resumption (i.e. by applying a Matching Analysis to get by without head raising in relative clauses), his take on resumption was shown to be rather inconclusive.

List of Abbreviations

CLD contrastive left dislocation

CLLD clitic left dislocation

CNPC complex noun phrase constraint

EPP extended projection principle

HEA head-external analysis

HRA head-raising analysis

MA matching analysis

PIC phase impenetrability condition

PUC principle of unambiguous chains

RP resumptive pronoun

S – OCC strong occurrence

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Zusammenfassung auf Deutsch

Diese Arbeit beschäftigt sich mit dem Auftreten von resumptiven Pronomina und anderen resumptiven Elementen in \bar{A} -Beziehungsstrukturen, den dabei zu beobachtenden Bewegungseffekten, und einer neuen Matching-Analyse der betreffenden Strukturen.

Die syntaktische Analyse von Resumption gewährt interessante Einblicke in drei Bereichen, die in den vergangenen Jahrzehnten einen Gutteil der theoretischen Auseinandersetzung dominiert haben: die Theorie der Bewegung (wie werden syntaktische Elemente verschoben?), die Theorie der Lokalität (was sind die Grenzen von syntaktischen Beziehungen?) und der Bindungstheorie (wie erhalten pronominale Elemente ihre Referenz?).

Kapitel 1 liefert einen empirischen Überblick über das Phänomen der Resumption und die Strukturen, in denen sie auftritt, wobei Beispiele aus einem breiten Sprachspektrum zur Verwendung kommen. Es wird auf die Unterscheidung zwischen echter grammatischer Resumption und intrusiver Resumption eingegangen, und über die Stellung Letzterer in der Syntax hörgeschädigter Kinder berichtet.

Kapitel 2 wendet sich einem Paradoxon zu. Resumptive Strukturen weisen viele Merkmale von Bewegungsstrukturen auf, lassen sich aber nur schwer als solche analysieren. Unter Resumption finden sich Fälle von Bewegungseffekten wie die Lizenzierung von *parasitic gaps*, starkes und schwaches *crossover*, und vor allem Rekonstruktion. Zwei Bewegungsanalysen von Resumption werden diskutiert, sowie ein neuerer Ansatz, der

in der Analyse auf syntaktische Phasen baut.

Kapitel 3 erarbeitet eine kritische Analyse von [Salzmann \(2006a\)](#) und der darin vorgestellten neuen Matching-Analyse von Relativsätzen und anderen \bar{A} -Beziehungsstrukturen, insbesondere der sogenannten Proleptischen Konstruktion im Deutschen und Niederländischen. In besonderem Maße wird auf Resumption und Bewegungseffekte in diesem Zusammenhang eingegangen.

Curriculum Vitae (academic)

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Presentations

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Talk held at the 2nd LPIA (Left Periphery in Aphasia) meeting at the University of Vienna, August 2005.