On Reduced Relatives with Genitive Subjects

by

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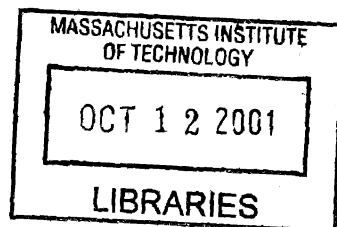Sabine Iatridou, Professor of Linguistics
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Abstract

What is the place of relatives with genitive subjects in a typology of relative clauses? Are they full or reduced, headed or free relatives? Can they appear pre- and postnominally? Can they be head-internal relatives? Are they finite or non-finite? Can they be restrictives and appositives? These are the questions that this thesis will address.

Full relatives have nominative subjects. Thus, relatives with genitive subjects are not full relatives. Relatives with genitive subjects share, however, many properties with reduced relatives. Among others, both prohibit relative pronouns and complementizers. Both employ participles, i.e., verbs that lack tense but exhibit nominal properties. Both prohibit nominative subjects. Therefore, it will be argued that relative clauses with genitive subjects are reduced relatives.

There exists, however, one difference between relative clauses with genitive subjects and standard reduced relatives. Only the former permits non-subject relativization. It will be argued that reduced relatives are headed by a NP and that the difference in permitting genitive subjects is caused by a difference in the case licensing mechanisms within this NP. Only if N can license structural genitive case can a language have relative clauses with genitive subjects.

The verb in reduced relatives lacks tense. If the finite/non-finite distinction is based on the presence of tense, then reduced relatives are non-finite clauses. Furthermore, there are no non-finite free relatives. Thus, reduced relatives must be headed relatives. Finally, reduced relatives cannot be appositives. Appositives are full clauses. Thus, reduced relatives can only be restrictive relatives. In certain contexts, however, reduced relatives permit another reading. They can receive Free Adjunct interpretations. This is because Free Adjuncts too are smaller than CP. Thus they depend on the matrix clause for their temporal interpretation. This can result in a reading according to which the events in the matrix and the adjunct clause co-occur, i.e., in a *when*-reading and in an *if*-reading if the matrix clause contains a modal. The reading that is always available to reduced adjunct clauses is the *because*-reading, which as a default is the most salient way for the adjunct to establish a logical connection to the matrix clause.

Acknowledgements

It is a well-known fact that most linguists have read more acknowledgements than theses. This makes writing the acknowledgements almost scarier than writing the thesis itself partially maybe because we know what is expected from a good thesis but we don't really know what people look for in acknowledgements that makes them the most read part of a thesis. Now it is my turn to write my acknowledgements and I can only hope that I will not disappoint the reader. In good old fashion I will start by thanking my thesis advisors.

Rajesh Bhatt once called Sabine 'a force of nature'. For more than a year now I've been breaking my head trying to find a better way to describe her. There is none. Sabine really has an energy level that can make one dizzy and an enthusiasm for linguistics that is truly contagious. I benefited from Sabine in many ways: from her dedication as a teacher and advisor; from her ability to see the true core of the problem and to ask the 'right' questions; from her extensive knowledge; from her enthusiasm for linguistic problems that even got me interested in topics I originally considered boring; from her relentless criticism; from her insistence that I should work on a variety of topics instead of just one to be more well-rounded; from her generosity with her time, from her energy that dragged me along when I was about to give up; from her advice for all linguistic and non-linguistic problems I had. I could not have done it without Sabine.

David is no less of an outstanding teacher and advisor than Sabine. Anybody who has ever heard one of his lectures or met with him for an appointment will confirm that. I had the luck to have him as my teacher for the 'Intro to Syntax'. Much of my enthusiasm for syntax has its roots there. What makes David unique is his amazing creativity in finding original and interesting solutions for linguistic puzzles. Many times I went to his office thinking that I had viewed the problem from every possible angle and had considered every possible solution and I was always wrong. David simply has an endless supply of new ideas, which was of great advantage to this and other projects of mine.

There are no words that could do justice to what Ken Hale means to all of us as a person and as a linguist. I feel honored to have been given the chance to work with him.

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Ken has influenced my life in many ways. He taught me fieldwork. He taught me the syntax of less-familiar languages. He taught me to enjoy the differences between languages that make them unique as much as enjoying the search for their similarities. He challenged me and my theories in so many ways, the least of which was to come up with (counter-) examples from languages that I didn't even know exist. It is because of Ken that I became interested in less-familiar languages, and it is because of Ken that I started and could start working on them. This thesis deals almost exclusively with less familiar and endangered languages. Without Ken this thesis would not exist.

I am also very much indebted to all my other teachers at MIT: Noam Chomsky, Michel de Graff, Kai von Fintel, Danny Fox, Morris Halle, Irene Heim, Alec Marantz, Shigeru Miyagawa, Wayne O'Neil, Norvin Richards, Michael Kenstowicz, and Cheryl Zoll. I have greatly benefited from their advice, knowledge, and patience in many appointments, classes, and reading groups.

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When Sabine came to MIT in 1997, she brought three of her students from UPenn with her: Rajesh Bhatt, Dave Embick, and Roumi Izvorski. Lucky for me they all have worked on topics that are immediately relevant to this thesis. And lucky for me they have

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Abbreviations

A	-	accusative case
Abl	-	ablative case
aor	-	aorist
aux	-	auxiliary
C	-	complementizer
cop	-	copula
D	-	dative case
det	-	determiner
decl	-	declarative morpheme
dim	-	diminutive
f	-	feminin gender
fut	-	future tense
G	-	genitive case
imp	-	imperfective aspect
inf	-	infinitive
loc	-	locative
m	-	masculine gender
n	-	neuter gender
N	-	nominative case
Nzr.	-	nominalizer
pl	-	plural
pas	-	passive
poss	-	possessive morpheme
prf.	-	perfective aspect
prog	-	progressive aspect
prs	-	present tense
prt	-	participle
ppl	-	participializer
pst.	-	past tense
sg	-	singular
stat	-	stative
sub	-	subordinator
top	-	topic
1, 2, 3	-	person

Chapter I

Introductory Remarks

1 Current State of Knowledge

Relative clauses have been under close theoretical scrutiny ever since the late 1960s. This research has identified a variety of relative clauses with different properties. It has also provided us with the tools to classify and cross-classify these relatives. According to our current state of knowledge, the following classifications and cross-classifications hold.

(1)

Relative Clauses

Headed

Finite   Left Right Internal   Non-finite

Headless   Full   Reduced

? ?

Restrictive   Appositive
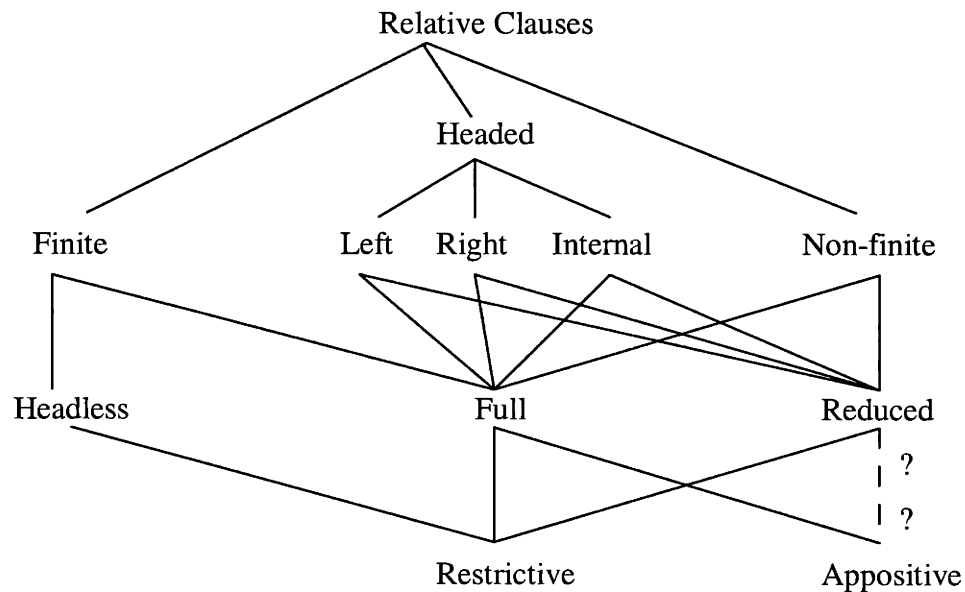
As we can see in (1), one criterion for the classification of relative clauses is the finiteness of the verb. Relative clauses can be either finite or non-finite. While there are no non-finite headless relatives, i.e., free relatives (cf. Izvorski, 2000), finite relatives can both be headed and headless relatives. If a relative clause does have a head, it can either precede or follow the relative clause or be internal to the relative clause. Both finite and non-finite relatives can be full clauses (clauses that project up to CP). They differ,

however, in their ability to be reduced clauses (clauses that do not project up to CP and permit only subject-relativization). Only non-finite relatives can be reduced relatives. Finally, full relatives can be interpreted either as restrictives or as appositives (non-restrictives). As of yet, it is unclear what the status of reduced relatives with respect to the restrictive-appositive distinction is.

Without doubt, the typology in (1) is far from being complete. For example, one of the current topics of debate in the research on relative clauses is whether or not they do involve head raising (for the head-raising analysis cf. among others Brame 1968, Schachter 1973, Vergnaud 1974, Kayne 1994, Bhatt 1999; for the head-external analysis cf. among others Quine 1964, Montague 1974, Partee 1975, Chomsky 1977, Jackendoff 1977).[1] This could lead to a further (cross-) classification of relative clauses according to whether they employ head raising or not. In addition, various differences between relative clauses crosslinguistically that might contribute to the further refinement of the typology in (1) have as of now received only little attention.

One of these differences concerns the case marking on the subject of the relative clause. In the more well studied languages like, for example, English or German, full relative clauses have the choice between subject and non-subject relativization. When the subject is not relativized, i.e., remains inside the relative clause, however, it always bears nominative case. Reduced relatives, on the other hand, always enforce subject relativization. They cannot have subjects inside them. Finally, in certain less familiar languages like Turkish or Hiaki (Uto-Aztecan), relative clauses can relativize non-subjects, but when they do the subject inside the relative clause bears genitive and not nominative case. The goal of this thesis is to provide an analysis for these relative clauses and to determine their place within the typology of relative clauses in (1).

Various accounts have been offered of relative clauses with genitive subjects in particular languages. Attention has focused for example, on *ga-no* (nominative-genitive) conversion in Japanese relatives (Nakai 1980, Watanabe 1992, Ochi 1999, Miyagawa 1993), the *-(y)AN/-DIK* (subject versus object relative marker) alternation in Turkish prerelatives (Underhill 1972, Barker, Hankamer, & Moore 1990, Kornfilt 1984, 1991,

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[1] The head-raising analysis has also been termed the head-internal analysis in the literature. Throughout this thesis we will use the term head–raising analysis in order to avoid a potential confusion between this way of deriving relative clauses and relatives that have overt internal heads, i.e., true head-internal relatives.

1997a/b, 2000), and the *–me/-u* (subject versus object relative marker) alternation in Hiaki (Lindenfeld 1973, Escalante 1990, Martinez & Langendoen 1996). These studies, however do not attempt to account for the typological properties of relative clauses across languages.

Thus, while descriptive knowledge has been gained of the characteristics of relative clauses with genitive subjects in particular languages, we still do not understand their cross-linguistic properties either empirically or theoretically. Our study is timely in this regard – it can build on the knowledge gained from the previous investigation of particular languages to enhance our understanding of the cross-linguistic characteristics of relative clauses with genitive subjects.

2 Dissertation Outline and Summary
2.1 Chapter 2: Relative Clauses with Genitive Subjects

The goal of this chapter is to determine the place of relative clauses with genitive subjects in the typology of relative clauses in (1) as well as the questions that an account of relative clauses with genitive subjects must answer. To this end, we will survey relative clauses with genitive subjects in a variety of languages. We begin with a discussion of whether relative clauses with genitive subjects are full or reduced relatives.

Full relatives typically exhibit nominative subjects, which is obviously not the case for relative clauses with genitive subjects. On the other hand, relative clauses with genitive subjects share a variety of properties with reduced relatives, i.e., with relative clauses that are smaller than CP and typically enforce subject-relativization. First, both do not permit relative pronouns and the complementizers used in sentential complementation. Second, both employ non-finite verbs. In particular, they employ participles that bear nominal inflection, i.e., the type of inflection that is typical for adnominal modifiers like, for example, adjectives. Third, neither reduced relatives nor relative clauses with genitive subjects license nominative case on their subject position. Relative clauses with genitive subjects differ from reduced relatives, however, in that the

former but not the latter permits non-subject and non-local relativization. We assume that this is because relative clauses with genitive subjects but not reduced relatives (as in, for example, English) can somehow use genitive case to 'fill in' for the missing nominative case on the subject.

If relative clauses with genitive subjects are reduced relatives, it follows from the classification in (1) that they are non-finite relatives and that they cannot be free (headless) relatives.[2] They must be headed relatives. Hence, the next question we will address in chapter 2 is whether they can be right-headed (prerelatives), left-headed (postrelatives), and internally-headed relative clauses. Indeed all three patterns are attested. Prerelatives with genitive subjects can be found in (for example) Turkish, Mongolian, and Japanese. Postrelatives with genitive subjects are attested in (for example) Hiaki and Toba Batak. Finally, Japanese also exhibits internally-headed relatives with genitive subjects.

The vast majority of relative clauses with genitive subjects that we investigate here are, however, prerelatives (right-headed relatives). Thus the question arises whether it might be the case that all prerelatives are relatives with genitive subjects. The answer to this is negative. Japanese and Korean have prerelatives with nominative subjects. In addition, Japanese also has prenominals with genitive subject. Thus, Japanese provides an ideal testing environment for the hypotheses about full clauses with nominative subjects versus reduced clauses with genitive subjects.

Last but not least, we will address the issue of what the status of relative clauses in languages without overt case marking is. Do they require the relative clause to be a full relative, or do they permit reduced relatives? And if they permit reduced relatives are these relatives restricted to subject relativization or not? We will see that languages without overt case marking permit both options. Their relative clauses can either be reduced relatives or full relatives. An example of the former is Navajo, and an example for the latter is Chinese.

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[2] As for the finite non-finite distinction we will assume that it is made based on the presence of tense. In other words we assume that tensed verbs are finite whereas non-tensed verbs are non-finite. It is in this sense that the verb of a reduced relative, i.e., the participle is non-finite. As we shall see later on, however, there are only very few cases where the verb of a reduced relative can be infinitival.

From the discussion in this chapter it follows that an account of reduced relatives including relative clauses with genitive subjects has to provide an explanation as to why these structures prohibit relative pronouns, complementizers, tensed verbs, and nominative subjects. Furthermore, it needs to explain why the participle in reduced relatives, including those with genitive subjects, exhibits nominal properties, i.e., inflects like a nominal category. Finally, this account must explain why in, for example, Turkish and Hiaki but not in English or German, reduced relatives can have genitive subjects and how this relates to the fact that in German and English but not in Turkish and Hiaki reduced relatives subject- and strictly local relativization is enforced.

2.2 Chapter 3: A Theory of Reduced Relatives

The aim of this chapter is to develop an account that provides a satisfying answer to all of these questions. We will approach this task by first considering previous analyses of standard reduced relatives. Based on arguments presented in Bhatt (1999) (and references cited therein) we will argue that reduced relatives including relative clauses with genitive subjects are smaller than CP and that they involve a head-raising analysis. In particular, we will argue that reduced relatives do not project up to the functional level that hosts tense (IP/TP). This explains the lack of relative pronouns and complementizers in these relatives. Furthermore, if the presence of T is a prerequisite for nominative case licensing, this analysis also explains why reduced relatives cannot exhibit nominative subjects.

In explaining the nominal properties of the participle in reduced relatives we will follow a proposal in Iatridou, Anagnostopoulou & Izvorski (2000) that is based on a suggestion by Svenonius (p.c.). They capture the fact that in reduced relatives only those perfect participles are acceptable which in full-blown perfects combine with auxiliary *BE,* but not those which combine with *HAVE* by postulating a nominal projection above PerfP and below the projection whose head hosts *BE.* The head of this projection can incorporate into the head hosting *BE* yielding auxiliary *HAVE* (cf. Kayne, 1993). In this case the participle remains in PerfP and does not exhibit nominal agreement (cf. (2), option a). When the nominal head does not incorporate into *BE,* however, it is the

participle that raises and incorporates into the nominal head (cf. (2), option b). As a result it exhibits nominal agreement.

(2)
```
              /\
         BE        NP
                  /\
  option a   N        PerfP
                     /\
              Perf        AspP
 option b                /\
                              VP
```
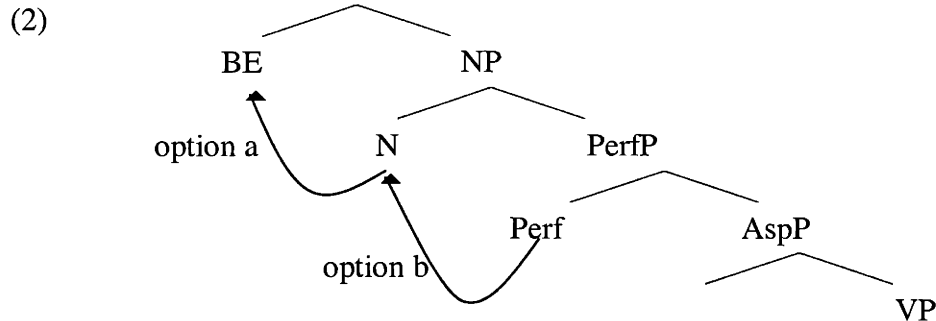
Following Iatridou, Anagnostopoulou and Izvorski (2000) we argue that reduced relatives project only up to this nominal head, N, presumably because reduced relatives must be nominal. Because the head hosting *BE* is missing N cannot incorporate into it to create *HAVE*. Thus only perfect participles combining with *BE* are well formed. In reduced relatives the participle always incorporates into N. This explains the nominal inflection on the participle in reduced relatives.

That reduced relatives are headed by N, i.e., a NP, is crucially linked to the fact that not all reduced relatives can be relative clauses with genitive subjects. We will argue that only those languages in which structural genitive case is licensed within NP can have relative clauses with genitive subjects. This correctly separates the languages with reduced relatives in which subject relativization is enforced from those that can have reduced relatives with genitive subjects and hence permit non-subject and non-local relativization. In other words, non-subject and non-local relativization in reduced relatives are only possible if the subject of the relative can get (genitive) case.

Nominative case is not licensed on the subject of the reduced relative because of the lack of T. In order to avoid a *Case Filter* violation the subject thus can do one of two things. It can either relativize and become the head noun of the relative clause construction as which it will receive case from the verb of the superordinate clause, or it can attempt to get case from the nominal that heads the reduced relative. The former is a successful strategy for any language with reduced relatives. The latter, however, is

possible only in those languages in which structural genitive case is licensed inside the NP.

In the remainder of the chapter we will relate our analysis to the long standing debates on –ga/-no conversion in Japanese and the choice of -(y)AN versus –DIK in Turkish. We will also consider reduced relatives in ergative-absolutive languages. As we will see, our analysis provides a test with respect to the question whether it is absolutive or ergative case that is licensed in SpecIP/TP.

2.3 Chapter 4: Reduced Relatives and Appositives

This chapter discusses the range of interpretations that reduced relatives including relative clauses with genitive subjects permit. In other words, in this chapter we address the question whether reduced relatives can be both restrictives and appositives. We will adopt the *Main Clause Hypothesis* (cf. among others Ross 1967, Emonds 1979, Thompson 1971, Sells 1985a, 1985b, and Demirdache 1990) for appositives according to which appositives are independent, i.e., full clauses. Hence we predict that reduced relatives cannot be appositives.

We start by reviewing the syntactic properties of appositives. Appositives differ from restrictives in a variety of properties. Restrictives but not appositives must have a NP as their antecedent and can have a quantifier as their antecedent. Furthermore, only restrictive relatives permit a quantifier in the matrix clause to bind a pronoun inside the relative clause, can have parasitic gaps inside them, and are sensitive to Weak Crossover violations.

We will use the final three properties to test whether reduced relatives with genitive subjects on proper names do exhibit the behavior of restrictives or appositives. We will conduct these tests in Turkish, a language that has both relative clauses with nominative and relative clauses with genitive subjects and thus provides an ideal control environment for our findings. As we will see relative clauses with genitive subjects, even though they modify proper names, behave in every respect like restrictive relatives.

Relative clauses with nominative subjects that modify proper names, on the other hand, behave like typical appositives.

We then proceed to test the available interpretations for reduced relatives with genitive subjects on proper names. In general, even if they modify proper names, these relatives cannot receive an appositive interpretation. The only reading that is generally available to all reduced relatives with genitive subjects is the restrictive reading. In certain contexts, however, the participial clauses that can be reduced relatives permit one further interpretation. They can be reanalyzed and interpreted as Free Adjuncts or Absolutes.

Specifically, in the context of a modal in the superordinate clause participial clauses with genitive subjects can be interpreted as *if*-clauses if they contain a stage level predicate and as *because*-clauses if they contain an individual level predicate. If the superordinate clause contains an adverb of frequency these clauses can be interpreted as *when*-clauses if they contain a stage level and as *because*-clauses if they contain an individual level predicate. The participial clauses under consideration can be Free Adjunct, however, only if they contain a gap in subject position and modify a proper name in the subject position of the superordinate clause.

This is because Free Adjuncts involve control of a PRO argument. In participial clauses with a gap in object position PRO would have to be located in object position, i.e., in a lexically governed position. This, however, is incompatible with the requirements on PRO. Hence participial clauses with a gap in object position cannot be Free Adjuncts they can only be (restrictive) reduced relatives. Participial clauses with a gap in subject position, on the other hand, can contain PRO because in these clauses the gap and therefore PRO is in subject position. When these clauses modify an object/non-agent (non-subject), however, they cannot be Free Adjuncts because Free Adjuncts require agent-control. They, again, can only be (restrictive) reduced relatives. Hence only those participial clauses that have a gap in subject position and modify subjects/agents in the matrix clause can be both reduced relatives and Free Adjuncts.

After having established that reduced relatives with genitive subjects cannot be appositives we will proceed to show that the same holds for reduced relatives that enforce subject relativization as well including a discussion of potential counterexamples. Full

relatives, i.e. relative clause with nominative subjects, on the other hand, will be shown to be able to be appositives. Finally, in the remainder of the chapter we will discuss the behavior of relative clause in languages without overt case marking, i.e., reduced relatives for which it cannot be easily determined whether they contain a subject marked for possessive (genitive) case.

2.4 Chapter 5: Unsolved Questions

In this chapter we will address the questions why Free Adjuncts can be interpreted as *if-*, *when-*, and *because-*clauses and why in the appropriate environment the participial clauses that can be reduced relatives permit the same interpretations. Our discussion will focus mainly on the question of how the *if-*reading, i.e., the conditional reading is obtained. To this end we will conduct a comparison between Free Adjuncts and Navajo conditionals and conditional counterfactuals.

In well investigated languages like, for example, English, French, or German counterfactuals contain past tense morphemes in both their antecedent (if-clause) and their consequent (main clause). According to Iatridou (2000) it is this past tense morphology that contributes the counterfactual interpretation. In particular she argues that the past tense is an exclusive function over either times or worlds. When it ranges over times it yields an interpretation according to which the topic time excludes the time of the utterance, i.e., it results in true past tense. When it ranges over worlds the meaning it contributes is that the set of worlds we talk about excludes the set of speaker worlds, i.e. it yields a counterfactual interpretation.

Navajo counterfactuals differ from Germanic or Romance (and a variety of other) counterfactuals in that they contain past tense morphology only in the consequent. We will argue that this is because Navajo *if-clauses* are smaller than CP. Furthermore, following previous work on tense (Partee 1973, 1984; Enç 1987; Higginbotham 1998) we will assume that tenses are anaphoric and that their interpretation is constrained by syntactic principles. In particular we will follow Enç (1987) in assuming that the tense

variable introduced by the verb must be bound by either a C- or I-head in its governing category.

If Navajo counterfactuals are smaller than CP the tense variable introduced by the verb in the antecedent cannot be bound by the C-head in its own clause, it must be bound by the past tense operator (C or I) in the consequent. Under this analysis past tense is present in both antecedent and consequent also in Navajo conditional counterfactuals. As in the counterfactuals investigated by Iatridou (2000) one layer of past tense in these constructions is always used to set up topic worlds that exclude the worlds of the speaker.

Free Adjuncts behave like the antecedent of a Navajo counterfactual, i.e., these clauses are smaller than CP. The same is, naturally, true for reduced relatives. Hence both types of clauses depend on the matrix C and I heads for the binding of their tense variables. This process can result in either an *if-* or a *when*-reading. The *if*-reading is the preferred reading in the presence of a modal because of the function modal operators typically perform in conditionals and counterfactuals: Modality is a necessary ingredient for counterfactuality. For the same reason the *if*-reading is absent if the matrix clause contains only a verb in the past tense but no modal operator. The *because*-reading is present in all environments. It will be proposed that it is the default reading for reduced adjunct clauses. It can be overridden, however, if the matrix clause contains an element that dictates otherwise.

Chapter II

Relative Clauses with Genitive Subjects

1 Introduction

Relative clauses come in a variety of shapes and meanings. They differ, for example, in the presence of an overt head noun. This distinguishes between free relative clauses and headed relative clauses. Similarly, with respect to the position relative to the head noun we distinguish between prenominal relative clauses (prerelatives), postnominal relative clauses (postrelatives) and head internal relative clauses (head-internal relatives). Depending on the finiteness of the relative clause verb we separate finite from non-finite relative clauses. Regarding the amount of structure internal to the relative clause we differentiate between full and reduced relatives. Finally, with respect to their interpretation we distinguish between restrictive and non-restrictive (appositive) relative clauses.

Various relations obtain between these types of relative clauses. To name just a few, there are no non-finite free relatives and free relatives can also not be appositive (cf. Izvorski 2000). Reduced relatives are non-finite (participial or infinitival) relatives and head internal relatives are found only in languages where we expect to find prerelatives, i.e., in languages that are (at least partially) head-final (cf. Cole, 1987).

This thesis is concerned with the syntax of relative clauses with genitive subjects. The first question we have to answer in investigating this type of relative clause is what its place is in the typology of relative clauses. In other words, are relative clauses with genitive subjects finite or non-finite; reduced or full relatives; postrelatives, prerelatives, or head-internal relatives; restrictive and/or appositive relatives?

2 Full Relatives or Reduced Relatives

Let us start by considering whether relative clauses with genitive subjects are full or reduced relatives. The distinction between full and reduced relatives is made based on the amount of internal structure the relative clause involves. As their names already indicate, full relatives are full clauses (CPs), i.e., they involve the same structure found in main clauses whereas reduced relatives contain less structure, i.e., do not project up to the CP level (cf. among others Bhatt 1999). If, however, full relatives behave like main clauses, we expect their subjects to bear nominative and not genitive case. This is because the functional head that is responsible for nominative case licensing is present in full clauses, and thus also in full relatives. Hence, relative clauses with genitive subjects cannot be full relatives.[3] They must be reduced relatives. We therefore propose the following generalization:

(1) Relative Clauses with Genitive Subjects are Reduced Relatives

Naturally, we have to test now whether there are other indications that relative clauses with genitive subjects are reduced and not full relatives, i.e., whether relatives with genitive subjects pattern in relevant aspects of their behavior with reduced relatives. This is the aim of the following section. Note that throughout this thesis we will refer to relatives that have traditionally been identified as reduced relatives (reduced relatives without overt subjects) as *Standard Reduced Relatives*. We will use the term *Reduced Relative* to refer collectively to these relatives as well as to relative clauses with genitive subjects.

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[3] Note that we could alternatively assume that full clauses come in two varieties, one with nominative subjects and the other with genitive subjects. This has indeed been proposed in the literature (cf. Hiraiwa 2001). We will neglect this option for now. A criticism of Hiraiwa's account, in which clauses with genitive subjects are analyzed as a special case of full clauses, is provided in chapter 3, section 4.1.2. In addition, we will see shortly that aside from the issue of the case marking on the subject there are many other reasons for arguing that relative clauses with genitive subjects are indeed reduced relatives.

2.1 Standard Reduced Relatives

2.1.1 Standard Prenominal Reduced Relatives

Standard prenominal reduced relatives are found in English and German. As we can see in the examples (2) and (3), standard prenominal reduced relatives prohibit relative pronouns and complementizers.

(2)   a I saw the [(*which/*that) recently released] movie.
        b Mary loves the [(*who) passionately singing] man over there.

(3)   a Ich sah den [(*der/*welcher) in seinem Büro arbeitenden] Mann
          I saw the   the/who   in his   office working   man
          'I saw the man who is working in his office.'

        b Das [(*das/welches) heute angekommene] Paket   wurde erwartet.
          The the/which   today arrived   package was expected
          'The package which arrived today was expected.'

As is typical in standard reduced relatives the verbs of the prenominal reduced relatives in (2) and (3) are severely reduced in tense. They are participles, i.e., non-finite. The participle in standard reduced relatives differs in an important aspect of its behavior from the participles used in main or other subordinate clauses. Consider the present participle in (4a) and the past (perfect) participle in (4b).

(4) a Ich begrüsste ihn   stehend.
        I-N greeted   him-A standing
        'I greeted him standing.'

     b Das   Haus   wurde im   letzten   Jahrhundert gebaut.
         The-N house-N was   in-the last   century   built
         'The house was built in the last century.'

As we can see the participles in (4) do not exhibit any form of agreement with either the subject or the object of the clause they are in. In standard reduced relatives however, the participle does agree with the (relativized) subject of the relative clause, which acts as the head noun, in gender, number, and case.

(5)   a Ich kenne den   [auf dem Stuhl stehend-**en**]   Mann.
          I   know the-3-m-A on the chair standing-3-m-A man-m-A
          'I know the man who is standing on a chair.'

    b Sie wohnt in einem   [im letzten Jahrhundert gebaut-**en**]   Haus.
          She lives in a-3-n-A in the last century   built-3-s-n   house-n-A
          'She lives in a house that was built in the last century.'

In this respect the participle behaves like a category that is marked for the feature [+N] (pronoun, adjective, etc.), which in German inflect for gender, number, and case of the head noun, i.e., which exhibit nominal (declension) properties.[4] Moreover, there are three different declension classes for the German adjective. The *weak declension* applies if the determiner in DP is a strong quantifier. The mixed declension applies if the determiner in DP is a weak quantifier and the strong declension applies if the determiner within DP is phonetically covert.

(6)

	weak	*mixed*		*strong*
N	das gut-**e** Mehl	ein	gut-**es** Mehl	gut-**es** Mehl
G	des gut-**en** Mehls	eines	gut-**en** Mehls	gut-**en** Mehls
D	dem gut-**en** Mehl	einem	gut-**en** Mehl	gut-**em** Mehl
A	das gut-**e** Mehl	ein	gut-**es** Mehl	gut-**es** Mehl
	'the good flour'	'a good flour'		'good flouor'

The participial verb in the reduced relative also displays these different agreement patterns in the appropriate contexts. Consider the contrast between the weak declension of the participle in the accusative case in (7a) and the mixed/strong declension in (7b) as well as the contrast between the weak/mixed declension of the participle in the dative case in (7c) and the strong declension in (7d).

(7) a Ich kaufe das   [in Suhl hergestellt-**e**]   Mehl
       I   buy   the-n-A in Suhl   produced-3-n-A flour-n-A
       'I buy the flour that was produced in Suhl.'

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[4] We will henceforth call the properties that are the result of a lexical category having the feature [+N] as nominal properties. Note that this does not mean that these categories are nouns. All it means is that they have noun-like instead of verb-like properties, i.e., that, for example, they are inflected for case on a par with nouns and not for tense on a par with verbs.

b Ich kaufe ein/Ø   [in Suhl hergestellt-**es**]   Mehl
   I   buy   a-n-A   in Suhl produced-3-n-A flour-n-A
   'I buy a/Ø flour that was produced in Suhl.'

c Dem/einem   [in Suhl hergestellt-**en**]   Mehl-n-D ist nicht zu trauen.
   The-n-D/a-n-D   in Suhl produced-3-n-D   flour-n-D is not   to trust
   'One can't trust the/a flour that is produced in Suhl.'

d [in Suhl hergestellt-**em**]   Mehl ist nicht zu trauen.
   in Suhl   produced-3-n-D flour is not   to trust
   'One can't trust flour that is produced in Suhl.'

Thus we conclude, that standard prenominal reduced relatives, specifically their participial verbs, have nominal properties. We will see later on that this is true for all participles irrespective of whether they occur in reduced relatives or not.

Finally, standard prenominal reduced relatives are limited to matrix subject relativization. Only the matrix subject can be relativized (8).

(8)   a der [die   Oper liebende] Mann
            the the opera loving   man
            'the man who loves the opera'

         b *die [der Mann liebende] Oper
             the the man   loving   opera
            'the opera which the man loves'

         c die [e_i demKind   [daß die Erde rund ist] erklärende] Lehrerin$_i$
            the   to the child that the earth roundis telling   teacher
            'the teacher who is telling to the child that the earth is round'

         d *die [die Lehrerin   demKind   [daß t_i rund ist] erklärende] Erde$_i$
             the the teacher   to the child that   round is telling   earth
            'the earth which the teacher is telling to the child is round'

That standard (prenominal) reduced relatives enforce subject relativization has been linked to the fact that in these clauses the subject position does not receive case (cf. Kayne, 1994; Bhatt, 1999).[5] The fact that only the matrix subject can be relativized

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[5] Once the subject is relativized, however, it can get case from the matrix clause verb outside the reduced relative, i.e., in its head noun position.

follows straightforwardly from this assumption. Any derivation in which a constituent other than the matrix reduced relative subject is relativized leaves behind a subject that has no case inside the reduced relative. Thus, the result of non-subject relativization in reduced relatives is a *Case Filter* violation that causes the derivation to crash. Relativization of the subject, on the other hand, prevents such a violation. This is because once the subject is relativized it can get case from the verb of the superordinate clause.

2.1.2 Standard Postnominal Reduced Relatives

In many languages standard postnominal reduced relatives have the same properties as (German or English) prenominal reduced relatives. They do not permit relative pronouns or complementizers.

(9)   *English*

    a   A man [(*who/*that) working for John] visited us yesterday.
        We have long been expecting the book recently released by Cascadilla Press.

    Italian

    b   Una donna [(*che) invitata da Gianni]   ci ha visitati   ieri.
        A woman (who)   invited-prf.part by John us has visited yesterday.
        'A woman invited by John visited us.'

    Spanish

    c   Las chicas [(*que) llegadas a la estacion] son mis hermanas.
        The girls   (who) arrived-prf-part   at the station are my sisters
        'The girls who have arrived at the station are my sisters.'

Furthermore, as the data in (9) show, standard postnominal reduced relatives are reduced in tense. Their verb is participial, i.e., non-finite. In addition, in standard postnominal reduced relatives, as in their prenominal counterparts, only the matrix subject can be relativized. Both non-subject relativization (10a/11a) and relativization of a non-matrix subject (10b/11b) are ungrammatical.

(10) *English*

    a   *The $dean_i$ [the teacher visiting t_i] listened carefully.

    b   *The $planet_i$ [the teacher explaining [that t_i is round]] is ours.

(11) *German*

    a   Der $Dekan_i$ [der Lehrer besuchend t_i] hörte   aufmerksam zu.
          the dean   the teacher visiting   listened carefully   to
          'The dean which the teacher visited listened carefully'

    b   *Der $Planet_i$ [der Lehrer erklärend   [daß t_i rund ist]] ist unser Planet.
          the planet the teacher explaining that   round is   is our   planet
          'The planet that the teacher explains is round is our planet.'

Finally, postnominal reduced relatives also have nominal properties. In Spanish, for example, the perfect participle in the postnominal reduced relative exhibits subject agreement (12a).[6] This agreement cannot show up on the participle in a regular perfect (12b). Like the participle in German prenominal reduced relatives, in Slovenian the participle of the postnominal reduced relative is marked for case (13a). Again, this marking does not occur on these participles outside of reduced relatives (13b).[7]

(12) *Spanish*

    a   Las chicas [recen   llegadas   a la estacion]   son mis hermanas.
          the girls   recently arrived-f-pl   at the station   are   my   sisters
          'The girls who have just arrived at the station are my sisters.'

    b   Las chicas han   llegado/*-as
          the girls   have   arived/-f-pl
          'The girls have arrived.'
          (from Iatridou, Anagnostopoulou, and Izvorski (2000))

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[6] In general in almost all auxiliary selecting languages reduced relatives can only employ those perfect participles that combine with auxiliary BE but not those that combine with HAVE. Spanish is an exception. It can use perfect participles that combine with HAVE in reduced relatives although it is restricted in the sense that it can do so only with the perfect participles of unaccusative verbs. We will return to the question why perfect participles combining with HAVE are illegitimate in reduced relatives in chapter 3. An explanation for the special status of the perfect participles of unaccusative verbs in Spanish , however, is beyond the scope of the current investigation. We will leave this problem for further investigation.

[7] The reason why nominal agreement does not show up overtly on the participle in full-blown perfects could be that in these cases the nominal marking the participle would have to bear is nominative case. Across languages this case tends to be marked by a phonetically non-overt morpheme, i.e., it is not overtly marked. Hence we do in fact not expect this marking to surface on the participle in full-blown perfects. We will return to the issue whether participles outside reduced relatives bear nominal marking, i.e. have nominal properties in chapter 3.

(13)   *Slovenian*

a   Pomahal sem gospej,   prispeli   danes zjutraj.
    waved   am lady-f-sg-D arrived-pst.prt.-f-sg-D today morning
    'I waved to the lady who arrived this morning.'

b* Pomahal sem gospej,   ki je prispeli   danes zjutraj.
    waved   am lady-f-sg-D that is arrived- pst.prt.-f-sg-D today morning
    'I waved to the lady who arrived this morning.'

c   Prodal sem knjigo,   ki je bila kupjena   preko interneta.
    sold   am book-f-sg-A that is been bought-pas.ptc.-f-sg-N on   internet
    'I sold the book that was bought on the internet.'

d* Prodal sem knjigo,   kupjen-a   preko interneta.
    sold   am book-f-sg-A bought-pas.ptc.-f-sg-A on   internet
    'I sold the book bought on the internet.'
    (from Marvin, 2001)

To summarize, standard reduced relatives contrast with *Full Relatives*, which employ relative pronouns or complementizers, and finite verbs and are not restricted to subject relativization (their subject does receive nominative case from inside the relative clause). The table in (14) summarizes the main crosslinguistic properties of standard reduced and full relatives.

(14)

	Reduced RC	Full RC
a. relative pronouns used	No	Yes
b. complementizer used in sentential complementation	No	Yes
c. RC verb reduced in tense (non-finite/participle)	Yes	No
d. nominal characteristics (declension of the participle)	Yes	No
e. subject position does not receive nominative case	Yes	No

2.1.3 Relative Clauses with Genitive Subjects

Let us now consider to what extent relative clauses with genitive subjects behave like standard reduced relatives. We will do so by comparing the properties of Turkish relatives with genitive subjects with the properties of standard reduced relatives.

Turkish exhibits both pre- and postnominal relative clauses. Its postrelative clause construction is borrowed from Persian and is not commonly used. Prerelatives with genitive subjects are dominant. Like standard reduced relatives they permit neither relative pronouns nor a complementizer.

(15)   a   [Meltem-in gör-düğ -ü]   yılan
             Meltem-G see-DIK-3poss snake

        b *[Meltem-in gör-düğ -ü   ki] yılan
              Meltem-G see-DIK-3poss that   snake
              'the snake that Meltem saw'

Also as in standard reduced relatives the verb of the prerelative in Turkish is non-finite. It is a participle that has the choice between taking one of two suffixes, -AN or DIK. The –AN strategy is used for subject relativization (16a), for relativization of a genitive DP (possessor) on the subject (16b) or on a locative or directional phrase in sentences with indefinite subjects (16c).[8] It is also used for relativization out of sentential subjects (16d), and for relativization on 'subject-less' sentences such as impersonal passives (16e). The suffix -AN is not followed by any agreement morphology.

(16)   a [[gap] kabağ-ı   yi-yen] yılan
                    squash-A   eat-AN snake
             'the snake that ate the squash'

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[8] Indefinite subjects in Turkish have to appear in the immediate preverbal position. Unlike definite subjects, they cannot bear the genitive case that is usually licensed on the subject position of a relative clause (cf. below). Instead indefinite subjects surface without overt morphological case marking. This led to the assumption that indefinite subjects in Turkish do not bear case at all but are bare NPs that are incorporated into the verb (cf. among others Dede 1986, Enç 1991, Erguvanlı 1984).

b [[[gap] yılan -ı]   kabağ-ı   yi-yen] adam
        snake-poss   squash-A eat-AN   man
'the man whose snake ate the squash'

c [[[gap]   alt-ın-dan]   su   ak-an]   kapı
        bottom-poss-Abl   water   flow-AN   door
'the door under which water is flowing'

d [[[gap] kabag-ı   ye-diğ-i]   süpheli ol-an]   yılan
        squash   eat-DIK-3poss   doubtful be-AN   snake
'the snake which it is doubtful (that) ate the squash'

e [[gap]   sokağ-a   çık-ıl-an]   kapı
        street-D   exit-pass-AN   door
'the door that one exits to the street by'
(all examples from Hankamer & Knecht, 1976)

Typically, in DIK-relatives the relative clause verb, i.e., the participle, bears the suffix –DIK followed by a possessive suffix that agrees in person and number with the relative clause subject which bears genitive case (17b). As such DIK-relatives resemble possessive constructions in which the possessor bears genitive case and the head noun bears a possessive suffix agreeing with the possessor in person and number (17a).

(17)   a Hasan-ın   odas-ı
         Hasan-G   room-3poss
         'Hasan's room'

       b [Meltem-in   gör-düğ-ü]   yılan
         Meltem-G   see-DIK-3poss   snake
         'the snake that Meltem saw'

In general, the DIK-relativization strategy targets all constituents that are not targeted by AN-relativization. Specifically, it is used for object relativization (17b), relativization of a genitive NP on an object (18a), and relativization of constituents in sentential objects (18b).[9] Furthermore, it is also used for the relativization of constituents belonging to adverbial clauses (18c), and complex NPs (18d).

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[9] Note that the participial form of the verb in the sentential object *sandiğî*, 'believe' in (18b) also bears the suffix –DIK. The same can be observed in (17d) with verb of the sentential subject *yediğî*, 'eat'. This is

(18) a [yılan-ın [[gap] kabağ-ın-ı]   ye-diğ-i]   adam
         snake-G   squash-3poss-A eat-DIK-3poss   man
         'the man whose squash the snake ate'

      b [[Hasan-ın [gap] kabağ-ı   ye-diğ-in-i]   san-dığ-ı]   yılan
         Hasan-G   squash-A eat-DIK-3poss-A believe-DIK-3poss snake
         'the snake that Hasan believes ate the squash'

      c [biz-im [[gap] öl-düğ-ü   için]   üzul-düğ-ümüz]   adam
         we-G   die-DIK-sg-3poss because   sad-DIK-pl-3poss man
         'the man who we were sad because (he) died'

      d [ben-im [[gap] patlıcan-ı ye-dığ-ı]   söylentisin-e inan-dığ-ım]   adam
         I-G   eggplant-A eat-DIK-3poss rumour-D believe-DIK-1poss man
         'the man who I believe the rumour that ate the eggplant'
         (all examples from Hankamer & Knecht 1976)

The –DIK relativization strategy reveals another similarity between the standard reduced relatives and prerelatives. In standard reduced relatives the subject cannot receive nominative case. The same is true for the subjects in Turkish prerelatives. Instead of nominative they must bear genitive case. The difference between the standard reduced and prenominal relatives in Turkish, however, is that in the former the subject cannot receive any case at all whereas in the latter nominative is substituted with genitive.

Related to this is the fact that in standard reduced relatives, but not in Turkish prerelatives, relativization of the matrix subject is enforced. This is because in Turkish prenominal relatives, but not in standard reduced relatives, the relative clause subject can receive genitive as a substitute for the missing nominative case inside the relative clause. In standard reduced relatives, on the other hand, the subject cannot get any case inside the relative clause. Hence, it must be relativized in order to avaoid a *Case Filter* violation. In other words, it must move out of the relative clause into head noun position where it can get case from the verb of the superordinate clause. We will return to the issue of case on prerelative subjects in chapter 3. For now it suffices to note that Turkish relatives with

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because –DIK in Turkish is not only used in relative clauses but also functions as a 'subordination marker' in certain sentential complements. Like prerelatives factive sentential complements in Turkish are participial constructions. The participle verb in these complement clauses bears the suffix –DIK, which is followed by a possessive suffix. As in DIK-relatives the possessive suffix agrees in person and number with the subject of the complement clause which bears genitive case. Thus, there is a striking similarity between factive sentential complements and DIK-prerelatives.

genitive subjects share almost all properties of standard reduced relatives. This supports our hypothesis that relative clauses with genitive subjects are reduced relatives.

3 Prerelatives, Postrelatives, and Head-internal Relatives

In the previous section we have seen that relative clauses with genitive subjects behave like standard reduced relatives. We have also seen that standard reduced relatives can be either prerelatives or postrelatives. We now have to ask the question what positions relative clauses with genitive subjects can take with respect to their head noun and whether they exhibit properties of standard reduced relatives irrelevant of their positioning. To this end we will investigate relative clauses with genitive subjects in a variety of languages in the following sections. We will start with a discussion of prerelatives with genitive subjects

3.1 Prerelatives with Genitive Subjects
3.1.2 Mongolian

As we have already seen in the previous section, Turkish makes use of relative clauses with genitive subjects that occur in prenominal position. The same is true for Mongolian, which exclusively uses prerelatives. Like standard reduced relatives the Mongolian prerelatives lack any kind of relative pronoun or complementizer (cf. Binnick, 1979:89). Furthermore, the verb in Mongolian prerelatives is a participle (cf. Binnick, 1979:91). Compare the verb in the main clause in (19a) with the relative clause verb in (19b). (All examples in this section are taken from Binnick 1979)

(19)   a ene xüü   xotond   suu-ǰ   baj-na
           this boy-N in the town live-imp   is
           'This boy is living in the town.'

b [ene xüü-gijn   suu-ĭ   baj-x]   xot
  this boy-G   live-imp be-inf   town
  'the town in which this boy is living'

This too, patterns with the behavior of standard reduced relatives, which always exhibit non-finite verbs, i.e., participles.

With respect to the case on the subject position of the relative clause Mongolian prerelatives behave exactly like the Turkish prerelatives discussed above. When constituents other than the subject are relativized, the subject of the Mongolian prerelative bears genitive, i.e., non-nominative case (20). Again this correlates with the behavior of standard reduced relatives in which the subject position cannot receive nominative case.

(20)   minij   üz-sen   oxin
        I-G   see-prf   girl
        'the girl, who I saw'

As in Turkish prerelatives Mongolian prerelatives differ from standard reduced relatives with respect to the locality of relativization. In standard reduced relatives, relativization of the matrix subject is enforced, i.e., relativization is strictly local. Mongolian prerelatives, though, do not only permit object relativization (20) but also relativization of non-matrix constituents (21).[10] This is related to the fact that (unlike standard reduced relatives) Mongolian prerelatives allow the subject to substitute the missing nominative with genitive case.

(21)   Gerel-ijn Dendev üz-sen geĭ xel-sen ter xün-ijg   bid bas üz-sen
        Gerel-G   Dendev see-Prf geĭ say-prf the person-A we also see-prf
        'We also saw the man Gerel said that Dendev had seen.'

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[10] Note in (21) that as in Turkish, Mongolian complement clauses are built like relative clauses. Their subject bears genitive case and their verb is a participle.

3.1.3 Quechua

Quechua too uses prerelatives with genitive subjects. Like the standard reduced relatives, these clauses do not exhibit relative pronouns and complementizers. They are participial constructions, i.e., the verb of the prerelative is non-finite. It is reduced in tense and aspect (cf. (22)).

(22)   a Pay   qam-ta   maqa-shka-shu-nki.
             he   you-A   hit-prf-=>2-2
             'He hit you'

         b [Quam-ta   maqa-shu-q]   runa   sha-yka:-mu-n.
             you-A   hit-=>2-Nzr   man   come-imp-afar-3
             'The man who hit you is coming.'
             (from Weber 1989)

Furthermore, like Turkish, Quechua employs different participles for subject versus non-subject relativization. As we can observe in (22b), if a subject is relativized the participle is formed by the agentive nominalizer –*q*. If, on the other hand, a non-subject is relativized it is the past or passive participle formed by –*sqa* that is used. Consider the data in (23).

(23)   runa-q   qulqui-Ø   qu-sqa-n   wamai-man
        man-G   money-A   give-Nzr-3 woman-to
        'the woman to whom the man gave money'
        (from Lefebvre & Muysken 1988)

As in Turkish and Mongolian also in Quechua the subject of the prerelative can bear genitive case. In addition, also on par with Turkish, the verb in the object prerelative not only bears the nominalizer but is also marked with a possessive suffix, -*n*, that is in an agreement relation with the subject of the relative clause.[11] Object prerelatives in

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[11] The subject in Quechua object prerelatives, however, also has the choice to appear without an overt case ending, which usually indicates the presence of nominative case.

(1)   runa- Ø qulqui-ta   qu-sqa-n   wamai-man
          man   money-A   give-Nzr-3 woman-to
          'the woman to whom the man gave money'

Quechua thus resemble the possessive construction in which the head noun bears a possessive suffix that agrees with the possessor and the possessor is marked for genitive case (24).

(24)   naso-q   punku-n
         house-G door-3
         'the door of the house'

We can thus conclude that Quechua prerelatives with genitive subjects share significant properties with the standard reduced relatives. Both types of relative clauses contain participles, i.e. non-finite verbs that are reduced in tense and aspect, neither of them exhibit relative pronouns or complementizers, and neither exhibits nominative cased subjects.

3.1.4 Japanese

Japanese uses prerelatives and head-internal relatives. The subject in Japanese prerelatives can bear either nominative or genitive case. This phenomenon is called *ga-no conversion* and has received an extensive amount of attention in the literature. In other words, the example in (25a) can alternatively be realized as in (25b).

(25)   a   Mary-ga   aishiteiru   ototko-o mita.
              Mary-N   love-prs-prog. man-A saw
              'I saw the man who Mary loves.'

         b   Mary-no   aishiteiru   otoko-o mita.
              Mary-G   love-prs-prog. man-A saw
              'I saw the man who Mary loves.'

If the genitive in Quechua is a structural case and if Krause (1999) is correct in arguing that structural cases need not be overtly marked we can assume that *runa* in (1) does in fact bear genitive case. This is supported by the presence of the possessive suffix on the verb of the prerelative, which only appears in genitive constructions. The same overt/Ø alternation can be observed for the accusative in Quechua (cf. (22) & (23)).

In this section we are concerned with Japanese prerelatives with genitive subjects. We will discuss the prerelatives with nominative subjects in section 4 below.

Like standard reduced relatives, Japanese prerelatives cannot exhibit relative pronouns or the complementizer used in sentential complementation. However, unlike the verb in standard reduced relatives, and also unlike the verb in Turkish, Mongolian, and Quechua prerelatives discussed above, the verb in Japanese prerelatives always bears overt tense-marking even in relative clauses with genitive subjects. This seems to be evidence against our claim that all relative clauses with genitive subjects are reduced relatives.

There are, however, some observations to be made which cast doubt on the claim that the verbs in Japanese embedded clauses with genitive subjects are indeed finite.[12] First, as discussed in Hiraiwa (2001), genitive subjects are permitted only when the verb of the clause bears special inflectional morphology, i.e., appears in what is called the adnominal form (*Rentai-kei*). They cannot occur with the so-called end-form, which is used in clauses with overt complementizers, i.e., full clauses. We could take this to mean that clauses with genitive subjects are indeed nominalized clauses on a par with standard reduced relatives.

The morpho-phonological distinction between the adnominal and the endform in Japanese, however, is preserved only in the verbal adjective and the copula, which take *–na* as the adnominal form in relative clauses and *–da* as the end-form in full clauses.[13] Thus, nominative subjects are permitted with *–da* while genitive subjects are ungrammatical in clauses with this type of verbal morphology.[14]

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[12] Like Turkish, Japanese permits genitive subjects also in other types of subordinate clauses, i.e., in complement and adjunct clauses. Hence our claim that clauses with genitive subjects are reduced clauses extents to these clauses as well. In this regard it is of interest that none of the languages discussed here permits genitive subjects in main, i.e., full clauses. This further strengthens our hypothesis that genitive subjects can only be found in reduced clauses.

[13] It is not clear from Hiraiwa's discussion whether *–na* is exclusively an adnominal form or might be used as an end-form as well.

[14] Note that the examples in (26) and (27) contain complement clauses reather than relative clauses. They do, however, prove the same point, namely that unlike clauses with nominative subjects, clauses with genitive subjects cannot contain verbs using the end-form instead of the adnominal form and that likewise unlike clauses with nominative subjects, clauses with genitive subjects cannot have complementizer.

(26) a John-wa class-de Mary-**ga** ichiban kirei-**da**   to   omotta
         John-Topclass-in Mary-N   most   beautiful-End C   think
         'John thought that Mary was the most beautiful in the class.

      b * John-wa class-de Mary-**no** ichiban kirei-**da**   to   omotta
         John-Top class-in Mary-G   most   beautiful-End C   think
         'John thought that Mary was the most beautiful in the class.
         (from Hiraiwa, 2001)

Second, complementizers are possible in embedded clauses with nominative subjects, but not in embedded clauses with genitive subjects.

(27) a Mary-ga [John-**ga**   katta   **to**] omotteiru hon
         Mary-N   John-N   bought C   think   book
         'The book which Mary thinks that John bought'

      b *Mary-ga [John-**no**   katta   **to**] omotteiru hon
         Mary-N   John-G   bought C   think   book
         'The book which Mary thinks that John bought'
         (from Hiraiwa, 2001)

Third, in Japanese not only verbs but also adjectives, i.e., categories with nominal properties are inflected for tense.

(28) a   aka-i   b ka-katta
          red-prs   red-pst

      c   utsukusi-i   d utsukusi-katta
          beautiful-prs   beautiful-pst

Finally, there are no (overt) infinitival structures in Japanese. Nevertheless, Japanese has ECM-constructions. Consider the following data.

(29) a *Yamada-wa Tanaka-**ga**, orokanimo, hannin da to   danteisita
         Yamada-TopTanaka-N   stupidly   culprit is that determined
         'Yamada determined stupidly that Tanaka is a culprit.'

      b Yamada-wa Tanaka-**o**, orokanimo, hannin da to   danteisita
         Yamada-Top Tanaka-A   stupidly   culprit is that determined
         'Yamada determined stupidly that Tanaka is a culprit.'
         (from Kuno, 1976)

In Japanese adverbs that modify the main clause verb cannot occur inside an embedded clause with a nominative subject (29a), i.e., they for instance cannot follow this subject. When the subject of the embedded clause bears accusative case, however, the main clause adverb can follow this subject (29b). This indicates that the accusative marked subject is not inside the embedded clause but has raised into the main clause where its case is licensed by the matrix verb.

Furthermore, in Japanese reflexivization is obligatory between the subject and object of a verb (30a) and optional between the subject of a main and the subject of an embedded clause that bears nominative case (30b). If the subject of the embedded clause bears accusative case, however, reflexivization is obligatory (30c). Again this indicates that the accusative case marked subject has moved to a position inside the matrix clause.

(30) a Yamada-wa$_i$ zibun-o$_i$/*kare-o$_i$ hihansita.
         Yamada-Top self-A   he-A   criticized
         'Yamada criticized himself.'

      b Yamada-wa$_i$ [zibun-ga$_i$/?kare-ga$_i$ tensai da to]   omotte itta
         Yamada-Top self-N/he-N   genius is that thinking was
         'Yamada thought that he was a genius'

      c Yamada-wa$_i$ [zibun-o$_i$/*kare-o$_i$ tensai da to]   omotte itta
         Yamada-Top self-N/he-N   genius is that thinking was
         'Yamada thought that he was a genius'
         (from Kuno, 1976)

In English, on the other hand, ECM-constructions can only be found with non-finite embedded verbs. Based on these facts it has been argued (cf. among others Baek 1997, Kuno 1976, Ueda 1988) that in languages like Japanese which do not have overtly infinitival verb morphological tense marking does not necessarily correspond to finite T. In other words, it has been claimed that in Japanese clauses with morphologically finite verbs may actually behave like non-finite clauses, i.e., they might be syntactically non-finite.[15]

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[15] Ueda (1988) observes that the complement predicate in raising constructions is restricted to adjectives, which have the ending –i, and nominal + copula da. He argues that these endings are not present tense markers because they do not alternate with the past tense morpheme –ta and because when they occur with –ta, ECM is ungrammatical. Instead he assumes that these endings are the host for a –Ø present tense

If this claim is correct, it might be that in Japanese prerelatives with genitive subjects the verb, although it is morphologically marked for tense is actually non-finite. If this is true then these prerelatives do pattern with standard reduced relatives regarding the (non)-finiteness of the verb they contain. Thus, while the verb in Japanese prerelatives is morphologically marked for tense, there is at least some doubt as to whether it is indeed finite.

Finally, unlike standard reduced relatives which enforce (matrix) subject relativization, Japanese prerelatives with genitive subjects do permit non-subject relativization as the example in (25b) conveyed. Again, this might be linked to the fact that unlike standard reduced relatives, these prerelatives have the option of using genitive case as a substitute for the missing nominative case.

3.1.5 Dagur

Another language using prerelatives with genitive subjects is Dagur, a language of the Mongolian language family. The verb in Dagur prenominal relatives is non-finite in the sense that it does not bear an agreement relation with its subject as it does in main clauses. Compare the examples in (31) a and b.

(31)   a Bi nek mer aw-se-m
           I   one horse buy-pst-1sg
           'I bought one horse.'

       b mini   aw-sen   mer-min
           I-G   buy-pst   horse-1sg
           'the horse that I bought'
           (from Hale & Ning 1996)

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morpheme that alternates with the overt present tense marker –*ru*. According to Ueda, this –Ø morpheme can alternate between being either [+Tense [-past]] or [-Tense]. The overt present tense morpheme –*ru*, on the other hand, is always marked to be [+Tense [-past]].

Note that this does not mean that we expect genitive subjects to occur only with adjectival predicates and nominal predicates + copula *da*. Nor do we expect them to occur with these predicates at all for that matter. If Ueda's analysis is on the right track, these predicates are infinitival and not participial, i.e., nominalized verb forms. Reduced relatives, however, are participial clauses. It still remains to be proven whether there are indeed infinitival reduced relatives. We expect reduced relatives, i.e., relative clauses with genitive subjects in Japanese whenever the clause they are in is nominalized, i.e., bears a nominalizing morpheme like the adnominal form discussed in Hiraiwa (2001).

The example in (31b) allows for two further observations. First, like standard reduced relatives, Dagur prerelatives do not exhibit relative pronouns or complementizers. Second, the clause in (31b) is an example of object relativization. It patterns with the object prerelatives discussed above in one important aspect: the subject of this prerelative does not bear nominative case. Instead it is marked for genitive. In addition, the head noun of the relative is marked with a possessive suffix that agrees in person and number with the subject of the relative clause. This suffix regularly attaches to nouns in Dagur when they are the head noun in a possessive construction.

(32)   mini   mer-min
        I-G   horse-1sg
        'my horse'

Dagur is thus another language in which object relatives display properties typical of the possessive construction. For our purposes at this point it is important to note that although, unlike standard reduced relatives, Dagur prerelatives permit object relativization they pattern with reduced relatives in the fact that the subject position of the relative clause cannot receive nominative case.

3.1.6 Apatani

The last of the languages we will discuss here is Apatani, a Tibeto-Burman language spoken in India in the South Central region of the Subsansiri district of Arunachal Pradesh. Apatani relative clauses always precede their head-noun. Like standard reduced relatives Apatani prerelatives do not permit relative pronouns and complementizers and the verb of the prerelative is non-finite. It is nominalized by suffixing –bo for cases of subject-relativization (33a), -ni for object-relativization (33b), -ko for relativization of locative noun phrases (33c), and –nani for relativization of instrumental noun-phrases (33d) (cf. Abraham, 1985).

(33) a Alyi-mi   ka   lani-bo   nyimi   hi   aya   do.
         Pig-A   G   catch-Nzr   woman   det good   exist
         'The woman who caught the pig is good.'

      b Mólu   Kago-ka   ta-ni   my-mi   kapabine
         they   Kago-G   kick-Nzr   man-A   see-pst
         'They saw the man whom Kago kicked.'

      c Mó-ka   iñ-ko   lemba-mi   ño   kapato
         He-G   go-Nzr   village-A   I   see-pst
         'I saw the village where he went.'

      d ñi-ka   pani-nani   ilyo-mi   mó   biti
         I-G   cut-Nzr   sword-A   he   bring-pst
         'He brought the sword with wich I cut.'

As we can see in (33) b through d, Apatani prerelatives differ from standard reduced relatives in that they permit non-subject relativization. Nevertheless, they do pattern with standard reduced relatives in that the subject of the relative clause cannot receive nominative case. As in Turkish, Mongolian, Japanese, Dagur, and Quechua the nominative case that is lacking on the subject in the prerelative is substituted with genitive case.

Thus, Apatani prerelatives too pattern in important aspects of their behavior with the standard reduced relatives. They prohibit relative pronouns and complementizers, they contain non-finite verbs with nominal properties, and they do not license nominative case on the subject of the relative clause.

3.2 Postrelatives with Genitive Subjects
3.2.1 Hiaki

Now that we have established the fact that like standard reduced relatives also relative clauses with genitive subjects can occur in prenominal position we need to discuss whether they can occur in postnominal position as well.

The Uto-Aztecan language Hiaki (Yaqui) seems to be what we are looking for here. It exclusively uses postrelatives with genitive subjects. Like standard reduced

relatives, these relative clauses do not permit either relative pronouns or complementizers. Furthermore, as in standard reduced relatives the verb of the Hiaki relative clause is non-finite. Consider the examples in (34)

(34)   a   hu 'o'ou weáma-ka-i
            D   man   walk-ppl-stat
            'The man is walking.'

        b   hu 'o'ou weáma-ka-i-me   née tú'ure
            D   man   walk-ppl-stat-NZR me-A like
            'The man who is walking likes me'

Moreover, this verb is nominalized by the suffixes *–me* in cases of subject relativization (35a) and *–u* in cases of non-subject-relativization (35b).

(35)   a   hu [enči   biča-ka-me]   siika
            the   2-Sg-A see-prf-ME   leave-sg-prf
            'The one who saw you left'

        b   hu-me [em   bič-ka-'u-m]   sahak
            the-pl 2-sg-G see-prf-'U-pl leave-pl-prf
            'The ones who you saw left'

In other words, like the verb in standard reduced relatives, the verb in Hiaki relative clauses is nominalized. That the verb in Hiaki relative clauses does indeed have nominal properties is furthermore supported by the fact that when the head noun is in direct object position the relative clause is marked for accusative case.[16] In this respect Hiaki relatives pattern with adjectives which in postnominal position also agree with the head noun in case. Given that this is a reflex of the nominal characteristics of adjectives this leads to the conclusion that Hiaki relative clauses must exhibit the same nominal properties as well.

(36)   hu 'o'ou hu-ka hamut-ta   waata [em   biča-ka-'u-ta]
            the man   the-A woman-A love   2-sg-G see-prf-'U-A
            'The man loves the woman who you saw.'

As we can also observe in (36) when a non-subject is relativized in Hiaki the subject of the relative clause is marked for genitive case. All these properties, i.e., prohibition on relative pronouns and complementizers, non-finite nominalized verbs, and lack of nominative case on the relative clause subject are typical for reduced relatives

3.2.2 Toba Batak

Toba Batak is a language of the Austronesian family spoken on the Samosir Island and East, South, and West of the Toba Lake in northern Sumatra. It is a consistently head final language. Thus, all relative clauses necessarily are postrelatives. Toba Batak relatives have subjects marked for genitive case. These relative clauses share a variety of properties with standard reduced relatives. They do not exhibit relative pronouns or complementizers, the nominalizer –NA provides the relative clause verb with nominal properties (cf. Tuller, 1984), and they, obviously, do not have nominative subjects. [17]

(37) a Ditongos (*ni) si Torus   surat tu si Ria
            DI-send (*G) SI Torus   letter D SI Ria
            'Torus sent a letter to Ria.'

      b Huida surat   na   ditongos   ni si Torus   tu si Ria.
         see-I letter   NA   send   G SI Torus D SI Ria
         'I saw the letter that Torus sent to Ria'
         (from Tuller, 1984)

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[16] The relative clause in (36) is extraposed. Accusative marking on relative clauses in Hiaki occurs only with extraposition.

[17] Tuller (1984) reports that relative clause subjects can also occur in the nominative case as a more marked option. Tuller attributes this fact to a change in the grammar of Toba Batak. This relates in an interesting way to Japanese prerelative where the subject can freely alternate between nominative and genitive case and Korean prerelatives whose subject was marked for genitive case in middle Korean but permits now only nominative case marking.

3.3 Head-internal Relatives with Genitive Subjects

Last but not least we have to consider whether genitive subjects are also available in head-internal relative clauses and whether these head-internal relatives exhibit properties that are typical of standard reduced relatives.

The type of relative clause we are looking for here can be found in Japanese. Aside from prerelatives Japanese also employs head-internal relative clauses. Like prerelatives these relatives have a choice between a nominative and a genitive subject. An example for a Japanese head-internal relative with a genitive subject is given below.

(38) John-ga   [sara-no ue-ni ringo-**no**oiteatta-no]-wo katteni   tabeta
      John-N   plate-G on-D   apple-G put-pst-G -A   without permission eat
      'John ate an apple which was put on the plate without permission.'
      (from Hiraiwa, 2001)

In (38) the subject of the relative clause is the constituent that is modified, i.e., that would be the head noun in externally headed relative clauses. As we can see this subject bears genitive case. The head-internal relative clause in (38) shares a number of properties with standard reduced relatives. First, and most obvious, its subject does not bear nominative case. Second, like standard reduced relatives these relative clauses do not exhibit relative pronouns or complementizers used in sentential complementation. Third, the verb of the relative clause displays nominal characteristics. It bears the inflectional morpheme for genitive case (-*no*). Furthermore, the accusative case marker –*wo* is attached to the relative clause signaling its function as the direct object of the main clause verb.

As in the case of Japanese prerelatives with genitive subjects it is a matter of debate whether the verb of the relative clause is tensed or not. It does bear overt tense marking. As we have discussed above, however, there is reason to assume that overt tense marking in Japanese does not necessarily correspond to the presence of syntactic tense. In addition, Hiraiwa (2001) argues that the alleged past tense form –*atta* in (38) is not true a past tense morpheme but a special adnominal (non-tensed) form. In other words, -*atta* potentially could be a nominalizer that creates verb forms analogous to the past participles in languages like English or German. If this is the case, Japanese head-

internal relative clauses with genitive subjects pattern with standard reduced relatives also with respect to the fact that their verb is a participle.

3.4 Summary

To summarize, relative clauses with genitive subjects can be prerelatives, or postrelatives, as well as head-internal relative clauses. They exhibit properties typical of standard reduced relatives in all of these positions. The table in (39) summarizes our findings.

(39)

	Standard Reduced Relatives	Relatives with Genitive Subjects
relative pronoun	No	No
complementizer	No	No
nominative subject	No	No
non-finite verb	Yes	Yes
nominal properties	Yes	Yes
non-subject relativization	Yes	No

As we can infer from this table, relative clauses with genitive subjects share, with the exception of the availability of non- (matrix) subject-relativization, all relevant properties of standard reduced relatives. This strongly supports our claim that these relatives are indeed a type of reduced relative. The question why certain reduced relatives permit genitive subjects and how this is linked to the fact that they allow for non-subject relativization will be addressed in chapter 3.

4 Further Criteria of Classification

So far we have established that relative clauses with genitive subjects are reduced relatives and can be prerelatives, postrelatives and head-internal relatives. This leaves us with three further criteria of classification, the finite versus non-finite distinction, the distinction between headed and headless (free) relatives and the distinction between restrictives and appositives.

As for the first of these, if the distinction of finite versus non-finite clauses is based on the presence of tense then reduced relatives including relative clauses with genitive subjects are clearly non-finite clauses because their verbs, i.e. the participles in them are not tensed. But can reduced relatives also be infinitival and not just participial clauses? For standard reduced relatives this seems to be the case. In particular, as argued by Bhatt (1999), subject infinitival relatives are reduced relatives.[18]/[19]

(40) a The professor to teach syntax arrived yesterday.
      b The man to do this job is Karl.

What about reduced relatives with genitive subjects? Can they be infinitival relatives? There is no definite answer to this question at this point. Most of the languages studied up to date that employ relative clauses with genitive subjects do not have infinitival verb forms to begin with (cf. Japanese, Hiaki). The languages that do, like for example Turkish do not make use of infinitival verbs in relative clauses. We will leave this question to future research.

As for the second criterion of classification, Izvorski (2000) has shown that there are neither non-finite nor appositive free relatives, i.e., headless relative clauses. Thus, if reduced relatives including relative clauses with genitive subjects are non-finite relatives it follows that they cannot be headless relatives.

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[18] These are infinitival relatives with the original gap in subject position. There are also infinitival relatives where the original gap is in object position as in *the book to read*. Bhatt argues that these relatives are full clauses.

[19] It seems to be true, however, that infinitival reduced relatives can never be formed with a bare infinitive, i.e. without *to*. An explanation for this restriction requires further investigation that is beyond the scope of this thesis.

Finally, with regard to the restrictive – appositive distinction it has been argued in the literature that appositive relatives behave like independent, i.e., main/full clauses (cf. among others Ross 1967, Thompson 1971, Emonds 1979, Sells 1985a/b, Safir 1986, Demirdache 1991). If this view is correct, then we do not expect reduced relatives to exhibit appositive interpretations. This question will be addressed in detail in chapter 4.

5 Remaining Questions

5.1 Relative Clauses in Languages without overt Case Marking

In the previous sections we established the hypothesis that relative clauses with genitive subjects are reduced relatives. Naturally the question arises what the status of relative clauses in languages without overt case marking is. Do they require the relative clause to be a full relative or do they permit reduced relatives? And if they permit reduced relatives are these relatives restricted to subject relativization or not?

As we will see below, languages without overt case marking permit both options. Their relative clauses can either be reduced relatives or full relatives. An example of the former is Navajo, an example for the latter is Chinese. Finally, there are languages, like Tohono O'odham (Papago) for which this cannot be as easily determined. These languages require further investigation.

5.1.1 Navajo

Navajo is a language that lacks overt case marking. While it mainly uses head-internal relative clauses it can, however, also use the prenominal relative clause construction. Both, its head-internal relatives and its prerelatives lack relative pronouns and complementizers and both are nominal clauses (cf. Platero 1974). They are build by adding either *–ígíí* or */-yéé/* (with its phonetic alternants *-yéé, -éé,* and *–áá*) to the verb stem. Both are nominalizers. The former is used when the action described in the relative

clause is non-past and the latter when it is past.[20] This is reminiscent of the formation of present and past participles in a variety of Indo-European languages respectively.[21]

(41) a Ałhosh-ígíí   ashkii ałháá'.
          imp-3-sleep-Nzr boy   imp-3-snore
          'The boy who is sleeping is snoring.'

      b Shí baa   níyá-(h) áą   ashkii naalnish
         I   to-him prf-1-walk-Nzr boy   imp-3-work
         'The boy to whom I walked is working.'
         (from Platero 1974)

(42) a tl'éédą́ą́' ashkii ałháá' -ą́ą   naalnish
          last night boy   imp-3-snore-Nzr imp-3-work
          'The boy who was snoring last night is working.'

      b Shí ashkii baa   níyá-(h) áą   naalnish
         I   boy   to-him prf-1-walk-Nzr imp-3-work
         'The boy to whom I walked is working.'

As we can see in (41) and (42) Navajo prerelatives and head-internal relatives permit both subject and object relativization. This raises the question of the case that the subject bears in the object relatives in (41b) and (42b).

      Navajo is a polysynthetic language. It has been argued in the literature (Jelinek (1984), Baker (1996)) that in polysynthetic languages overt noun phrases that appear to be arguments such as *ashkii*, boy, in (41) and (42) are actually in adjunct position. The 'true' arguments are pronouns that are incorporated into the verb where they are realized as pronominal prefixes. Their relative ordering with respect to the verb stem indicates

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[20] It is not uncommon in Navajo that a particle/suffix on a noun adds temporal information to the noun phrase. Consider the following examples:

(1) a 'aak'eed -dą́ą́'   b shizhé'é yę́ę   c tó-h-ą́á
         fall-suffix   father particle   water-h-suffix
         'the past fall'   'my late father'   'the aforementioned water'
         (from Young & Morgan 1987)

[21] Navajo does not have infinitival or participial verb forms in the traditional sense. The Navajo verb is equipped with a set of different verb-stems for the imperfective, perfective, future, usitative/iterative, optative, and progressive. Thus, in order to produce participial/infinitival-like constructions, Navajo employs nominalizer which it attaches to the relevant verbal construction.

which grammatical function they have in the sentence. If this theory of polysynthetic languages is correct, then the overt subject noun phrase *shí*, I, in (41b) and (42b) is an adjunct and as such does not bear case at all. Neither does the pronoun that is incorporated into the verb. If, however, it does not bear any case, then naturally it does also not bear either nominative or genitive case.[22]

Thus, Navajo prerelatives and head-internal relatives also share relevant properties with standard reduced relatives. They do not exhibit relative pronouns and complementizers, their verb is nominalized, and their subject cannot bear nominative case.

5.1.2 Chinese

Also in Chinese case on noun phrases is not overtly marked. Chinese uses prerelatives only. These relative clauses do not exhibit relative pronouns or complementizers. Furthermore, tense is generally not marked on the verb in Chinese and is therefore also not expected on the verb of a prerelative.[23]

Chinese prenominal relative clauses are marked by the particle *–de* which is attached to verb of the relative clause. Interestingly, the same particle is used not only as an adjective maker (43a) but also as a nominalizer (43b) and as a possessive marker (43c).

(43) a hóng-de   b mài dōngxī-de   c wǒ-de
          red-DE   sell thing-DE   I-DE
          'red'   'one who sells things/salesperson'   'my, mine'

This strongly resembles the Turkish and Quechuan facts. It is of importance once we try to determine the case of the prerelative subject. Recall that standard reduced relatives

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[22] This raises an interesting question, namely whether the fact that alleged subject NPs in Navajo due to their adjunct status do not need case is causally related to the fact that Navajo prerelatives are reduced relatives. In other words, can Navajo employ prerelatives that are reduced relatives and permit non-subject-relativization as a result of the fact that all overt NPs in this (polysynthetic) language are adjuncts that do not need case? Would Navajo prerelatives have to be full relatives if the subject NP needed case? A partial answer to this question will be provided by the analysis of reduced relatives in chapter 3.

[23] Temporal interpretations in Chinese are granted by adverbs and aspectual markers such as perfective *–le*.

enforce subject relativization. In Chinese prerelatives, as in the relative clauses with genitive subjects discussed above, subjects (44a) as well as non-subjects (44b) can be relativized.

(44) a Gāngcái dǎ diànhua lái-de   (rén)   shì shéi
just-now call telephone come-DE person be who
'Who was the person that just called?'

b Tā   zhǎodào-le yíge ta yéyé   yòng-de suànpán
he   find-prf   one his grandpa use-DE   abacus
'He found an abacus that his grandpa used'

In standard reduced relatives subject relativization is enforced because nominative case is not licensed on the subject position inside the relative clause. In the prerelative constructions discussed in section 3, object relativization was possible despite the lack of nominative case because the subject of the prerelative could bear genitive case instead. In Chinese too, object relativization is possible in prerelatives. This could be either because Chinese relatives are reduced relatives that permit a genitive subject or because they are full relatives that permit a nominative cased subject.

Up to this point all the evidence we considered points to the conclusion that Chinese prerelatives behave like Turkish prerelatives, i.e., are prerelatives with genitive subjects. Ning (1993) and Li (2000), however, argue that despite these surface similarities Chinese prerelatives are indeed full clauses that are derived in the same fashion as English full (postnominal) relative clauses.

In particular, Li (2000) shows that like English full relatives, but unlike prerelatives with genitive subjects (exemplified for Turkish in (45b)) Chinese relativization obeys, for example, the complex NP island constraint. (The same contrast holds for the adjunct island constraint.)

(45) a *zhe jiu shi [[[[ta xihuan [t_i nian guo shu] de] ren] de] difang$_i$
this exactly is   he like   read Asp book DE person DE place
'This is the place where he likes the person that has studied (there)
(from Li, 2000)

b   [[ben-im t$_i$ patlican-i ye-diğ-i]   soylentisin-e   inan-diğ-im]   adam$_i$
     I-G   eggplant-A eat-DIK-3poss rumor-D   believe-DIK-3poss man
     'the man who I believe the rumor that ate the eggplant'
     (from Hankamer & Knecht, 1976)

Based on this fact Li (2000) argues that like English full relative clauses, Chinese relative clauses involve movement of a relative operator. The movement of the operator targets the SpecCP position. Hence, operator movement requires the presence of a CP-layer, i.e., of a full clause.

     Thus, following Li (2000) Chinese prerelatives are full relatives. If this is correct then the case on the subject of the relative clause is the same as in main clauses, i.e., presumably nominative case.

5.1.3 Tohono O'odham

Tohono O'odham (Papago) also does not overtly mark case. Relative clauses in Tohono O'odham can appear in either prenominal or in postnominal position. They are typically introduced by what seems to be a subordination marker, *m-*, which is immediately followed by the finite form of the auxiliary that attaches to it.[24] Non-subjects can be relativized independent of whether the relative clause occurs pre- or postnominally.[25]

(46)   a   Ñeid 'añ   [hegai   'o'odham   [m-o   'e -maṣcam]]
         saw aux1   that   man   sub-aux3   himself-school
         'I saw the man who goes to school (schools himself).'

       b   [Hegai   [m-o   'e -maṣcam]   'o'odham]   'añ   ñeid.
         That   sub-aux3 himself-school   man   aux1   saw
         'I saw the man who goes to school.'

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[24] Auxiliaries in O'odham are second position clitics.

[25] In general, we face pro drop in subject position unless the subject is referred to by a proper name.

(1)   Hegai 'oks   mo   g Mali:ya ñeid   'o   wuḍ   Huan   je'e.
     that   old lady   sub-Aux3   det Mary   see   aux3   cop   John   mother
     'This old lady that Mary saw is John's mother.

c [Hegai 'oks   [mañ   ñeid]] 'o   wuḍ Huan je'e.
   that old lady sub-aux1 see aux3 cop John mother
   'This old lady that I saw is John's mother.'

Up to this point everything points to the conclusion that O'odham relative clauses are full and not reduced clauses. There are, however, two facts that weaken this view. First, like Japanese and Korean, O'odham permits ECM out of allegedly finite clauses (Ken Hale, p.c.). All things being equal this means that as in Japanese and Korean also in O'odham the status of allegedly finite sentences as such is at least dubious. In other words, despite surface appearance it could be that relative clauses in O'odham are actually non-finite.

Second, the auxiliary in Tohono O'odham is a second position clitic, i.e., it cannot occur on its own in first position but needs to attach to a prior element. Given that this is true for the auxiliary in relative clauses as well, this casts doubt on the status of *m-* as a relative pronoun or complementizer. It could alternatively be a dummy element that serves as an attachment site for the second position clitic.

Thus it remains unclear whether O'odham relative clauses are full or reduced relatives. In addition we are left with the question whether both the prenominal and the postnominal relative clause in O'odham start out in the same base position. And, if yes, is this a prenominal or a postnominal base position? We will put these problems aside for now. Further evidence that will help us to decide on the question whether O'odham relatives are full or reduced clauses will be discussed in chapter 4.

Before we conclude this section it is worth mentioning that O'odham has a second type of relative clause construction which more closely resembles the typical relative clauses with genitive subjects. These relatives do not use subordinators and their verbs are nominalized. In addition, if the subject of the relative clause is a pronoun it appears in form of the possessive pronoun, i.e., in what we could call genitive case.

(47) a hegai si:kĭ ñ-mu'a   b hegai ñ-mu'a si:kĭ
        that deer my-kill   that my-kill deer
        'the deer that I killed'   'the deer that I killed'

     c i:da ṣaliw ñ-behi   d i:da ñ-behi ṣaliw
        the pants my-get   the my-get pants
        'the pants that I got'   'the pants that I got'

Also these constructions can appear in either pre- or postnominal position as the b-examples show. There is, however, reason to assume that these constructions are not true relative clauses but that they are just 'ordinary' nominalizations. While, for example, in the other type of O'odham relative clauses, adverbs, and arguments other than the subject are freely permitted, this construction permits only the verb and the possessive subject.

(48) a Ñeid 'añ   hegai ma:gina m-at   g Huan 'im   hanolawt.
           See 1aux that   car   sub-3aux-pst   det John over there bought
           'I see the car that John bought over there.'

      b Ñeid 'añ   hegai m-at   g Huan 'im   hanolawt ma:gina.
           See 1aux that   sub-3aux-pst det John over there bought   car
           'I see the car that John bought over there.'

(49) a * S-hohoid 'añ   hegai ma:gina ñ-'im-behi.
           Like   1aux   that   car   my-over there-get
           'I like the car that I got over there.'

      b * S-hohoid 'añ   hegai ñ-'im-behi   ma:gina.
           Like   1aux   that   my-over-there-get car
           'I like the car that I got over there.'

Furthermore, this construction seems to be the predecessor of a productive nominalization pattern in modern O'odham employing the derivational morphemes –a and –kud (instrumental).

(50) a ha-wakon-a   b wakon-a-kud
           they-G–wash–Nzr   wash-Nzr-suffix
           'the thing that they washed'   'the thing that washes'

This leads to an interesting question. Could it be that O'odham once had prerelatives of the Turkish type, i.e., reduced relatives, and that it now either has or is about to develop full relatives? And, if yes, what triggered this development? We will leave this question for future research.

5.2 Prerelatives with Nominative Subjects

In the previous sections we have seen that relative clauses with genitive subjects can be prerelatives, postrelatives, and head-internal relatives. The majority of the relative clauses with genitive subjects we discussed, however, are prerelatives. This raises the question whether all prerelatives are relative clauses with genitive subjects. In this section we will show that this is not the case and that there are indeed prerelatives that behave like full relative clauses.

Both Japanese and Korean have prerelatives that like standard reduced relatives do not exhibit relative pronouns and complementizers. They also differ, however, from standard reduced relatives in an important aspect of their behavior. They employ finite, i.e., tensed verbs. Specifically, there is no difference in inflection between a matrix clause and a relative clause verb.[26] Relevant examples are given in (50) and (51).

(51) *Japanese*

    a   John-ga MIT-de hataruku.
        John-N   MIT-loc works
        'John works at MIT.'

    b   Watashi-wa MIT-de hataraku otoko-o at-ta
        I-Top   MIT-loc works   man-A   see-pst
        'I saw a man who works at MIT'

(52) *Korean*

    a   John-nun MIT-eyseo ilha-n-ta.
        John-Top MIT-at   works-prs-decl.
        'John works at MIT.'

    b   na-nun MIT-eyseo ilha-nun   namca-lul po-ass-ta
        I-Top MIT-at   work-Nzr(prs) man-A   see-pst-decl.
        'I saw a man, who works at MIT'

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[26] In Korean, matrix clause verbs are followed by the suffix –*ta* which is a declarative marker, i.e., it types the clause as a main clause. In embedded clauses –*ko* is added to the verb containing –*ta*. In prerelatives the verb does not bear either marker. However, neither -*ta* nor –*ko* are inflectional morphemes and shall thus not concern us here.

In standard reduced relatives the verb is never tensed. Thus, these data seem to support the claim that these prerelatives are indeed not reduced but full relatives.

As we discussed in 3.4, however, for Japanese there is evidence that weakens this argument. In Japanese ECM can proceed out of clauses with tensed verbs. This has led various researchers to claim that despite overt tense marking on the verb this verb is indeed syntactically non-finite (cf. among others Baek 1997, Kuno 1976, Ueda 1988).

The same situation obtains for Korean. Consider the following data.

(53) a John-un   Tom-eykey [Mary-ka/?lul   ttokttokhata-ka]   malhays-s-ta
        John-Top Tom-D   Mary-N/A   be smart-C   say-pst-decl.
        'John told Tom that Mary was smart.'

     b John-un [Mary-*ka/lul]$_i$ Tom-eykey [t$_i$ ttokttokhata-ka]   malhays-s-ta
        John-TopMary-N/A   Tom-D   be smart-C   say-pst-decl
        'John told Tom that Mary was smart.'
        (from Baek 1997)

(54) a Mary-ka/*lul   (John-ey uhay)   salhay-toy-ess-ta
        Mary-N/A   (John-by)   kill-passive-pst-decl
        'Mary was killed (by John).'

     b na-nun [Mary-ka   (John-ey uhay)   salhaytoyessta-ko]   mitnunta
        I-Top   Mary-N   (John-by)   was killed-C   believe
        'I believe that Mary was killed (by John).'

     c na-nun [Mary-lul]$_i$ [t$_i$ (John-ey uhay)   salhaytoyessta-ko]   mitnunta
        I-Top   Mary-A   (John-by)   was killed-C   believe
        'I believe that Mary was killed (by John).'
        (from Baek 1997)

The data in (53) show that when a dative DP in the matrix CP precedes the embedded subject this subject can bear either nominative or accusative case. When, however, the subject DP of the embedded clause precedes the dative DP it can only bear accusative case. This is evidence for the fact that in (53b) the subject of the embedded clause raises into the matrix clause to receive accusative case from the ECM predicate *malhayssta*, 'say'. The same analysis holds for (53a), in the case of the embedded subject with accusative marking. When the embedded subject is marked for nominative case (53a), case is licensed by the embedded verb.

Similarly, in (54a) we can observe that passive verbs do not license accusative case. In the presence of the ECM-predicate *believe* (54c), however, accusative case is licensed on the embedded subject. Again, this fact can only be explained under a raising, i.e., ECM-analysis.[27]

While the fact that in Japanese and Korean prerelatives the verb bears overt tense marking is not enough to convincingly argue that these prerelatives are full and not reduced relatives, the fact that this tense marking occurs with a nominative subject is. In Korean prerelatives the subject always bears nominative case, while in Japanese this case can replace the genitive on the subject (ga-no conversion).[28]

(55) *Japanese*

Mary-ga   aishiteiru   ototko-o mita.
Mary-N   love-pres-prog   man-A saw
'I saw the man who Mary loves.'

(56) *Korean*

na-nun Mary-ka   salangha-nun   namca-lul   po-ass-ta
I-Top Mary-N   love-pres-Nz   man-A   see-pst-decl.
'I saw the man who Mary loves.

It has been argued in the literature that nominative case is a property of finite T, i.e., finite (tensed) verbs. Therefore the fact that there are nominative subjects in Japanese and Korean prerelatives supports the hypothesis that the verb in these prerelatives is indeed finite and hence that these prerelatives are indeed full clauses.[29]

For Japanese prerelatives with genitive subjects, on the other hand, this means that if finite T (or I) is responsible for nominative case licensing, then the lack of nominative case on the prerelative subject is due to the non-finiteness of T in the cases under consideration. Hence, this leads us to the hypothesis that the verb in these relative clauses is indeed non-finite.

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[27] For a more in depth discussion of ECM in Korean cf. Baek (1997).

[28] Note that in Middle Korean the subject of the prerelative could be marked for genitive case (cf. Jang, 1995). If prerelatives with genitive subjects are indeed reduced relatives and prerelatives with nominative subjects are full relatives this indicates a development from reduced to full relatives in Korean.

To summarize: Japanese and Korean prerelatives with nominative cased subjects differ in three important aspects from standard reduced relatives. Their verbs are finite, they do license nominative case on their subjects, and they permit non-subject relativization. We therefore conclude that Japanese and Korean prerelatives with nominative subjects are indeed full relatives and that thus not all prerelatives are reduced relatives.[30] Japanese does, however, also have relative clauses with genitive subjects. It therefore provides an ideal environment for testing our hypotheses about reduced relatives with genitive subjects versus full relatives with nominative subjects.

6 Summary

The aim of this chapter was to determine the place of relative clauses with genitive subjects in a typology of relative clauses. To this end we first argued that relative clauses with genitive subjects are reduced relatives. Standard reduced relatives are characterized by a variety of properties crosslinguistically. They do not contain relative pronouns or complementizers and their verb is reduced in tense, i.e., it is a participle that exhibits nominal properties. It bears nominal inflection. In addition, in reduced relatives subject relativization is enforced such that only the subject of the matrix (reduced) relative can be relativized. This has been linked to the fact that nominative case is not licensed on the subject position of a reduced relative (cf. Bhatt 1999, Kayne 1994).

Relative clauses with genitive subjects pattern with standard reduced relatives in a variety of these properties. First, like standard reduced relatives, relative clauses with genitive subjects do not permit relative pronouns and the complementizer used in sentential complementation. Second, as in standard reduced relatives, the verb of these relative clauses is non-finite. It is a participle that bears nominal inflection. Third, in

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[29] In addition, recall from the discussion in section 3.1.4 that in Japanese embedded clauses with nominative subjects permit complementizer and the end-form of the verb, which are both typical for full clauses.

[30] This is conclusion is especially relevant for our discussion of Japanese relative clauses because it has been claimed in the lieterature (cf. among others Murasugi 1991) that both Japanese relative clauses with

relative clauses with genitive subjects too, nominative case is not licensed on the subject position. Unlike in standard reduced relatives, however, this does not enforce subject relativization. These relative clauses are somehow able to substitute genitive case for the missing nominative case. Related to this is the fact that in relative clauses with genitive subjects relativization is not as restricted, i.e., it is not enforced to be as local, as it is in standard reduced relatives. Since non-subject-relativization is permitted it follows that also relativization of a non-matrix subject is permitted.

With respect to their positioning relative to the head noun of the construction we saw that relative clauses with genitive subjects can be prerelatives, postrelatives, or head-internal relatives. Furthermore, because the verb in these relative clauses is not tensed, relative clauses with genitive subjects were classified as non-finite relatives. Finally, based on Izvorski's (2000) observation that there are no non-finite free relatives we determined that reduced relatives including relative clauses with genitive subjects cannot be free relatives.

As a result of the discussion in this chapter we can postulate the following questions that an analysis of reduced relatives including relative clauses with genitive subjects has to answer:

(1) Why do reduced relatives lack relative pronouns and complementizers?

(2) Why is the verb of a reduced relative not tensed?

(3) Why does this verb exhibit nominal properties?

(4) Why can English-type reduced relatives not have genitive subjects?

(5) Why can Turkish type reduced relatives have genitive subjects?

(6) How is the availability of a genitive subject linked to the availability of non-subject relativization?

It is the goal of the following chapter to develop an analysis that provides an appropriate answer to each of these questions.

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nominative subjects and Japanese relative clauses with genitive subjects are reduced relatives in the sense that both lack a CP-layer.

Chapter III

A Theory of Reduced Relatives

1 Introduction

In the previous chapter we have argued that there is a class of relative clauses that behaves like the standard reduced relatives, i.e., relative clauses with genitive subjects. The task at hand now is to provide a unified account for both relative structures.

We have seen that relative clauses with genitive subjects pattern with standard reduced relatives in the lack of relative pronouns and complementizers, the reduction of the relative clause verb (participle) in tense, and the lack of nominative case on their subject position. In addition the relative clause verb (participle) in both cases bears nominal inflection, i.e., the inflection characteristic of adnominal modifiers. Relative clauses with genitive subjects, however, also differ from standard reduced relatives. The latter permits only relativization of the matrix subject. Relative clauses with genitive subjects, on the other hand, can relativize both non-subjects and non-matrix subjects. A unified account for relative clauses with genitive subjects and standard reduced relatives will have to capture both the similarities as well as the differences between them.

We will approach this problem by first considering previous analyses of standard reduced relatives. Based on Bhatt (1999)'s analysis of reduced relatives and the insights of Iatridou, Anagnostopoulou and Izvorski (2000) regarding the behavior of perfect participles in reduced relatives we will then argue that reduced relatives including relative clauses with genitive subjects are projections smaller than CP. They are verbal projections that are headed by a NP. The availability of genitive case on the reduced relative subject in for example Turkish and Japanese but not English or German will be shown to follow from this analysis.

The remainder of the chapter will be dealing with the consequences of the proposed account. We will relate the analysis to the long standing debates on –ga/-no

conversion in Japanese and the choice of -(y)AN versus –DIK as the participial marker in Turkish relative clauses. In addition, we will consider the consequences of our account for reduced relatives in languages with head-initial NPs. Finally, we will introduce reduced relatives in ergative-absolutive languages into the debate. As we will see, our account provides a test with respect to the question whether it is absolutive or ergative case that is licensed in SpecIP/TP.

2 Previous Accounts for Reduced Relatives

If relative clauses with genitive subjects are reduced relatives, we can profit from the insights gained by prior research on standard reduced relatives in providing a unified account for both standard reduced relatives and relative clauses with genitive subjects. In this section we will therefore consider the theories of Burzio (1986), Kayne (1994), and Bhatt (1999) on standard reduced relatives. We will also consider Kayne's (1994) analysis for prerelatives because for Kayne all prerelatives are in a sense reduced clauses. We will start with a discussion of Burzio (1986) and Bhatt (1999).

2.1 Reduced Relatives as Small(er) Clauses: Burzio (1986) & Bhatt (1999)

Burzio (1986) assumes that standard reduced relatives are Small Clauses containing a PRO subject which is controlled by the head noun of the construction.[31]

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[31] Burzio's analysis is based on Williams (1975) who argues against a *whiz-* (wh+be)-deletion analysis of reduced relatives. This analysis derives reduced relatives from full relatives via the deletion of the relative pronoun/complementizer and the auxiliary.

(1)   a   The student [who is applying to the program] is John.
         b   The student [~~who is~~ applying to the program] is John.

Further arguments against the whiz-deletion account can be found in Huddleston (1971), Berman (1973), and Hudson (1973).

(1)   The book$_i$ [PRO$_i$ sent to me] was published in Germany.

This analysis easily accounts for the reduction in tense and the lack of relative pronouns and complementizers. Small Clauses are non-finite clauses that lack a CP layer. Thus, if relative pronouns and complementizers are CP elements they naturally cannot occur in this environment and if IP needs to be finite for nominative case licensing this case cannot be realized on the subject of the reduced relative in the non-finite IP. Burzio's account also explains why standard reduced relatives enforce subject relativization. No case is licensed on the subject position of a small clause (leaving the issue of null case for a PRO subject aside). Thus relativization of a non-subject would yield a violation of the *Case Filter*. What this account cannot accommodate are the nominal properties of the reduced relative and data that argue for a head raising analysis of these relatives.

Arguments for a head raising analysis of relative clauses come, among others, from idioms, binding, scope reconstruction, and lower readings of adjectival modifiers.[32] Consider the examples in (2) - (4).

(2)   a   We made headway
       b   *The headway was satisfactory
       c   The headway that we made was satisfactory
           (from Brame, 1968)

(3)   a   The portrait of himself [that John painted t] is very flattering
       b   The interest in each other that John and Mary showed was fleeting

(4)   a   *The opinion of him$_i$ that John$_i$ has is favorable
       b   *The opinion of John$_i$ that he$_i$ thinks Mary has is unfavorable
           ((3) & (4) from Schachter, 1973)

In (2) we are dealing with an idiom *making headway*. As (2b) shows *headway* cannot occur by itself outside the larger expression *making headway* in a main clause. It can do so, however, if it is the head noun of a relative clause and is associated with a trace inside the larger expression that licenses *headway* (2c). Thus, we conclude that headway in (2c) must start out inside the relative clause.

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[32] Further arguments for a head raising analysis of relative clauses can be found in Bhatt (1999).

In (3a/b) the head NP of the relative clause contains an anaphor that is bound by an argument inside the relative clause. In other words, the head NP of the relative clause behaves as if it were in the object position of the relative clause. The way to capture this phenomenon is by assuming that the head NP originated inside the relative clause and subsequently raised to become the head NP of the relative structure. This enables the head noun to reconstruct back into the relative clause at LF, which is a prerequisite for the binding phenomena that we observe in (3a/b). Similarly the ungrammaticality of (4a) is due to a violation of Principle B of Binding Theory (BT). The subject of the relative clause binds the pronoun that is part of the head NP. This is possible only if the head NP containing the pronoun originates inside the relative and can thus reconstruct back into it at LF. Finally, in (4b) it is BT Principle C that is violated, i.e., the head NP originates in the object position of the relative clause where the R-expression it contains is illegitimately bound by the pronoun in subject position.[33]

Note that the examples in (2) - (4) support an analysis according to which head raising, i.e., reconstruction in relative clauses is obligatory. In each case the head noun must be reconstructed into the relative clause or else the example is ungrammatical. The examples in (5) and (6), however, show that head raising, i.e. reconstruction is optional.

(5)   I am worried about the twenty five people that are likely to come for dinner.
        a. I am worried that 25 people will come for dinner. (likely>25)
        b I am worried about Jon, Bill, Ann …(25 people) which are likely to come for
           dinner. (25>likely)

(6)   The first book that John said that Tolstoi had written.
        a. high reading: 1990 John said Tolstoi had written Anna Karenina.
                         1991 he said Tolstoi had written War and Peace.
                         Hence: Anna Karenina
                         (order of saying matters, order of writing is irrelevant)
        b. low reading: John said War and Peace is the first book that Tolstoi wrote.
                         Hence: War and Peace
                         (order of writing matters, order of saying is irrelevant)
        (both (5) & (6) are from Bhatt, 1999)

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[33] The examples in (3c/d) permit a head external analysis once we employ a phrase different from *opinion of*. *The picture of him that John has* for example permits two readings, one in which *him* and *John* are

One of the possible readings for (5) is *It is likely that twenty five people will come for dinner tomorrow.* In order for this reading to be available the head NP *twentyfive people* must be in the scope of *likely*, i.e., it must be associated with a trace inside the relative clause. According to the second reading for (5) I worry about John, Bill, Ann, i.e., twentyfive specific people that all happen to be likely to come for dinner tomorrow. This is the high reading, i.e., the reading that is expected only if the head does not have to be reconstructed back into the relative clause. Its availability therefore shows that reconstruction is optional. Similarly in (6) in order to get the low reading we must be able to interpret the head NP *first book* inside the embedded clause. This is only possible under a raising analysis for relative clauses where a trace of the head NP is present in the embedded clause. Once again the availability of the high reading for this example indicates that reconstruction is optional, not obligatory.

The arguments for a head raising analysis of finite/full relative clauses that we have just presented carry over to standard reduced relatives as well. As the examples from idioms in (7) and from reconstruction in (8) show, there must be reconstruction into reduced relatives too. Furthermore, as evidenced by the availability of the high readings in (8), in standard reduced relatives reconstruction is also optional.

(7)   a The headway [made] was considerable.
        b The pictures [taken by Sally Harding] inspired many artists.

(8)   a I am worried about the twenty five people likely to come for dinner.
          (i) I am worried that 25 people will come for dinner. (likely>25)
          (ii) I am worried about Jon, Bill, Ann ...(25 people) which are likely to come for dinner. (25>likely)

        b The twenty five people likely to come for dinner might be a problem.
          (i) It could be a problem that 25 people might come for dinner (likely>25)
          (ii) It could be a problem that Jon, Bill, Ann (25 specific people) might come for dinner. (25>likely)
          (from Bhatt, 1999)

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coreferent and one where they are not. That the coreferent reading is enforced with *opinion of* phrases could be due to their potential status as idioms.

Hence, we conclude that an analysis of reduced relatives that cannot accommodate the head raising facts, i.e., that cannot account for the possibility of reconstruction and for the optionality of reconstruction, is inappropriate.

Bhatt (1999) provides a head raising analysis for standard reduced relatives. He argues that reduced relatives are projections that are smaller than CP (PrtPs). From this assumption the lack of relative pronouns and complementizers in standard reduced relatives follows immediately. Furthermore, Bhatt (following Kayne 1994) assumes that standard reduced relatives do not license case on their subject position. As a result of the lack of case on the subject position only (matrix) subjects can be relativized. Because for Bhatt relativization in standard reduced relatives does not employ A'-movement, subject-relativization, i.e., relativization of a case-less element is not problematic.[34] According to Bhatt the mechanism at work in standard reduced relativization is *Direct Predication*. The movement of the head noun out of the reduced relative turns the relative clause into a predicate that combines with the head NP via Predicate Modification to yield a new predicate.[35]

The advantages of Bhatt's analysis are clear. It can account for the lack of relative pronouns and complementizers and the reduction in tense of the reduced relative verb.[36] It is also able to explain why reduced relatives enforce subject-relativization and why it must be the matrix subject that is relativized. Finally, reconstruction effects find a natural account under the head raising analysis Bhatt employs. What this account does not offer is an explanation for why the verb of the reduced relative bears inflection that is typical of adnominal modifiers. This is a shortcoming that it shares with the analysis of Burzio (1986).

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[34] If instead relativization in reduced relatives did make use of A'-movement, i.e., operator movement, relativization of an element that does not bear case would be problematic because under traditional assumptions the trace of A'-chains must bear case.

[35] In the cases where reconstruction does not take place one could alternatively assume that the reduced relative contains a (semantically vacuous) PRO subject as in *the books [PRO available]*. The reduced relative [PRO available] is of the right semantic type ($<e,t>$) to combine with the head NP via Predicate Modification. Movement of PRO is not required for the purpose of predicate formation under this analysis.

[36] Note, however, that the reduction in tense of the reduced relative verb is essentially derived by stipulation, i.e., by labeling the relative PrtP (participial phrase) which implies the notion of non-finiteness.

2.2 Kayne (1994) on Reduced and Prenominal Relative Clauses

2.2.1 Reduced Relatives

According to Kayne (1994) all relative clauses are CPs that are selected by a D-head, i.e., all relative clauses are full clauses that are complements of D. Furthermore, for Kayne all relative clause constructions are derived by head raising, i.e., head raising in Kayne's system is obligatory. In the case of non-wh relatives, i.e., clauses without relative pronouns, the trace left behind by raising is a NP-trace (9a). The relativized NP moves to SpecCP such that it is spelled out immediately after the determiner and before the relative complementizer. In wh-relatives, on the other hand, it is a DP that moves to SpecCP. The D-head of this DP is occupied by the relative pronoun (wh-operator). The surface string head noun – relative pronoun is achieved by moving the head noun to a DP initial position (9b/c).

(9)   a [$_{DP}$ [$_D$ the] [$_{CP}$ [$_{NP}$ book]$_i$ [$_{C'}$ [$_C$ that] [$_{IP}$ you read t$_i$]]]]

        b [$_{DP}$ [$_D$ the] [$_{CP}$ [$_{DP}$[$_{NP}$ book]$_k$ [$_{D'}$[$_D$ which] t$_k$]$_i$ [$_{C'}$ [$_{IP}$ you read t$_i$]]]]

        c
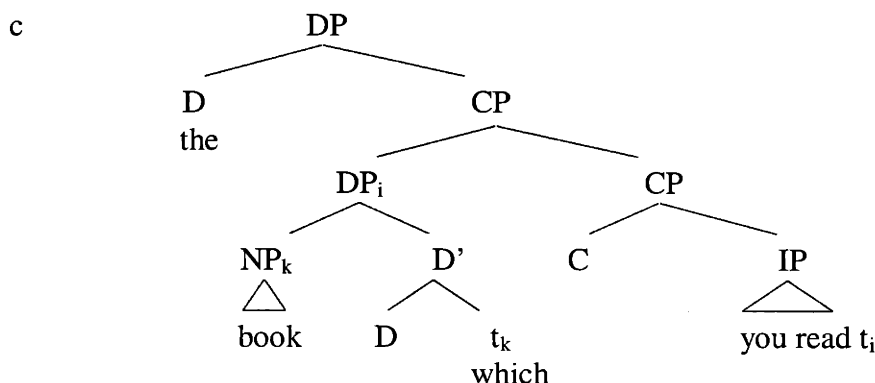
For Kayne finite (full) relative clauses differ from reduced relatives in the type of complement the C head of the relative CP takes. In the former, C takes a finite IP as its complement whereas in the latter, i.e., in the case of reduced relatives this IP complement is non-finite, i.e., participial. Kayne furthermore assumes that the subject position of the participial IP does not receive case. This immediately explains why (10) is illicit.

(10)   * the book$_i$ John fond of$_i$

If (nominative) case is not licensed in the specifier of the participial IP the subject of the standard reduced relative, *John*, remains without case in violation of the *Case Filter*. This is true for any standard reduced relative with non-subject relativization. In the cases of subject relativization the subject of the reduced relative moves to SpecCP and subsequently incorporates into the determiner that selects the relative CP (11a). According to Kayne, this incorporation relation provides the subject with case sufficient to license the subject trace inside the reduced relative.

(11)   a   [$_{DP}$ [$_D$ the [book]$_i$] [$_{CP}$ t$_i$' [$_{IP}$ t$_i$ sent to me]]]

        b   *[$_{DP}$ [$_D$ the [book]$_k$] [$_{CP}$ t$_k$' [$_{DP}$ t$_k$ [$_{D'}$ [$_D$ which] t$_k$]$_i$ [$_{C'}$ [$_{IP}$ t$_i$ sent to me]]]]]

        c   *[$_{DP}$ [$_D$ the [book]$_i$] [$_{CP}$ t$_i$' [$_{C'}$ [$_C$ that] [$_{IP}$ t$_i$ sent to me]]]]

For Kayne, this case on the subject, however, suffices only to license the trace of the subject noun *book* in (11b). It is not sufficient to license the trace of the whole DP *which book*. Hence (11b) or any other structure involving relative pronouns in reduced relatives is illicit. According to Kayne, complementizers like *that*, on the other hand, are excluded by the *that*-trace filter which applies in cases of subject movement to SpecCP.

Kayne's account can explain the lack of relative pronouns and complementizer in reduced relatives, the reduction in tense, and the condition that only the subject of the standard reduced relative can be relativized. The account, however, does have shortcomings. First, it does not provide an explanation of the nominal properties of reduced relatives, i.e., the declension found on the participle. Second, the mechanism employed to license case on the (trace of the) reduced relative subject is problematic. Reduced relatives are the only environment where this mechanism is at work.

(12)   a   *[$_{DP}$ [$_D$ the [book]$_i$] [$_{CP}$ t$_i$' [$_{IP}$ Miguel is fond t$_i$]]]

        b   [$_{DP}$ [$_D$ the [book]$_i$] [$_{CP}$ t$_i$' [$_{IP}$ Miguel is fond of t$_i$]]]
            (from Bhatt, 1999)

The derivation in (12a) is illicit for lack of case on the trace of *book* inside the relative clause. This is confirmed by the minimally different and grammatical (12b) in which this trace receives case by *of*. If the mechanism of case licensing via incorporation of the head noun into D were available, (12a) should, contrary to fact, be grammatical. These are, however, only minor problems. The serious problems Kayne's analysis of standard reduced relatives has to face become apparent once we take his theory of prerelatives into account.

2.2.2 Prenominal Relative Clauses

While standard reduced relatives are CPs, i.e., full clauses in Kayne's system, he analyzes prenominal relative clauses as reduced clauses. These clauses are IPs that raised out of CP and adjoined to DP. It is because of this fact that Kayne's analysis of prerelatives is of interest for our investigation of previous treatments of reduced clauses.

As we have already discussed above, Kayne argues that in finite postnominal relative clauses the head of the relative clause raises from within IP to CP where it is spelled out immediately after the determiner and before relative pronouns and complementizers. Prenominal relatives involve an additional derivational step. After the head noun moves to SpecCP, the relative IP moves out of the postrelative CP and adjoins to the DP that hosts the relative clause. The CP layer that contains the head noun of the relative clause is left behind. Hence the prerelative in SpecDP is a reduced clause.

(13)
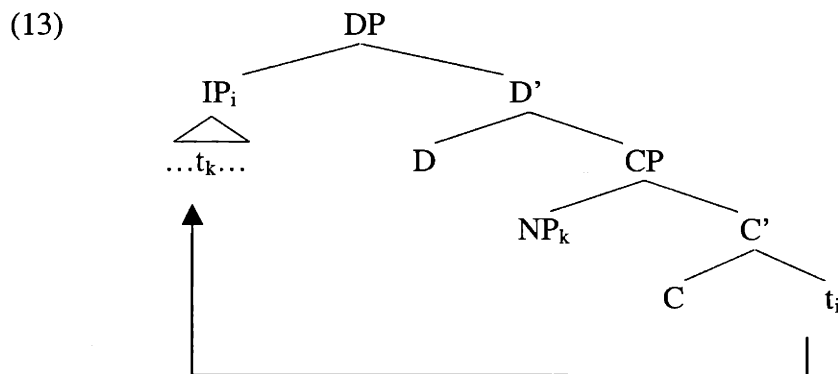
This analysis intends to explain why prerelatives never exhibit finite verbs, relative pronouns, and the complementizers used in sentential complementation. Relative pronouns and complementizers are excluded since prerelatives are not CPs (full clauses) but IPs.[37] Because relative pronouns and complementizers are CP elements they cannot occur inside the relative IP. Movement of the parts of CP that contain the relative pronoun and complementizer along with the relative IP, however, is excluded as movement of a non-constituent. The impossibility of finite verbs in prerelatives follows under Kayne's hypothesis if finiteness is incompatible with IP being split off from CP.[38]

Although Kayne (1994) does manage to derive the similarities between standard reduced relatives and a subclass of prerelatives, namely prerelatives with genitive subjects (which for us are reduced relatives) his account faces various problems. First, for Kayne all prerelatives must be reduced clauses in a sense. In particular, all prerelatives must have non-finite verbs. If our analysis of prerelatives in Japanese and Korean is on the right track, however, the view that prerelatives are invariably non-finite is mistaken.

In addition, nothing in Kayne's account prevents the empirically unattested structures in (14) from occurring, i.e., structures in which a relative pronoun or complementizer follows the head noun of the relative clause.

(14) a $[_{DP}[_{IP}...t_k...]_i [_{D'} [_D] [_{CP} [_{DP} [_{NP} book]_m [_{D'} [_D \text{which}] t_m]]_k [_{C'} [_C] t_i]]]]]$
      order:prerelative – determiner – head noun – relative pronoun

      b $[_{DP}[_{IP}...t_k...]_i [_{D'} [_D] [_{CP} [_{DP} [_{NP} book]_k [_{C'} [_C \text{that}] t_i]]]]]$
      order:prerelative – determiner – head noun – complementizer

Furthermore, in his account for standard reduced relatives, Kayne argued that the subject position of the non-finite IP cannot receive case. It is because of this that the subject of the standard reduced relative must relativize. For prerelatives as well, Kayne assumes that IP is non-finite (because a finite IP is incompatible with IP being split off

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[37] Recall that in Kayne's system relative pronouns occur when a DP is relativized. The relative pronoun occupies the head position of this DP. It appears after the head noun of the relative clause as a result of movement of the relativized NP to a DP initial position. Under this account relative pronouns are excluded in prerelatives because in order to have them there, a non-constituent, i.e., D' containing the relative pronoun in D would have to move to SpecDP.

from CP). Prerelatives that are not standard reduced relatives, however, do permit non-subject relativization as we have discussed at length in the previous chapter. If a non-subject is relativized they can have either genitive or nominative subjects depending on whether they are full or reduced relatives.

Neither scenario, though, can easily be accommodated in Kayne's system. He could, for example, permit prerelatives to be CPs, i.e., he could assume that CP raises to SpecDP. In this scenario he would loose the advantages his account provides in explaining why so many prerelatives exhibit reduced relative properties. Alternatively, he could assume that the prerelative IP can license either nominative or genitive case. In this scenario he would need to make additional hypotheses about when nominative versus genitive case is licensed, why some languages only permit nominative, others only genitive, and yet others either case on the subjects of their prerelatives, and why, unlike the non-finite IP in prerelatives, the non-finite IP in standard reduced relatives cannot license either case.

We therefore conclude that both Kayne's account for prenominal relative clauses and Kayne's account for standard reduced relatives are problematic. The problems Kayne's analysis faces, however, provide us with an important insight, namely that the distinction between prerelatives and postrelatives is theoretically only of little significance. If our account of relative clauses with genitive versus relative clauses with nominative subjects is on the right track, we do not need separate accounts for prerelatives versus postrelatives. What we need instead is an analysis that properly derives the differences between full and reduced relatives on the one hand and the differences between reduced relatives with genitive subjects and reduced relatives that cannot have genitive subjects on the other hand. The differences that obtain between full postrelatives and reduced prerelatives (with or without genitive subjects), can then be reduced to the full versus reduced relative clause distinction.

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[38] Note, however, that if our analysis of prerelative in Japanese and Korean is on the right track, the view that prerelatives are invariably non-finite is mistaken.

2.3 Summary

In this section we discussed discussed three accounts that have been put forward for reduced relatives in the literature. For Burzio (1986) and Bhatt (1999) standard reduced relatives are clauses that are smaller than CP. If relative pronouns and complementizers are CP elements it follows directly that they cannot occur in these relatives. Both also assume that nominative case is not licensed on the subject in the participial (non-finite) IP. This explains why subject relativization is enforced. Burzio assumes that standard reduced relatives have a PRO subject that is controlled by the head noun. His analysis does not offer an explanation for the nominal declension of the participle and the fact that these relatives involve head raising, i.e., that the head noun can reconstruct into the relative clause.[39] Bhatt (1999) shows that the latter is indeed the case. He argues for a head raising analysis of reduced relatives. Like Burzio (1986), however, his analysis also does not offer an explanation for the nominal inflection on the participle of the standard reduced relative.

According to Kayne (1994) reduced relatives are CPs with a non-finite IP. Their subject cannot get case from a non-finite I. Hence, it must be relativized. For this the subject NP moves to SpecCP from where the head noun is incorporated into the D-head that selects the relative CP. In the D-head, N gets case and this case suffices to license the NP (trace) inside the relative clause. It is not sufficient, however, to license a DP in SpecCP, which would be necessary for the existence of a relative pronoun. Thus relative pronouns are excluded. According to Kayne, complementizers are prohibited in reduced relatives because they trigger a that-trace filter violation. Kayne's account is problematic for mainly two reasons. First, the mechanism for licensing case on NP in SpecCP only works for reduced relatives. Second, this account offers no explanation for the nominal inflection on the participle. The real shortcomings of Kayne's analysis, however, beccome apparent once we take his account of prerelatives into consideration.

Prerelatives are basically derived like postrelatives with the addition of one derivational step: The relative IP moves out of CP and adjoins to the DP that hosts the relative clause. Because IP is split off from CP it cannot be finite. In combination with

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[39] It also remains unclear what it means for a bare NP to control a PRO argument,

Kayne's account for reduced relatives this analysis faces serious problems. First, Kayne's analysis predicts that all prerelatives are reduced clauses in the sense that they should never exhibit relative pronouns, complementizers, and finite verbs. This is empirically incorrect. Second, both standard reduced relatives and prerelatives contain a non-finite IP. Hence, Kayne predicts that both clauses should exhibit the same behavior with respect to their subjects. Again, this is empirically incorrect. Standard reduced relatives enforce subject relativization, i.e., they do not permit overt subjects inside them. Prerelatives, on the other hand, can be either standard reduced relatives, or reduced relatives with genitive subjects, or full relatives with nominative subjects.

Our review of Burzio (1986), Kayne (1994), and Bhatt (1999) provided us with three insights regarding the development of our account for reduced relatives. First, the distinction between prerelatives and postrelatives is of little theoretical impact. What is of significance is the distinction between full and reduced relative clauses. Second, each analysis referred to the lack of CP as the source of the lack of relative pronouns and complementizers in reduced clauses. It seems therefore appropriate to assume that reduced relatives lack at least this projection. And finally, third, at least standard reduced relatives are derived by head-raising. We therefore have to check whether the same is true for reduced relatives with genitive subjects.

3 Towards an Analysis for Reduced Relatives

3.1 Relative Clauses with Genitive Subjects and Head Raising

As a first step in providing a unified account for standard reduced relatives and relative clauses with genitive subjects we have to investigate whether on a par with standard reduced relatives, relative clauses with genitive subjects do involve head-raising. Recall that the arguments for a head-raising analysis are based on data that suggest that the head NP of the reduced relative can be interpreted inside the relative clause.

Consider now the following data from Japanese and Turkish.

(15) *Japanese*

a [John-no$_i$ totta] jibun-no$_i$ sashin-wa subarashii.
John-G took self-of picture wonderful-is
'The picture of himself$_i$ that John$_i$ took is wonderful.'

b *[kare-ga$_i$/-no$_i$ totta] John-no$_i$ sashin-wa subarashii.
he-N/-G took John-of picture wonderful-is
'The picture of John$_i$ that he$_i$ took is wonderful.'

(16) *Turkish*

a John-un yaz-dığ-ı kendisi hakkın-da-ki kitap çok iyi.
John-G write-DIK-3poss himself about-loc-G book verygood
'The book about himself$_i$ that John$_i$ wrote is very good.'

b *O-nun yaz-dığ-ı John hakkın-da-ki kitap çok iyi.
he-G write-DIK-3poss John about-loc-G book verygood
'The book about John$_i$ that he$_i$ wrote is very good.'

The binding data in (15) and (16) make it clear that relative clauses with genitive subjects do require a head raising analysis. As the a-examples show an anaphor that is contained in the head NP of the relative clause with the genitive subject can be bound by an R-expression inside this relative clause. This indicates that the head NP originates inside the relative clause and can thus reconstruct back into it. Reconstruction is in fact required in these examples because otherwise the anaphor would remain unbound. The b-examples have an R-expression in the head NP and a pronoun inside the prerelative. Coreference between the R-expression and the pronoun results in ungrammaticality. This supports a head raising analysis. The examples are grammatical, however, under the non-coreferential reading. This supports the claim that reconstruction for these cases is optional and not required.

A further argument that reconstruction is optional in relative clauses with genitive subjects comes from scope reconstruction. Consider the following examples.

(17) *Japanese*

John-ga/-no daigakuin-de yomanakerebanaranai takusan-no hon-o
John-N/-G   school-for   read-must   many-G book-A
gengogakusha-wa dare-mo yonde-inai
linguist-top   anyone read-not
'No linguist reads the many books John must read for grad school.'
a. John must read many books for grad school. (must > many)
b. No linguist reads x, y, z... which John must read for grad school and of which there are many. (many >must)[40]

(18) *Turkish*

Yarın   gel-me-si   mümkün ol-an   yirmi kişi hakkında endişeli-y-im
tomorrow come-inf-poss possible be-AN twenty person about worried-cop-1sg
'I am worried about the twenty people likely to come tomorrow.'
a. I am worried that 25 people will come for dinner. (likely>25)
b I am worried about Jon, Bill, Ann ...(25 people) which are likely to come for dinner. (25>likely)

The example in (17) has two readings. On the first reading, John needs to read many books for grad school. This is the low reading. On the second reading, no linguist reads the specific books John has to read for grad school which happen to be many. This is the high reading. The availability of both readings supports the claim that these relative clauses are derived by head raising exists but that reconstruction is optional.

Similarly in (18) the head NP *25 people* can be either in or outside the scope of *likely*. In the scope of likely it yields the reading where 25 people are likely to come for dinner and outside the scope of *likely* it yields the reading where I worry about 25 specific people which are all likely to come for dinner. This is possible only if the head NP can be reconstructed into the relative clause at LF, i.e., if head raising exists, and if reconstruction is optional. Hence, we conclude that a head raising analysis for relative clauses with genitive subjects is empirically and theoretically motivated.

Note that head raising always targets NPs. In other words, DPs cannot undergo head raising. The following reasons are behind this. First, NPs are not arguments and thus do not require case. Hence a NP trace in the subject position of a standard reduced relative, in which no case can be licensed on the subject is not problematic. Second, if it

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[40] This test for the head-raising analysis, i.e., scope interactions between a modal in the relative clause and a quantifier on the head noun, was originally developed in Sauerland (1998).

were a DP that raised out of the relative clause we would expect to find expressions like *the the/a picture that John took*, which is not the case. Third, if DPs are arguments that receive case (and theta-roles) then raising of a DP out of the relative clause would cause it (or its chain) to bear two cases (and two theta-roles): the one that is licensed inside the relative clause and the one that is licensed on the DP by the matrix verb. This is excluded by case theory.

3.2 How big are Reduced Relatives?

We have now seen that relative clauses with genitive subjects do involve a head raising analysis just like standard reduced relatives. The next question we have to ask is how big reduced relatives are, i.e., up to what functional layer in the clausal structure they project. Recall that according to Burzio (1986) and Bhatt (1999), standard reduced relatives, and for Kayne (1994) prerelatives, are clauses that are smaller than CP. This takes care of the lack of relative pronouns and complementizers in reduced relatives and prerelatives.

Furthermore, for Bhatt (1999) and Kayne (1994) reduced relatives are participial phrases (PrtP) and do not license case on their subject position. These two assumptions are supposed to explain the reduction in tense and the impossibility of relativization other than that of the subject of the matrix (reduced) relative. As they stand these assumptions do seem to be related.

We will take a slightly different approach from the previous analyses here and argue that reduced relatives are smaller than IP.[41] That is why they do not bear tense.[42] If

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[41] Bhatt does not make a specific claim as to how much smaller than CP reduced relatives are. In this sense we refine his analysis. In reduced relatives, however, where the head noun does not reconstruct Bhatt allows for the possibility to have a PRO subject. Such a subject requires the presence of IP. It is in this respect that we depart from Bhatt (and Burzio, for whom reduced relatives are IPs, as well as Kayne, for whom reduced relatives are CPs) by argueing that reduced relatives never project IP.

[42] Note that in Turkish relative clauses with genitive subjects can also be formed with what seems to be a future marker, *-eçek*. This could be a potential problem for our claim that all relative clauses with genitive subjects are reduced relatives and that reduced relatives are smaller than TPs. It has been argued in Kornfilt (1996) and Kelepir (2001), however, that *-eçek* can combine with verbs to form future participles. Furthermore, Kelepir (2001) argues that *-eçek* is located lower in the tree than TP. This is compatible with both our claim that Turkish relative clauses with genitive subjects are reduced, i.e., participial clauses, and that they are smaller than TP.

it is tense that is crucially involved in nominative case licensing then it follows that in reduced relatives this case is not licensed on the subject.

As for how big reduced relatives exactly are, there is no definite answer. First, an answer to this question depends strongly on our assumptions about the functional make-up of syntactic trees. It is evident from the data that reduced relatives are marked for aspect. Thus in a theory that makes use of aspect phrases (AspPs) reduced relatives project at least up to this functional level. In theories that employ agreement phrases (AgrPs) reduced relatives might even project up to subject AgrP (given that subject Agr has no say in nominative case licensing). And in theories that assume neither, reduced relatives might just be bare VPs.

Aside from this problem there is evidence that reduced relatives across languages might differ in terms of how big they are. Marvin (2001) for example shows that not all reduced relatives across languages permit the same kinds of adverbs. Compare the example in (19) with (20) and the example in (21) with (22) a and b.

(19)   *Bulgarian*

　　　Zenata　　cela　　　　　　　knigata　ot　　sutrinta　　nasam.
　　　woman-the read-imp/past prt. book-the from the morning till now
　　　'The woman who has read the book since this morning.'

(20)   *English*

　　　* The leaf fallen from the tree since this morning is red.
　　　　(from Marvin, 2001)

(21)   *German*

　　　Der endlich　in Mailand　angekommene Zug ist Miramara
　　　the finally　at Milano　　arrived　　　train is Miramara
　　　'The train that finally arrived at Milano is Miramara.'

(22)   *Slovenian*
　　　a* Vlak, kočno prispel　　na postajo, je Mimara.
　　　　 train finally arrived-pf at station,　is Mimara
　　　　 'The train that has finally arrived at the station is Mimara.

Italian
b* Il   treno finalmente arrivato a Milano…
     the train finally   arrived at Milano…
     'The train that has finally arrived at Milano…'
     (from Marvin, 2001)

If different kinds of adverbs occupy different positions in the tree, specifically if they are hosted by different functional projections, then it must be that reduced relatives do not project up to the same level, i.e., are not equally big crosslinguistically.[43]

In any event it is clear that reduced relatives need to contain at least a vP (VP), i.e., a phrase that hosts the base position of the subject and the objects, and that they must not contain tense. We will continue for now to label reduced relatives as vPs. It is important to keep in mind, however, that this is only the minimally necessary projection. Depending on the particular theory of available functional projections employed and depending on the expressions that are possible within reduced relatives in particular languages, reduced relatives in different languages could be found to project up to a functional projection higher than vP. But whatever this projection might be, it must be lower than the projection that is the host of tense.

If the projection that hosts tense is missing, nominaitive case cannot be licensed on the subject of a reduced relative. Thus, the only way to avoid a *Case Filter* violation because of a non-case marked subject is to relativize the subject. Once the subject is relativized, i.e., once it is the head noun outside the relative clause, it can get case from the verb of the matrix clause. Therefore, subject relativization, specifically relativization of the matrix subject, is enforced in standard reduced relatives.[44] The subject NP raises out of the reduced relative and adjoins to it thereby creating a new NP, i.e., a new

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[43] Marvin (2001) argues that the difference with respect to what kind of adverb the reduced relative in a given language permits can be reduced to (a) a difference in the participle that the language employs in reduced relatives and (b) the height of the attachment of the aspectual head. Regarding the former, languages differ as to whether they employ perfect participles (Bulgarian, German) or past participles (English, Italian, Slovenian, Spanish). Reduced relatives containing a perfect participle project up to PerfP that dominates AspP which in turn dominates vP. Languages that employ past participles only project up to AspP. They are furthermore divided with respect to the attachment of the aspectual head (cf. Marantz 2000, Embick 2000). In Italian and Slovenian the aspectual head dominates vP. In English and Spanish on the other hand the aspectual head is attached to the root, i.e., VP.

[44] Note that for the same reason relativization of an embedded subject is excluded, i.e., the locality observed in reduced relativization follows from the same line of reasoning.

predicate via *Predicate Modification.* Since this process is movement for case, the fact that the NP-trace does not bear case is not problematic.

3.3 Intermediate Summary

We now have a unified explanation for an array of phenomena observed in reduced relatives including relative clauses with genitive subjects. Reduced relatives are projections that are smaller than IP (TP). They are, however, at least vPs. Because they do not project a CP-layer it follows that they cannot contain CP elements like relative pronouns or complementizers. Because they are not IPs (or TPs) it follows that they are not tensed, i.e., that they are non-finite. If it is tense that is crucially involved in nominative case licensing we do expect that the subject of these relatives cannot bear nominative case. Thus, in order to avoid a Case Filter violation, reduced relatives enforce (strictly local) subject relativization.

It is with respect to the latter that the class of relative clauses with genitive subjects differs from standard reduced relatives. Relative clauses with genitive subjects do exhibit case on their subject. Accordingly, given that the lack of case on the subject is indeed what enforces subject relativization in standard reduced relatives, relative clauses with genitive subjects do permit relativization of non-subjects and of non-matrix subjects. Up to this point our account does not provide an explanation for this fact. Furthermore, we also still lack an explanation for the nominal properties of the reduced relative verb.

In the next section we will address the problem of the nominal properties of reduced relatives. As we shall see later on, the solution to this problem is closely related to an explanation of the differences in subject marking between standard reduced relatives and the relative clauses with genitive subjects.

3.4 Explaining the Nominal Properties of Reduced Relatives

Recall that in both standard reduced relatives and reduced relatives with genitive subjects the relative clause participle bears nominal inflection, i.e., inflection that is typical for adnominal modifiers like, for example, adjectives. In particular, depending on the type of (adjectival) agreement found within the specific language the participle can be inflected for person, number, gender, and even case. The relevant examples from German, Spanish, and Turkish are repeated in (23) – (25) below.

(23) *German*

Sie wohnt in einem   [im letzten Jahrhundert gebaut-**en**]   Haus.
She lives in a-3-sg-n-A   in the last century   built-3-sg-n-A house-3-sg-n-A
'She lives in a house that was built in the last century.'

(24) *Spanish*

Las chicas [recen   llegadas   a la estacion]   son mis hermanas.
the girls   recently arrived-fem-pl   at the station   are my sisters
'The girls who have just arrived at the station are my sisters.'

(25) *Turkish*

[Meltem-in   gör-düğ-**ü**]   yılan
Meltem-G   see-DIK-3poss snake
'the snake that Meltem saw'

Recall furthermore, that the nominal agreement that occurs on the perfect participles in Spanish and German reduced relatives is not present in regular full-blown perfects. In other words, the nominal agreement on the perfect participles is reserved exclusively for reduced relatives.

(26) *German*

Das Haus is   im   letzten Jahrhunder gebaut/*-en   worden.
The house is   in-the last   century   build-prf-prt/-3-sg-n was
'The house was built in the last century.'

(27) *Spanish*

Las chicas han llegado/*-as
the girls   have arived/-f-pl
'The girls have arrived.'

The nominal agreement on the participle of the reduced relative, however, is not the only striking fact about these relatives. As noted by Iatridou, Anagnostopoulou, & Izvorski (2000) these relatives are possible with perfect participles only if the missing auxiliary is *BE*.[45]/[46] In other words, in auxiliary selection languages the perfect participle in reduced relatives is felicitous only if in the full-blown perfect the participle combines with the auxiliary *BE* but not if in the full-blown perfect the participle combines with the auxiliary *HAVE*. [47] Relevant examples from German prenominal reduced relatives and Italian postnominal reduced relatives are given below.

(28) *German*

a Der Mann ist gestern entflohen.
The man *be* yesterday escaped
The man has escaped yesterday.

a' der gestern entflohene Mann
the yesterday escaped man
'the man who escaped ...'

b Der Mann hat gestern getanzt.
The man *have* yesterday danced
'The man has danced yesterday.'

b' *der gestern getanzte Mann
the yesterday danced man
'the man who danced ...'

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[45] This observation is in the spirit of the *whiz*-deletion approaches to reduced relatives. According to these accounts what can be deleted in reduced relatives is the sequence [wh+be] but not [wh+have]. Both Burzio (1986) and as we shall see below Iatridou, Anagnostopoulou & Izvorski (2000) in their modification of Kayne (1993) essentially employ the same idea with the difference that according to their analyses these relatives do not project high enough to permit have-participles. No deletion process is involved.

[46] Note that for Iatridou, Anagnostopoulou & Izvorski (2000) this observation is relevant in their attempt to locate the meaning of the perfect, i.e., they are not directly concerned with reduced relatives. The fact that perfect participles selecting *BE* but not those selecting *HAVE* can occur in reduced relatives (without the auxiliary) raises the question whether for the former the meaning of the perfect resides in the participle only whereas in the latter it resides in the auxiliary as well. The authors arrive at the conclusion that this is not the case, i.e. that there is no semantic difference between HAVE and BE and the perfect participles they take. The difference between the two types of auxiliaries and the effect it has on the availability of their perfect participles in reduced relatives is a syntactic one as we will see shortly.

[47] A similar observation is made in Pesetsky (1995). Pesetsky suggests that reduced relatives are of the form *[PRO copula verb+ing]*. Pesetsky furthermore notes that the (null) copula cannot be used as an auxiliary in English. Hence, reduced relatives with perfect participles, which require an auxiliary (*HAVE*) are illicit. To accommodate this fact he suggests that the null copula (in English) might be adjectival. Since adjectives are essentially nominal projections this amounts to saying that the phrase which hosts the

(29) *Italian*

    a Il   treno e   arrivato entro le 3.   a' iltreno   arrivato entro le 3
       the train *be* arrived by 3   the train arrived by 3
       'The train had arrived by 3.'   'the train that had arrived by 3'

    b Una donna ha   ballata nella stanza.   b' *una donna ballata nella stanza
       a woman *have* danced in-the room   a woman danced in-the room
       'A woman has danced in the room.'   'a woman who danced ...'

The restriction on reduced relatives that only those perfect participles that in regular perfects occur with *BE* yield felicitous constructions furthermore correlates with another fact. Only in *BE*-perfects does the participle agree with the subject whereas in *HAVE*-perfects no such agreement can be observed.[48]/ [49] This is trivially true for the perfect participle in reduced relatives as well. The only legitimate perfect participle in a reduced relative is the one that in the regular perfect is composed with *BE*. In reduced relatives this participle agrees with the subject of the relative clause, i.e., with the NP that has been relativized.

Let us briefly summarize our discussion up to this point. There are three empirical observations we have discussed that a theory of reduced relatives must explain. First, the participle in reduced relatives bears the type of inflection that is typical for adnominal modifiers, i.e., nominal inflection. Second, perfect participles in reduced relatives are permitted only if in full blown perfects they combine with auxiliary *BE*. And, third, in full blown perfects only those perfect participles that combine with *BE* exhibit subject agreement.

Iatridou, Anagnostopoulou & Izvorski (2000) attempt to derive the fact that in full-blown perfects (and reduced relatives) the participle agrees with the subject only if the perfect is composed with *BE* but not when it is composed with *HAVE* from current theories of auxiliary selection. They suggest that a modification of Kayne's (1993) theory

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participle, i.e., [verb+ing] is dominated by a nominal projection. This is in the spirit of the proposal that we put forward above.

[48] Iatridou, Anagnostopoulou, & Izvorski (2000) attribute this observation to Svenonius (p.c).

[49] Based on Kayne (1993) Iatridou, Anagnostopoulou, & Izvorski (2000) note that there are three potential counterexamples to this: a dialect in central France with agreement on the participle with *BE* when it combines with *HAVE* (as in *Mary has been...*), the dialect of Cori (cf. Chiominto, 1984) and the Aquila dialect in Abruzzo. In the Cori and Aquila dialects agreement on the participle with *HAVE* is only present in unaccusatives.

of auxiliary *HAVE* and *BE* can accommodate these facts. In particular, they propose that the projection whose head hosts the perfective feature (PerfP) is dominated by a nominal category, XP, which in turn is dominated by a projection of *BE*.[50] In perfects with auxiliary *BE* the participle raises to the nominal head X of XP and therefore exhibits nominal agreement (person, number, gender).

(30)

```
          _____
         /           \
        BE           XP (+N)
                     /       \
                    X         PerfP
                    ▲        /      \
                     \     Perf      AspP
                      \___/         /    \
                                   VP
```
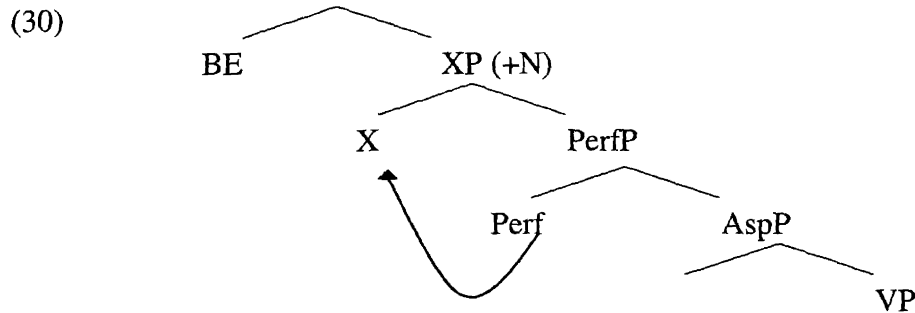
In *HAVE*-perfects, on the other hand, the head X incorporates into *BE* resulting in the formation of *HAVE* whereas the participle remains in the head that hosts the feature for the perfective.[51] Accordingly, the participle in *HAVE*-perfects does not exhibit any nominal agreement.

(31)

```
          _____
         /           \
        BE           XP (+N)
        ▲           /       \
         \         X         PerfP
          \___/            /      \
                         Perf      AspP
                                  /    \
                                 VP
```
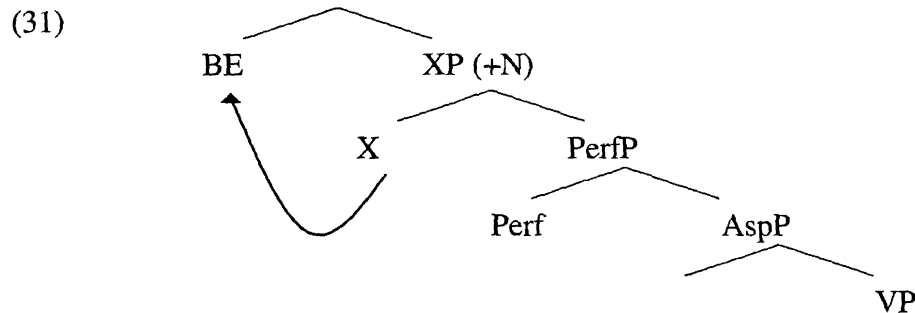
We now have an explanation for the fact that the perfect participle of a reduced relative bears nominal agreement. In reduced relatives the perfect participle always incorporates into the nominal head, i.e., reduced relatives permit only those perfect participles that normally combine with *BE* and incorporate into X. Why do reduced relatives only permit

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[50] The authors attribute this idea to Svenonius (p.c.).

[51] The idea that *HAVE* is augmented *BE* goes back to Freeze (1992) who proposed that possessive *HAVE* is *BE* plus an incorporated preposition.

those perfect participles and prohibit the perfect participles that in full-blown perfects combine with *HAVE*?

Iatridou, Anagnostopoulou & Izvorski hypothesize that this restriction applies because reduced relatives need to be nominal. Specifically they suggest that it could be the case that "…all categories whose meaning intersects with the head they modify must be of the same categorial type as the head…" Hence, every category modifying a noun must be nominal and every category modifying a verb must be verbal. This could offer an explanation as to why for example adjectives can only modify nouns but not verbs and adverbs can only modify verbs but not nouns.[52] Applied to reduced relatives this would mean that because they modify nouns they must be nominal.[53] In other words, reduced relatives with perfect participles do not project beyond nominal XP.

We will not take a stand with respect to the hypothesis that modifiers must be of the category of the modified phrase here. We will, however, assume that reduced relatives do not project beyond the nominal XP (henceforth NP) leaving the question of why for future investigation. Furthermore, we will assume that reduced relatives always project this NP. Coming back to the question how big reduced relatives exactly are the same arguments discussed above still apply. In other words, aside from the fact that all reduced relatives do project NP they might differ crosslinguistically as to which functional projections (depending on the theory we employ) NP dominates. It is clear, however, that in order for subjects and objects to occur in reduced relatives NP needs to dominate at least vP (VP).

If we adopt Iatridou, Anagnostopoulou & Izvorski's proposal that is based on Svenonius' adaptation of Kayne's theory of auxiliary selection we have an explanation for why perfect participles in reduced relatives exhibit nominal agreement. Reduced

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[52] Note that PPs pose a problem for this line of reasoning. They are neither verbal nor nominal but they can modify both verbs and nouns.

[53] Note that this would have to apply to full relative clauses as well. Iatridou, Anagnostopoulou & Izvorski suggest that we can accommodate this by either assuming that there is no formal mismatch between CP and N, i.e., that CP is nominal enough to modify a noun or by assuming projecting movement. Evidence for the latter comes from Free Relatives which have the appearance of CPs but the category of the wh-word. In other words, the wh-word in Free Relatives is nominal and Free Relatives can be shown to be nominal as well (cf. Bresnan & Grimshaw (1978, Groos & van Riemsdijk (1981)). Because according to Iatridou, Anagnostopoulou and Izvorski no selectional restrictions are imposed on relative clauses full relatives should generally be able to presume the category of the relative pronoun, which is nominal. Note that projecting movement is possible under a head raising analysis of relative clauses as well. For further arguments for projecting movement cf. Bhatt (1999).

relatives do not project the head containing BE. Thus, the nominal head cannot incorporate into *BE*. Therefore the feature on the nominal head is always available for the participle. The participle has two options. It can either head raise and incorporate into the nominal head or it can remain in situ and enter an Agree relation with this head. In either scenario the result is the nominal declension on the participle.

As for present participles, they always combine with *BE* and are thus always felicitous in reduced relatives. This is evidenced by the data in (32) and (33).

(32)   a   *A happily sung man walked through the park.
         b   A happily singing man walked through the park.

(33)   a   Der Mann der bis   spät in seinem Büro gearbeitet hat   ist mein Bruder.
           the   man who until late in his   office worked HAVE is my   brother.
           'The man who worked until late in his office is my brother.'

         b   *Der bis   spät in seinem Büro gearbeitete   Mann ist mein Bruder.
           the until late in his   office work-prf-prt   man is my   brother
           'The man who worked in his office until late is my brother.'

         c   Der bis spät in seinem Büro arbeitende   Mann ist mein Bruder.
           the until late in his   office work-prs-prt   man is my   brother
           'The man who is working in his office until late is my brother.'

As in reduced relatives with perfect participles the present participle either raises to the nominal head of the reduced relative or agrees with it in situ and as a result of this bears nominal inflection.

If relative clauses with genitive subjects are reduced relatives, the same account applies to them as well. They do not project higher than NP and their participial verb either incorporates into the nominal head N or agrees with it in situ as result of which the participial bears nominal agreement. The tree diagram in (34) depicts our analysis for reduced relatives (focussing on the scenario where the participle incorporates into the nominal head of the reduced relative). For ease of exponence we will henceforth call the

nominal head into which the reduced relative participle incorporates N and its projection NP.[54]

(34)

verb (participle) movement
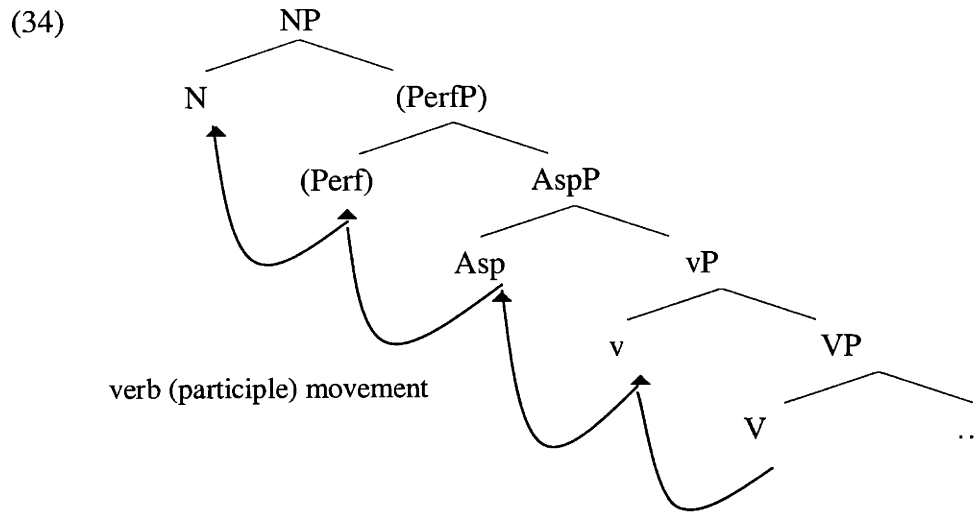
Before we conclude this section, we have to address one more question. Recall that the participle in full blown perfects does not bear the type of nominal inflection that is present on the participle in reduced relatives. In addition, in for example German, (nominal) agreement with the head noun only surfaces on participles in prenominal reduced relatives but not on participles in postnominal reduced relatives. The relevant examples are given below.

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[54]Note that as we could see in (30) and (31) Iatridou, Anagnostopoulou & Izvorski (2000) assume the existence of a Perfect Phrase (PerfP) above an Aspectual Phrase (AspP) for perfect sentences and reduced relatives with perfect participles. We will follow their assumptions. Nothing motivates the existence of PerfP in clauses with present participles. For these cases we will assume that PerfP is not projected, i.e., that the present participle raises from the head of AspP to N (Iatridou, Anagnostopoulou & Izvorski's nominal X head). That PerfP is not projected in every clause is indicated by the brackets around Perf and PerfP in the tree diagram in (34). In addition, note that the fact that the structure in (34) is consistently left headed is merely accidental. Naturally the usual head parameter settings of the particular languages will apply in reduced relatives as well. Finally, the tree diagram in (34) depicts the situation where the participle raises and incorporates into the nominal head of the reduced relative. Keep in mind, however, that the

(35)   a *prenominal reduced relative*

Das   im   letzten Jahrhunder gebaut-e   Haus
The   in-the last   century   build-prf-part/-3-sg-n   haus
'The house that was built in the last century...'

b *postnominal reduced relative*

Das Haus, im   letzten Jahrhunder gebaut/*-en
The house in-the last   century   build-prf-part/-3-sg-n
'The house that was built in the last century...'

c *full perfect participle*

Das Haus is   im   letzten Jahrhunder gebaut/*-e   worden.
The house is   in-the last   century   build-prf-part/-3-sg-n   was
'The house was built in the last century.'

According to our account the nominal head whose projection dominates the aspectual phrases and vP is present in all three structures. Thus, these facts are somewhat troublesome. Do they convey that our analysis is wrong after all? No. We can see that clearly once we consider the type of agreement that surfaces on German adjectives in the relevant configurations.

(36)   a *prenominal adjective*

das   rot-e   Röslein
the-n-sg-N   red-n-sg-N   rose--n-sg-N-dim
'the little red rose

b *postnominal adjective*

Röslein   rot
Rose--n-sg-N-dim   red-Ø
'little red rose'

c *adjective as copula*

Das   Röslein   ist rot.
The-n-sg-N   rose-n-sg-N-dim   is   red-Ø
'The little rose is red.

Adjectives, which clearly have nominal properties, behave exactly like the participles of reduced relatives and full perfects in the relevant environments. The answer as to why the adjective exhibits overt nominal agreement with a noun only in prenominal position is simple. Only the prenominal position in German is an environment that enforces this agreement to surface overtly, i.e., concord in the German NP can be found only in the prenominal position. Thus, we conclude that while all participles invariably are dominated by a nominal projection (NP), overt nominal agreement surfaces only in those environments where the nominal head is not incorporated into *BE* and where the overt nominal agreement is usually enforced for adjectives. In other words, the NP that dominates the participial phrase is always present even though we might not see overt nominal agreement on the participle itself.

Let us briefly summarize at this point. We have determined that reduced relatives are smaller that IP. This accounts for the lack of relative pronouns and complementizers and for the fact that the verb in reduced relatives is non-finite (not tensed). Because the projection hosting tense is missing nominative case cannot be licensed on the subject of a reduced relative clause. In this section we have furthermore determined that reduced relatives are NPs. In other words, their highest projection invariably is a NP. The head of this NP provides a nominal feature that is checked by the verb of the reduced relative either via incorporation or in situ via Agree. As a result of this operation the verb of the reduced relative clause bears nominal inflection.

At this point our theory of reduced relatives correctly derives the properties that standard reduced relatives and reduced relatives with genitive subjects share. The two types of reduced relatives differ, however, most obviously in the fact that the latter permits a relative clause internal subject whereas the former does not. When reduced relatives permit a relative clause internal subject it bears the case that is typically licensed in possession configurations, i.e., in NP. In this section we have determined that all reduced relatives have a NP as their topmost projection. This enables us to now address the question for the differences between standard reduced relatives and reduced relatives with genitive subjects.

3.5 How Reduced Relatives and Relatives with Genitive Subjects differ

The questions we have to answer now are:

- What is the difference between English and German, on the one hand whose reduced relatives enforce subject relativization, and Turkish and Japanese, on the other whose prenominal reduced relatives permit non-subject relativization (albeit with a genitive subject in the relative clause).
- Why can English and German reduced relatives not license genitive case on their subject and how does our account for reduced relatives developed thus far figure into a solution to this problem?

There is reason to assume that the lack of non-subject relativization (and of subject relativization other than the matrix subject) is closely linked to the lack of case on the subject position of German and English reduced relatives. The evidence for this comes from German. In German reduced relatives relativization of a direct object is ungrammatical (37a). Relativization of a possessor on the subject, however, is considerably less marked (37b).[55]

(37)   a *die [der Mann verkaufende] Blumen
          the   the man selling   flowers
          'the flowers that the man is selling'

      b ?das [dessen Aussehen sich verändernde] Stadtzentrum
          the   whose looks   self changing   city-center
          'the city-center whose looks are changing

Why should this be? By relativizing the possessor in (37b) and introducing the relative pronoun *dessen*, 'whose', we seem to have a legitimately licensed genitive case on the subject. In other words, the genitive morphology on the pronoun gives rise to the impression that we do have (genitive) case on the subject even though the subject does indded not bear genitive case, i.e., even though the subject is really without case and thus

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[55] Relativization of the possessor is, however, not perfectly fine, i.e., not as good as subject relativization.

does violate the *Case Filter*.[56] The presence of the (unlicensed) genitive morphology on the pronoun, however, is what makes this construction ultimately better than (37a). At the same time the clause contains a relative pronoun which is not permitted in reduced relative, i.e., according to our account there is no position inside the reduced relative that this pronoun could legitimately occupy. This seems to contribute to the somewhat marked status of the construction.

We therefore conclude that it is indeed lack of case on the subject of the reduced relative that prevents non-subject and non-local subject relativization in reduced relatives of the German and English type. In Turkish and Japanese prerelatives, the subject can somehow get genitive case. Hence, because there is case on the subject, these relatives do

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[56] From a syntactic perspective it is very clear, however, that the subject does indeed not bear any case. That by inserting an element that gives rise to the impression that there is case we achieve an ultimately less marked example thus supports theories according to which case (with the exception of structural cases) is largely a phonological phenomenon that might function as a processing aid (cf. Krause, 2000).

The construction in (37b) comes with another surprising property. It is sensitive to matching effects of the type found in Free Relatives (cf. Bresnan & Grimshaw (1978, Groos & van Riemsdijk (1981)). The relativized possessor has to match the reduced relative's subject in number (1b), and gender (1c)

(1) a ?das   [dessen   Aussehen   sich verändernde]   Stadtzentrum
         the-n-sg   whose-n-sg looks-n-sg self changing-n-sg city-center-n-sg
         'the city-center whose looks are changing'

    b * die   [deren   Aussehen   sich verändernde]   Frau
         the-f-sg   whose-f-sg looks-n-sg self changing-n-sg woman-f-sg
         'the woman whose looks are changing'

    c *die   [deren   Aussehen   sich verändernden] Stadtzentren
         the-n-pl   whose-n-pl looks-n-pl self changing-n-pl city-center-n-pl
         'the city-centers whose looks are changing'

In addition, even though there is, in effect, no case on the subject, we get case matching effects. When the head noun receives a particular case from the matrix verb that causes the participle to bear inflectional morphology that is not homophonous with the one for nominative case, the construction is bad.

(2) a ?das   [dessen   Aussehen sich verändernde]   Stadtzentrum   ist schön.
         the-n-sg-N   whose-n-sg-N looks-n-sg self changing-n-sg-N city-center-n-sg-N is nice
         'The city-center whose looks are changing is nice'

    b ??Ich mag das   [dessen   Aussehen   sich verändernde]   Stadtzentrum
         I like   the-n-sg-A whose-n-sg looks-n-sg self changing-n-sg-A   city-center-n-sg-A
         'I like the city-center whose looks are changing'

    c *Ich gebe den Preis dem   [dessen   Aussehen   sich verändernde] Stadtzentrum
         I   give the prize the-n-sg-D whose-n-sg looks-n-sg self changing-n-sg-D city-center-n-sg-D
         'I give the prize to the city-center whose looks are changing'

permit non-subject and non-local relativization. We now have reduced the initial two problems to one, still in need of explanation. What is the difference between Turkish and Japanese, on one hand, and English and German, on the other hand, such that in the former but not in the latter genitive case can be licensed on the subject of a reduced relative?

It is clear for a variety of reasons that this difference is related to the structure and the case licensing mechanisms involved in NP. First, we are dealing with modification of a NP. Second, according to our analysis of reduced relatives, this modifier itself is a nominal projection, i.e., a NP. Third, in Turkish the reduced relative participle bears inflectional morphology that surfaces exclusively in nominal possession structures, i.e., in NPs. Finally, fourth, genitive case in English can only be found in DPs, not in NPs. We will argue that the difference in question concerns the nature of genitive case licensing within NP. In particular, we will argue that in Japanese and Turkish structural genitive case can be licensed in (Spec) NP whereas the same is impossible in German and English.

We know that in German and English, genitive case within NP can only be licensed on complements (postnominally).

(38) a [$_{DP}$das [$_{NP}$ Bild [$_{DP}$ meines Vaters]]]
         the   picture   my-G   father-G
         'my father's picture'

      b [$_{DP}$ the [$_{NP}$ picture [$_{PP}$ of my mother]]]

In German the genitive on noun complements (in NP) is inherent case (cf. Krause, 2000) and the relevant inflectional morphology surfaces on the complement noun without the mediation of a preposition (38a). In English the noun complement receives case from the dummy element *of* (38b).

Prenominal possessors as in *John's book* that appear in either language are licensed within DP rather than NP. This is especially obvious in German, where the stem of the determiner (possessive pronoun) in the prenominal possessor construction agrees

in gender and number with the possessor (and in gender, number, and case with the head noun) as is typical in Spec-Head agreement relationships.[57]

(39) a [DP[DPdem Vater] [D' [Dsein-Ø] [NPHaus]]]
     the-D father-D   his-3m-3n   house
     'father's house'

   b [DP[DP der   Mutter] [D' [D ihr-e]   [NPHäuser]]]
      the-D mother-D   her-3-f/sg-3-n/pl   houses
      'mother's houses

   c [DP[DP John] [D' [D -s] [NP house]]]

We therefore conclude that in German and English structural (possessive) case is indeed not available within NP.

In Japanese, on the other hand, there is evidence that prenominal possessors are licensed in SpecNP and that they bear structural case. First, in Japanese genitive case is licensed, in fact even required on prenominal modifiers such as *many* or *first*.[58]

(40) a Mary-no saisho-no shashin   b jibun-no tasuka-no shashin
     Mary-G   first-G   picture   self-G   many-G   picture
     'the first picture of Mary'   'the many pictures of herself'

The second argument for the claim that Japanese prenominal possessors are in NP and that they receive structural genitive case comes from reconstruction. Recall that only NPs can undergo head raising and that therefore only NPs can reconstruct back into the

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[57] Note that the prenominal possessor in (38) bears dative case. According to Krause (1999) also the alleged prenominal genitive possessor in German can be shown to bear dative case. For an in depth discussion of the German prenominal possessor construction cf. Krause (1999).

[58] Genitive case does, however, not surface on Japanese adjectives (1a). In addition, Japanese adjectives like verbs are always marked for tense(1b/c). We can explain this by assuming that these adjectives are reduced relatives whose verb is also marked for tense and which are not marked for genitive case either.

(1) a   akai (*-no) hon   b   aka-i   c   ka-katta
       red (-G)   book   red-Pres   red-Past
       'the/a red book'   'red'   'red'

relative clause.[59] Hence, if a prenominal possessor can be reconstructed along with the head NP it must reside inside the head NP.

We already know from the discussion in the previous sections that in Japanese phrases like *many books* or *picture of herself* can be reconstructed back into the reduced relative, i.e., they can originate inside and raise out of the relative clause.

(41)   a [Mary-ga$_i$/-no$_i$ totta] jibun-no$_i$ sashin-wa   subarashii.
            Mary-N/-G   took self-of   picture   wonderful-is
            'The picture of herself$_i$ that Mary$_i$ took is wonderful.'

      b John-ga/-no daigakuin-de yomanakerebanaranai takusan-no hon-o
         John-N/-G school-for   read-must   many-G book-A
         gengogakusha-wa dare-mo yonde-inai
         linguist-top anyone read-not
         'No linguist reads the many books John must read for grad school.'

If the phrase that raises out of the relative clause must be a NP, the phrases *many books* and *picture of herself* in (41) must be NPs. This in turn means that the possessor *herself* in (41a) is located inside NP. The possessor is an argument of the head noun, i.e., it must be in argument position. The fact that it occurs prenominally before other modifiers strongly suggests that it is in SpecNP.[60] Specifier positions, on the other hand, are typically positions in which strcutural case is licensed.

Note that even though we have reconstruction in English relative clauses as well an anaphor in prenominal possessor position cannot be reconstructed into the relative clause as the ungrammatical example in (42b) shows. The anaphor in (42c), which is part

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[59] There are three main reasons for this. First, NPs are not arguments and thus they do not require case. Hence a NP trace in the subject position of a reduced relative is not problematic. Second, if it were a DP that raised out of the relative clause we would expect to find expressions like *the the/a picture that John took*, which is not the case. Third, if DPs are arguments that receive case (and theta-roles) then raising of a DP out of the relative clause would cause it (or its chain) to bear two cases (and two theta-roles): the one that is licensed inside the relative clause and the one that is licensed on the DP by the matrix verb. This is excluded by case theory.

[60] Note that nothing in our analysis prevents the possessor from raising out of NP into SpecDP after movement of NP out of the relative clause has occurred. This movement, however, would not take place for case reasons because case is licensed within NP. If such movement indeed exists, we could assume that it happens for semantic reasons. Prenominal possessors in SpecDP usually contribute to the definiteness of the construction. Hence they might be forced up into DP to contribute this feature.

of the postnominal possessor that is inside NP, i.e., in the complement position to N, however, is grammatical.[61]

(42)   a   John and Mary admired each other's pictures.
       b   *Each other's pictures that John and Mary took were wonderful.
       c   The pictures of each other that John and Mary took were wonderful.

Given our discussion of prenominal possessors in Japanese this confirms that in English prenominal possessors do not originate inside NP, and are also not case-licensed within NP. They are merged at a later point in the derivation. Hence they cannot be affected by the reconstruction of the head NP into the relative clause.

Also for Turkish there is evidence that genitive case is licensed in SpecNP and that this is structural genitive case. First, as we have already seen in chapter 2, in Turkish possessive constructions the (head) noun exhibits number agreement with the prenominal possessor (43).

(43)   a   Hasan-ın   odas-ı   b   ben-im   oda-m
           Hasan-G   room-3poss   I-G   room-1poss
           'Hasan's room'   'my room'

The genitive case on the possessor and the number agreement on the possessee, however, are typical for Spec-Head agreement relationships, which are found with structural case licensing.

Second, there is no evidence for N to D movement in Turkish. All modifiers, demonstratives, and determiners invariably precede the noun (44).[62]

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[61] There is some variation among English speakers as to whether they accept clauses like the one in (1)

(1)   Johns$_i$ picture that he$_i$ took

For those speakers for whom this clause is ungrammatical the ungrammaticality of (42b) follows from different reasons. For those speakers, however, for whom (1) is grammatical, the ungrammaticality of (42b) arises because the prenominal possessor cannot be reconstructed back into the relatve clause.

[62] Turkish does not have a definite determiner. In addition, the nature of *bir* (which always has to appear in the immediate prenominal position) as an indefinite determiner is doubtful. Turkish does use demonstratives, though. They invariable precede prenominal possessors. Thus, if demonstratives are elements of the category D there is in addition evidence that the prenominal possessor in Turkish does not occupy the SpecDP position at any point in the derivation.

(44) a yeni güzel bir ev   b bu yeni güzel ev
      new nice a house   this new nice house
      'a nice new house'   'this nice new house'

If there is no N-movement, it must be the case that the head noun always resides in its base position. Hence any agreement on the noun that is a reflex of Spec-Head agreement indicates that the phrase with which this noun agrees is located in SpecNP. The genitive case on the possessor and the number agreement on the possessee (head noun) are a reflex of Spec-Head agreement. Hence, the genitive case on the prenominal possessor in Turkish must be licensed inside NP.[63]/[64]

In combination with our analysis for the structure of reduced relative from above we now have an explanation for the fact that genitive case can be licensed on the subject in Turkish and Japanese but not in English or German reduced relatives. We argued that reduced relatives are headed by a noun. In other words, the topmost projection of a reduced relative is a NP. The subject of the reduced relative cannot receive nominative case because the functional element that is crucial for nominative case licensing, tense, is

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[63] What was said above for Japanese (cf. footnote 60) also holds for Turkish, i.e., nothing excludes raising of the possessor out of NP into DP contribute to the definiteness of the construction.

[64] Öztürk (2001)'s analysis of Turkish NPs/DPs provides further support for this conclusion. Based on the syntactic distinction between two kinds of number expressions she argues that noun phrases in Turkish do not need to always be DPs. Specifically, the expression with a numeral classifier *tane*, 'grain' does not refer to any individual, it does not have referential power, The numeral expression without *tane*, on the other hand, can refer to individuals in the actual world. Furthermore, demonstratives, which have referential power, can occur in expressions without *tane* but not in constructions with *tane* confirming that expressions with *tane* are not referential.

(1) a   Üc   öğrenci keki   yedi   b   Üc tane öğrenci keki   yedi:
      three student cake-A   ate   three cl. Student cake-A ate
      'Three students ate the cake'   'Three students ate the cake'
      = ok John, Tom, Bill   = * John, Tom and Bill

(2) a   Bu üc öğrenci geldi   b   *Bu üc tane öğrenci geldi
      these three student came   these three cl. student came
      'These three students came.'   'These three students came.'

Based on these findings Öztürk concludes that the expressions with *tane* are not DPs but bare NPs. Crucially, possessors can occur in *tane*-constructions. Thus, if Öztürk's analysis is correct this is evidence in favor of analyzing the possessor in SpecNP

(3)   John-un   üc   tane kitap-ı
       John-G   three   cl.   book-3-poss
       'three books of John's

missing in reduced relatives. The subject now has two options to avoid a fatal *Case Filter* violation. First, it can relativize and become the head noun of the relative clause construction. Alternatively, it can attempt to get case from the nominal that heads the reduced relative. For this it needs to either Agree with N in its situ position or to move out of its vP internal base position and raise to SpecNP where it can enter a Spec-Head relationship with N. To relativize the subject is a successful strategy for any language with reduced relatives. To attempt to license case on the subject of the reduced relative using the nominal head of the clause, however, is possible only in those languages in which structural genitive case is licensed inside NP, i.e., in languages like Japanese and Turkish.[65]

3.6 Summarizing: The Theory in a Nutshell

In a nutshell our theory of reduced relative and relative clauses with genitive subjects is this. Reduced relatives are NPs which dominate clauses that are smaller than CPs, following Iatridou, Anagnostopoulou & Izvorski (2000) Aspect or Perfect Phrases. Because they do not contain CP they cannot host CP elements, i.e., relative pronouns and complementizers. Because they do not contain IP (or TP), their verb is not tensed. It is non-finite (typically a participle). And, also because they lack the head that hosts tense they cannot license nominative case on their subject, given that the presence of the tense head is a necessary prerequisite for nominative case licensing.

The participle of the reduced relative receives the nominal agreement morphology that is typically observed with reduced relative participles from the nominal head of the reduced relative, N. It can either head-raise to N and incorporate into it, or it can receive this morphology in situ via Agree. Depending on what type of agreement is available for nominal modifiers (i.e., adjectives) within a given language the participle can exhibit

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[65] Note that genitive case cannot be licensed on the reduced relative subject in German and English even if (raising to) SpecNP were not involved and the reduced relative subject occupied the highest Spec position below N (SpecAspP or SpecPerfP). As we discussed earlier the genitive licensed on noun complements in German and English is inherent case. By definition this case cannot be licensed on a phrase in the specifier of a noun complement. Inherent case can be licensed only on the complement as a whole. In English, N

person, number, gender and case agreement with the head noun of the relative clause construction.

Because the subject of the reduced relative does not receive nominative case it has to look for a way to escape a Case Filter violation. In the simplest scenario this is achieved by relativizing the subject as in (45).[66]/[67]

(45)
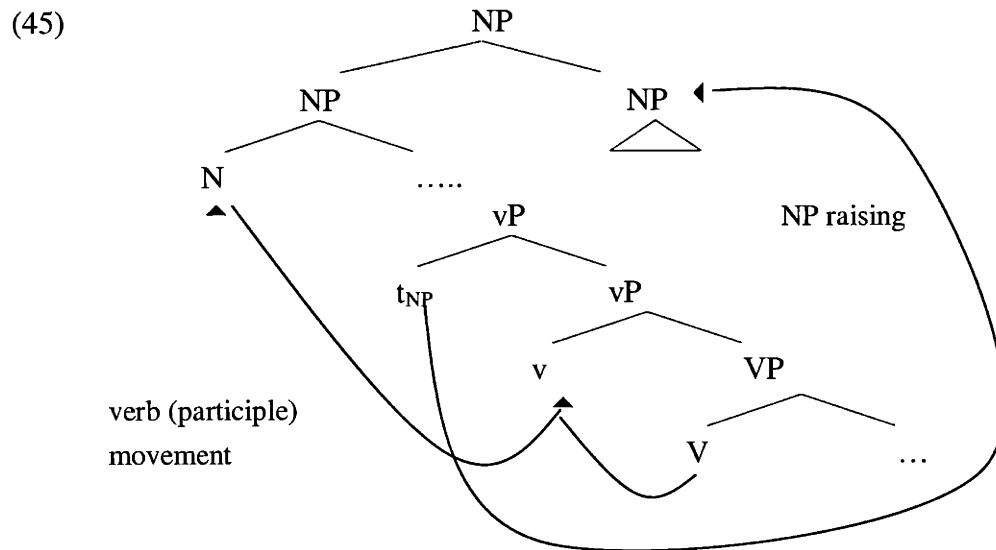
The subject NP raises out of the reduced relative NP and adjoins to it, creating a new NP. Because it is a NP that raises we do not face any problems regarding the lack of case on the NP trace. NPs are predicates not arguments and thus do not bear case. Once the subject NP has become the head noun of the construction a D-head will be merged and the resulting DP will receive case from the matrix verb.[68]

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cannot even license this case directly. English needs a preposition as a dummy case licenser. There is no position within reduced relatives that could possibly host this element.

[66] Note that we have an explanation for why subjects of standard reduced relatives undergo head raising to become the head noun of the relative clause. It is not clear what causes head raising, i.e., relativization, in all other cases, i.e., in cases where the relativized phrase can get case from inside the relative. There are at least two ways to think about this. It could either be that a semantic feature on the head NP causes its raising process, i.e., relativization, or it could be that the relativized phrase which is always merged as an NP is looking for a D-head which is not provided inside the relative clause. Which and whether any of these hypotheses is correct is a subject for further investigation.

[67] Recall from the discussion in section 3.1 that the pharse that is relativized must be a NP.

[68] Note that various orders of determiner and head noun are possible given that after D is merged N has the option to move to D. If DP is head final we can get the order [relative clause + N +D] if N does either not incorporate into D or does incorporate into D and attaches to its left, or the order [relative clause + D +N] if N incorporates into D and attaches to its right. If DP is head initial we can get the order [D + relative

The second available strategy for the subject of a reduced relative to avoid a *Case Filter* violation is to make use of the nominal head that heads the relative. The subject can either raise out of its base position to SpecNP, where it receives genitive case through Spec-Head agreement, or it can remain in situ and receive structural genitive case from N via Agree. (In either case N must be able to license structural genitive case.) In this scenario the object can relativize.

(46)
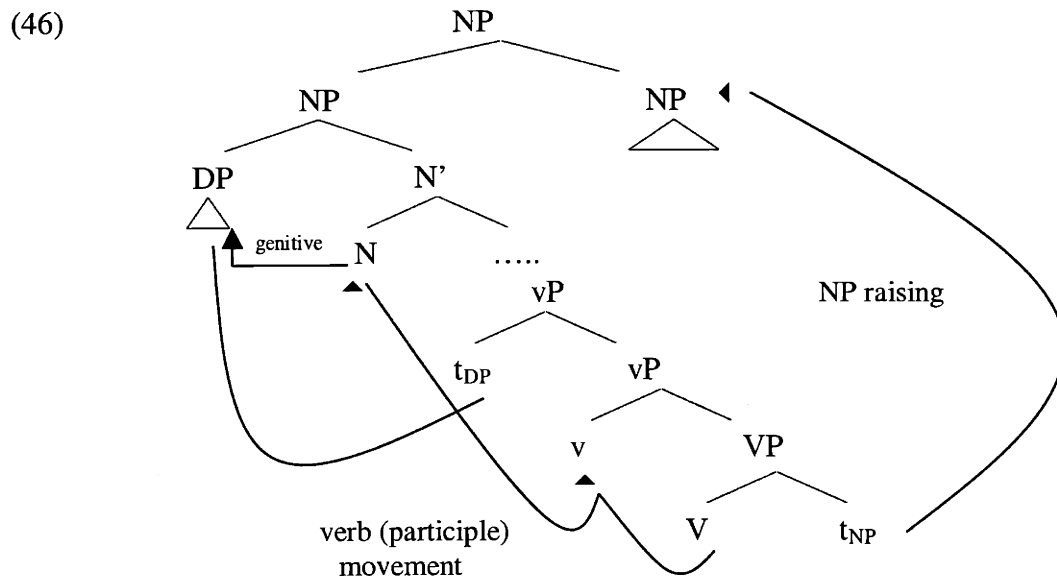
The strategy depicted in the tree diagram in (46) requires the head noun to be able to license structural genitive case on the subject of the reduced relative. (This is depicted in (46) as Spec-Head agreement, but keep in mind that this is also possible via Agree, i.e., with the subject remaining in situ. In that scenario the subject would have to be a DP if we are correct in assuming that only DPs can bear case.). This is the case in Turkish and Japanese but not in English and German. Hence, English and German can only employ the first strategy, i.e, the strategy depicted in (45).

In other words, German and English reduced relatives are forced to relativize the subject of the (matrix) reduced relative. This is because in these languages structural genitive case is not licensed within NP. Hence the subject of the reduced relative cannot

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clause + N] if N does not incorporate into D, or [D + N + relative clause] if N incorporates into D and

get case from the nominal head of the topmost projection of the reduced relative. In Japanese and Turkish, however, where structural genitive case is licensed in NP either strategy is possible, i.e., both subjects and non-subjects (as well as non-matrix subjects) can be relativized. In the case of non-subject relativization the result is a reduced relative with a subject that is marked for genitive case.

4 More on Turkish and Japanese Prerelatives

While few analyses have been put forward in the literature to account for the behavior of relative clauses with genitive subjects as a class, close attention has been paid to specific phenomena within relative clauses with genitive subjects in Turkish and Japanese. For Turkish this most noticeably concerns the debate about the syntactic mechanisms employed in the choice of –(y)AN versus –DIK (+possessive agreement) as the marker on the relative clause participle. In the Japanese literature the debate centers on the phenomena observed with the alternation of nominative and genitive subjects (Ga-No conversion). In the following section we will discuss how our account of reduced relatives relates to these problems. We will start with a discussion of Ga-No conversion.

4.1 Japanese Ga-No Conversion
4.1.1 The Facts

The term Ga-No Conversion describes the fact that in Japanese relative clauses and noun complement clauses (complex NPs) the subject can appear either in the nominative or in the genitive case.[69]

(47)   a [John-ga/-no tabeta] sakana   b [Mary-ga/-no kita] koto
          John-N/-G   ate   fish   Mary-N/-G   came   fact
          'the fish that John ate'   'the fact that Mary came'

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attaches to its right, [N + D + relative clause] if N incorporates into D and attaches to its left.
[69] According to Hiraiwa (2001) Ga-No conversion can also occur in Head-internal relatives and in certain adverbial and complement clauses. We will ignore these cases in our discussion.

Ga-No conversion has a variety of intriguing properties that have been extensively discussed in the literature and of which we will discuss only the main ones here (cf. among others Harada 1971, 1976, Nakai 1981, Saito 1982, Fukui 1986, Miyagawa 1989, 1993, Watanabe 1994, 1996a/b, Ochi 1999). First, in clauses with nominative but not in clauses with genitive subjects a direct (accusative marked) object can occur (48).[70] Note that relative clauses with genitive subjects are grammatical once the direct object is relativized (49).

(48) a [Jon-ga hon-o   katta] mise   b*[Jon-no hon-o   katta] mise
         Jon-N   book-A bought store   Jon-G   book-A bought store
         'the store where Jon bought the book'

      c [Mary-ga uso-o tsuita] koto   d*[Mary-no uso-o tsuita] koto
         Mary-N   lie-A told   fact   Mary-G   lie-A told   fact
         'the fact that Mary told a lie'

(49)   [(kinoo)   Jon-no katta] hon
         (yesterday) Jon-G bought book
         'the book that Jon bought (yesterday)'

Second, as noted in Miyagawa (1993), if a scope bearing subject of a complex NP clause is marked for nominative case no scope ambiguity between this subject and the head of the complex NP can be observed. If, on the other hand, the subject of the complex NP clause bears genitive case such an ambiguity does arise.[71]

(50) a [[Jon-ka Mary]-**ga**   kita]   riyuu-o   osiete
         [Jon-or Mary]-**N**   came   reason-A   tell me
         'Tell me the reason why Jon or Mary came
         (i) the reason Jon or Mary came   (reason > [... OR ...])
         (ii)*the reason Jon came or the reason Mary came   ([... OR ...] > reason)

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[70] This restriction applies only to a certain dialect it does not apply to the standard register.

[71] Note that the English counterpart to the examples in (50) is a relative clause and not a complex NP. According to Miyagawa (1993) the clause in (50), however, is a true complex NP clause and not a relative clause. Japanese relative clauses permit long-distance construal of the head noun as in 'the book that Jon thought that Mary bought'. The same is not true for *reason*-clauses. For further dicussion of complex NPs in Japanese cf. Yamashita (1992).

b [[Jon-ka Mary]-**no**   kita]   riyuu-o   osiete
    [Jon-or Mary]-**G**   came   reason-A   tell me
    'Tell me the reason why Jon or Mary came (yesterday)
    (i) the reason Jon or Mary came   (reason > [... OR ...])
    (ii) the reason Jon came or the reason Mary came   ([... OR ...] > reason)

Relative clauses, on the other hand, exhibit this ambiguity with either nominative or genitive subjects, as is expected under a head raising analysis for relative clauses.

According to Miyagawa (1993), scope interactions can also be observed between negation and the subject of a relative clause. The scope of negation in Japanese is clause bound. If the subject of a Japanese relative clause is marked for nominative it must be within the scope of negation. If the subject is marked for genitive, however, speakers exhibit an initial tendency to interpret it outside the scope of negation.

Finally, a further characteristic of Ga-No conversion concerns stative verb constructions. Stative verbs do not license accusative case. Their complement usually bears nominative case. In Ga-No conversion environments both the subject and the complement of the stative verb can be affected by Ga-No conversion.

(51)   a [Jon-ga nihongo-ga dekiru] koto   subject-**ga** object-**ga**
          Jon-N   Japanese-N do-can   fact

      b [Jon-no   nihongo-no dekiru] koto   subject-**no** object-**no**
          Jon-N   Japanese-N do-can   fact

      c [Jon-no   nihongo-ga dekiru] koto   subject-**no** object-**ga**
          Jon-N   Japanese-N do-can   fact

      d [Jon-ga nihongo-no dekiru] koto   subject-**ga** object-**no**
          Jon-N   Japanese-N do-can   fact
          'the fact that Jon can speak Japanese'

As the examples in (51) show, not only can the object be marked for genitive when the subject is in the genitive it can also be marked for genitive when the subject bears nominative case.

Interestingly, a scope-bearing object can take scope over the head noun only if it is itself marked for genitive and if the subject is marked for genitive case as well.

(52) a [Jon-**ga**   [tenisu-ka sakkaa]-**ga**   dekiru]   riyuu
      Jon-N   [tennis-or soccer]-N   can]   reason
      (i) the reason that Jon can play tennis or soccer
      (ii)*the reason that Jon can play tennis or the reason that Jon can play soccer

      b [Jon-**no**   [tenisu-ka sakkaa]-**no**   dekiru]   riyuu
      Jon-G   [tennis-or soccer]-G   can]   reason
      (i) the reason that Jon can play tennis or soccer
      (ii) the reason that Jon can play tennis or the reason that Jon can play soccer

      c [Jon-**no**   [tenisu-ka sakkaa]-**ga**   dekiru]   riyuu
      Jon-G   [tennis-or soccer]-N   can]   reason
      (i) the reason that Jon can play tennis or soccer
      (ii)*the reason that Jon can play tennis or the reason that Jon can play soccer

      d [Jon-**ga**   [tenisu-ka sakkaa]-**no**   dekiru]   riyuu
      Jon-N   [tennis-or soccer]-G   can]   reason
      (i) the reason that Jon can play tennis or soccer
      (ii)*the reason that Jon can play tennis or the reason that Jon can play soccer

In the following section we will briefly discuss three of the main current accounts for Ga-No Conversion Miyagawa's (1993) *Raising analysis* and Watanabe's (1995) *In situ analysis*, and Hiraiwa's (2001) *Agree analysis*.

4.1.2 Previous Analyses

Miyagawa's (1993) and Watanabe's (1995) accounts of Ga-No conversion share a set of assumptions. First, both assume that a nominative subject occupies SpecAgrSP in overt syntax and that second, an accusative object is located in SpecAgrOP in overt syntax. Finally, they both assume that a genitive subject is in VP in overt syntax and has to move at LF to check genitive case.

Miyagawa (1993): The crucial assumption of Miyagawa (1993) is that genitive case on the subject of a relative or complex NP clause is checked in SpecDP at LF. This accounts for the scope ambiguities with genitive subjects. To account for the facts observed in the Japanese stative construction, Miyagawa proposes that in the simplest case where both subject and object bear nominative neither moves into the higher DP and

thus no scope ambiguities are observed. Similarly, when both phrases bear genitive, both raise to SpecDP at LF and thus both can enter into scope interactions. If the subject is marked for genitive but the object is not, the object does not raise into DP and can therefore not have wide scope.

Problematic are the cases where only the object is marked for genitive but nevertheless cannot have wide scope (52d). Miyagawa claims that in these cases the subject is in AgrSP. Because it is a closer probe for the head that licenses genitive case within the outer DP it blocks movement of the object which would be a violation of Attract Closest (equidistance in Miyagawa's terms). A similar condition is at work to exclude the occurrence of accusative objects in clauses with genitive subjects. For Miyagawa this is excluded because a phrase cannot move over another phrase with an unchecked feature. In other words, for case checking the object needs to raise to a position higher than VP which is the host of the genitive subject. The genitive subject does not move before LF. Thus movement of the accusative object illegitimately crosses a phrase with an unchecked feature (Minimal Link Condition).

Criticism: Even though Miyagawa assumes a reduced structure for Japanese prenominal relatives his analysis is not able to account for the differences between reduced relatives and prerelatives with genitive subjects. If the genitive case on the prerelative subject was indeed licensed in the higher DP we would expect reduced relatives in for example English and German to be able to exhibit genitive subjects as well. Both languages have prenominal possessors whose case is licensed in SpecDP yet neither language can have reduced relatives with genitive subjects. We therefore conclude that Miyagawa's theory is not suited to account for the crosslinguistic behavior of reduced relatives.

For ga-no conversion in particular the most severe problem for Miyagawa's analysis is raised by the stative construction. According to Miyagawa a genitive object does not raise out of its clause if a nominative subject is present. It remains unclear what licenses the genitive case on the object. In addition, the analysis of the illicit accusative objects is problematic with respect to nominative subjects. In order for the accusative not to move over a phrase with an unchecked feature it has to wait till the subject has moved to SpecAgrSP. This requires a look-ahead property of the grammar that is undesirable.

Furthermore, for Miyagawa AgrSP is present in both clauses with genitive and clauses with nominative subjects. This raises the question of what happens to the case that AgrSP has to license in clauses with genitive subjects.

Watanabe (1995): Watanabe (1995) is mainly concerned with the transitivity restriction in clauses with genitive subjects. Based on a comparison with French stylistic inversion he assumes that SpecTP in Japanese is not available for subject movement neither in overt syntax nor at LF. He also assumes that SpecAgrSP does not need to be filled in overt syntax. A genitive subject indicates that SpecAgrSP is not filled in overt syntax. Genitive subjects must remain in VP in overt syntax and move to AgrSP to check case at LF. If a genitive subject must remain inside VP and an accusative object must move to SpecAgrOP in overt syntax, movement of the genitive subject to SpecAgrSP at LF would result in a minimality violation given that TP cannot serve as an escape hatch. Thus, an accusative object cannot co-occur with a genitive subject.

(53)　a　*John-no hon-o　kashita　hino
　　　　　John-G book-A lent　　person
　　　　　'the person to whom John lent a/the book'
　　　　　(from Watanabe, 1995)

b
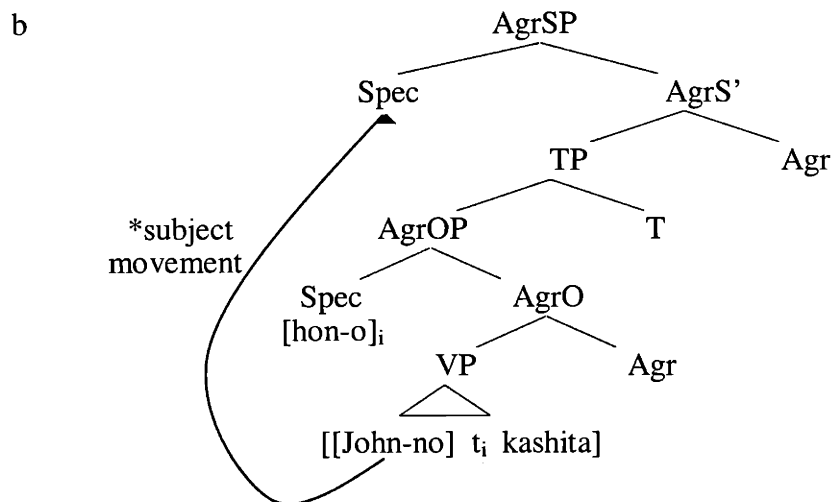
Criticism: For Watanabe Japanese prerelatives with either type of subject are CPs, i.e., full clauses. According to his analysis the fact that the prerelatives with genitive subjects exhibit properties of reduced relatives, especially the nominal inflection on the

verb, remains accidental. Hence, Watanabe's theory is not suited to provide a unified account for the crosslinguistic correlations between reduced relatives and relative clauses with genitive subjects.

Furthermoe, Watanabe emphasizes that genitive case is not checked within DP. Thus, he is forced to assume that genitive on a par with nominative case is licensed in SpecAgrSP. This leaves us in need for an explanation as to why AgrSP can alternate between nominative and genitive case licensing and why this is illegitimate in main clauses. The same problem holds for genitive case on the object in stative constructions. Moreover, because for Watanabe genitive case is not licensed within the outer DP he has no explanation for he various scope interaction facts with genitive subjects discussed in the previous section.[72]

Hiraiwa (2001): Hiraiwa assumes that clauses with genitive subjects are CPs and that it is C that hosts the feature for genitive case licensing. Clauses with genitive subjects differ from clauses with nominative subjects in the nature of their C-head. In clauses with genitive subjects, C contains null affix, which is subject to the Stranded Affix Filter (cf. Lasnik 1981, 1995). To avoid a stray affix a C head with a null affix requires an Agree operation with the T-v-V amalgam thus forming C-T-v-V. This new amalgam is what licenses genitive case on the subject and results on the adnominal form on the verb.

(54)

$$CP$$

TP $C_{affix}[u\phi]$

vP $T[u\phi]$ ↑

$DP_{subj}[\phi]$ v'   COPY/TRANSFER

↑

VP   v[uφ]

AGREE   (from Hiraiwa, 2001)
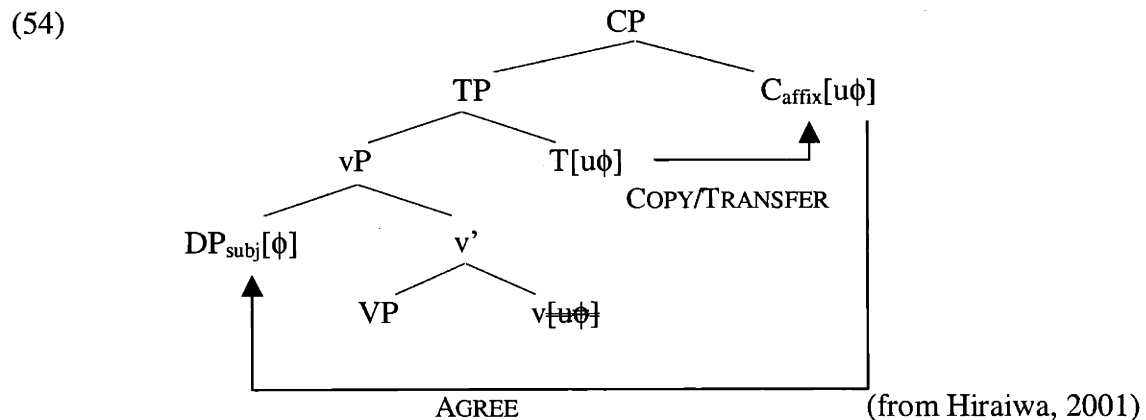
It is important for Hiraiwa that this complex head contains the features of both C and T, i.e., is empowered to license either genitive or nominative case. In stative verb

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[72] A more detailed criticism of both Miyagawa's and Watanabe's account can be found in Hiraiwa (2001)

constructions this is an important factor in licensing both genitive and nominative case simultaneously. Because the head amalgam contains both features this is possible and because the head amalgam is a single probe it can check case on both subject and object simultaneously, an operation Hiraiwa calls *Multiple Agree*. [73]

Criticism: According to Hiraiwa's analysis relative clauses with genitive subjects are full clauses, i.e., they involve structures and derivational mechanisms that are not found in reduced relatives. Thus, the fact that relative clauses with genitive subjects share a significant number of properties with reduced relatives crosslinguistically remains an accident in his system. This is problematic because, as we have seen, these correlations are systematic and not accidental.

With respect to the particulars of ga-no conversion Hiraiwa's analysis is problematic for three main reasons. First, it does not offer a satisfying solution to the transitivity restriction, i.e., to the fact that in clauses with genitive subjects accusative objects are illicit. Second, it cannot account for the scope interactions between genitive subjects and objects and the head noun of a complex NP. (For relative clauses they would follow under a head raising analysis.) Finally, with respect to the stative construction the question arises why the T-v-V head amalgam does not always check nominative case on both subject and object as soon as it is merged. It cannot be because of the null C that could incur a *Stray Affix Filter* violation. At the time T is merged and the complex head T-v-V is formed, we have no information about the nature of C. To make reference to its 'deficient' status would thus require a look ahead property of the grammar.

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[73] Hiraiwa uses double accusative constructions in Korean as additional evidence for *Multiple Agree*, i.e., the simultaneous checking of case on to phrases by the same probe. Double accusative constructions seem to pose a problem otherwise, because without Multiple Agree the case checking feature on the probe would be deleted after checking case of the first goal leaving the second accusative marked goal with an unchecked feature. Note that the underlying assumption behind this reasoning is that the accusative case on the two objects is the same structural case. This, however, does not need to be the case. As de Hoop (1992) has argued for the Dutch and German double accusative constructions the two accusative marked arguments behave quite different with respect to their semantic properties. Based on these facts De Hoop argues that the case that is realized on these phrases is, despite the same ending, different for the two phrases. One is true structural case and the other is what de Hoop calls weak structural case. The view that there are two different types of structural cases is also defended in Krause (2000). If this is correct then the mechanisms and features involved in the case licensing of the two accusative phrases are quite different

4.1.3 Ga-No Conversion in the Theory of Reduced Relatives

According to our theory of reduced relatives there is a structural difference between clauses with nominative and clauses with genitive subjects. The former are regular CPs while the latter are NPs that host an array of (aspectual and) verbal projections. Ga-No conversion within relative clauses can be straightforwardly accounted for within our system. In the case of a relative clause with a genitive subject we are dealing with a reduced relative that is headed by N. Its verb can either raise to the N-head or enter an Agree relation with it and as a result the verb bears nominal inflection, i.e., appears in the so called adnominal form. The reduced relative does not contain a tense head and can thus not license nominative case on its subject. The subject can, however, get structural case from N, either by raising to SpecNP (when N comes with an EPP property) or in situ via Agree. Relative clauses with nominative subjects, on the other hand, are full clauses, i.e., CPs. They require no special analysis. The scope ambiguities between the head noun and a scope bearing subject that are observed with both nominative and genitive subjects follow straightforwardly from a head raising analysis for relative clauses.

As for the transitivity restriction, i.e., the fact that clauses with genitive subjects do not permit an accusative case marked object in them, this can also follow from the fact that these clauses are reduced. As we discussed above, languages might differ as to how big reduced relatives are, i.e., how high they project below NP. If we accept a view according to which accusative case in Japanese is licensed in SpecAgrOP, this means that AgrOP is not projected in these clauses. In other words, AgrOP is located higher in the tree than the NP that hosts the sequence that can be a reduced relative and hence AgrOP cannot be part of a reduced relative in Japanese. Alternatively, if we accept the view that accusative case in Japanese is licensed in Spec$v$P we can assume that in reduced clauses either v is deficient and does not come with the feature that is necessary for accusative case licensing or that vP is not projected in these clauses.

That nominative subjects in complex NP clauses do not exhibit scope ambiguities with the head noun also follows straightforwardly from our analysis that they are full

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and an operation like *Multiple Agree* would not only be redundant but it would also wrongly predict that the two accusative marked objects behave exactly alike.

clauses and the fact that *Quantifier Raising* (QR) is clause bound. Complex NPs with genitive subjects, however, are not full clauses, they are reduced clauses and thus QR is not bound within them. In these clauses the subject can raise to SpecNP (in the topmost pojection of the reduced clause) to receive genitive case. Once it is in SpecNP and has received case, the subject is free to move to the next A'-position (the Spec of the higher DP) and take wide scope. If our analysis is on the right track we expect genitive subjects of complex NP clauses in languages other than Japanese to exhibit scope ambiguities with the head noun as well. This prediction is confirmed for Turkish.

(55)　a　Jon　veya　Tod-un　gel-diğ-i　　　　dedikodu-su
　　　　　Jon　or　　Tod-G　come-DIK-3poss　rumor-poss
　　　　　'the rumor that Jon or Tod came'
　　　　　(i) the rumor that Jon or Tod came　　　　　　　　　　rumor > [... OR ...]
　　　　　(ii)　the rumor that Jon came or the rumor that Tod came　[... OR ...] > rumor

　　　　b　Jon　veya　Tod-un　gel-me　　sebeb-i
　　　　　Jon　or　　Tod-G　come-inf　reason-3poss
　　　　　'the reason why Jon or Tod came'
　　　　　(i) the reason Jon or Tod came　　　　　　　　　　　reason > [... OR ...]
　　　　　(ii)　the reason Jon came or the reason Tod came　　　　[... OR ...] > reason

As for stative verb constructions, the sequence *[subject-ga object-ga]* occurs in full clauses. The subject receives nominative case from finite T and nominative case on the object is licensed in the fashion it is licensed in main clauses, i.e., (presumably) by the verb. Because the clause is a full clause, QR cannot move a scope-bearing object out of it. Hence, this object cannot take scope over the head noun. The sequence *[subject-no object-no]* occurs in reduced clauses. Both subject and object raise to the specifier of the N heading the reduced clause where they get case. From this position the scope bearing object can QR into the higher DP and take wide scope over the head noun.[74]
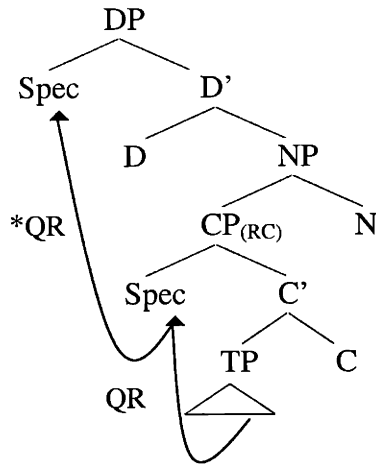
(56) *Full Clause*   *Reduced Clause*
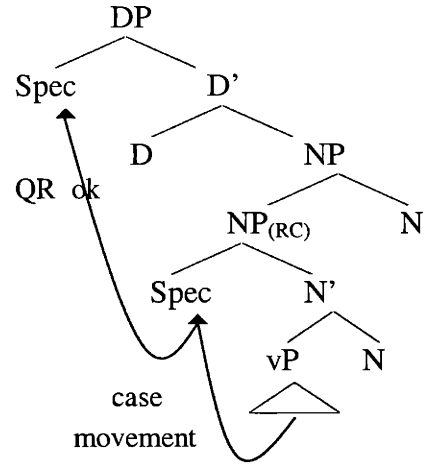
The sequence *[subject-no object-ga]* occurs in reduced clauses as well. The subject receives genitive case from the N heading the reduced clause via either Spec-Head agreement or simple Agree. The nominative case on the object, on the other hand, is licensed in whatever way it is licensed on objects in the statitive constructions in main clauses. Although QR can in principle move a scope-bearing object out of this clause this movement in the case of a nominative cased object would yield a subjacency violation. This is because on its way to the specifier of the higher DP the object would have to cross two NPs, the NP of the reduced relative and the NP hosting the head noun. It cannot use the specifier of either NP as an escape hatch because SpecNP is an A- and not an A'-position. Accordingly the nominative cased object only takes lower scope with respect to the head noun of the complex NP.

Finally, the sequence *[subject-ga object-no]* is somewhat more problematic. Two analyses are possible. First, we could assume that we are dealing with a full clause, i.e., we could assume that the subject receives case from finite T. This, however, offers no explanation for the genitive case on the object. If we dealt with a regular, i.e., full clause here, we would expect genitive on the object to be possible also in main clauses with stative verbs. As (57) shows, this is not the case.

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[74] It has been argued independently that Japanese can have multiple specifier (cf. Ura, 1996) and that also multiple genitive case checking is independently observed in the Japanese NP (cf. the examples in (39) in section 4.3).

(57) * Jon-ga   nihongo-no dekiru
       Jon-N   Japanese-G do-can
       'Jon can speak Japanese.'

The alternative is to analyze the sequence *[subject-ga object-no]* as presenting a reduced clause. Because in reduced clauses finite T is not present and thus nominative case is not licensed on the subject this raises the question how the subject gets nominative case. As a solution we could assume that in this scenario subject and object 'switch roles'. In other words, nominative case on the subject is licensed in the same manner as it is normally licensed on the object in stative verb constructions. The object, on the other hand, gets genitive case from the N that heads the reduced clause via Agree, i.e., without raising to SpecNP, which is indicated by its occurring in a structurally lower position than the subject of the clause. Because the object checks case via Agree it cannot QR to the specifier of the higher DP because this movement results in a subjacency violation. Note that if this line of reasoning is correct, we predict that a genitive subject which checks case via Agree should also not be able to take scope over the head noun. In other words a genitive subject that is not the leftmost element in its clause is predicted to have only narrow scope with respect to the head noun of a complex NP. This is indeed correct.

(58) a [[Jon-ka Mary]-**no**   kinoo   kita]   riyuu-o   osiete
        [Jon-or Mary]-**G**   yesterday came   reason-A   tell me
        'Tell me the reason why Jon or Mary came yesterday.'
        (i) the reason Jon or Mary came   reason > [... OR ...]
        (ii) the reason Jon came or the reason Mary came   [... OR ...] > reason

     b [kinoo   [Jon-ka Mary]-**no**   kita]   riyuu-o   osiete
        yesterday [Jon-or Mary]-**G**   came   reason-A   tell me
        'Tell me the reason why Jon or Mary came yesterday.'
        (i) the reason Jon or Mary came   reason > [... OR ...]
   (ii)*the reason Jon came or the reason Mary came   [... OR ...] > reason

Two remarks are necessary. First, the preconditions for this 'role switching' are that (i) this nominative case is structural case and thus is not associated with a theta-role and that (ii) both the subject and the object are equally close to the probe. The latter requires that both subject and object occupy the specifier of the same projection, i.e., the

specifier of the case-licensing head. Because a detailed examination of this proposal is beyond the scope of this investigation we will leave it for future research.

4.2 Turkish: The Choice of -(y)AN versus –DIK participles
4.2.1 The Facts

In the first chapter we have already discussed the choice of -(y)AN versus –DIK (+possessive agreement) as the participial marker in Turkish relative clauses. We will briefly repeat the relevant facts and examples here.

The characteristic of the participial marker –(y)AN is that it is not followed by agreement morphology. It occurs on the relative clause participle in subject relativization (59a), relativization of a possessor on the subject (59b) or on a locative/directional phrase in clauses with indefinite subjects (59c). It is also used for relativization out of a sentential subject (59d), and for relativization in impersonal passives (59e).

(59) a [[gap] kabağ-ı   yi-yen] yılan
                 squash-A   eat-AN   snake
          'the snake that ate the squash'
      b [[[gap] yılan -ı]   kabağ-ı   yi-yen] adam
                 snake-poss   squash-A eat-AN   man
          'the man whose snake ate the squash'

      c [[[gap] alt-ın-dan]   su   ak-an]   kapı
                  bottom-poss-Abl   water flow-AN   door
          'the door under which water is flowing'

      d [[[gap] kabag-ı   ye-diğ-i]   süpheli ol-an]   yılan
                 squash   eat-DIK-3poss doubtful be-AN   snake
          'the snake which it is doubtful (that) ate the squash'

      e [[gap] sokağ-a   çık-ıl-an]   kapı
                 street-D   exit-pass-AN   door
          'the door that one exits to the street by'
          (all examples from Hankamer & Knecht, 1976)

Unlike –*(y)AN* the participial marker –*DIK* is followed by agreement, specifically by the type of agreement that shows up on the head noun in possessive constructions. The –*DIK* + possessive agreement marking occurs on the participle in object relativization (60a), relativization of a possessor on an object (60b), and relativization of constituents in sentential objects (60c). Furthermore it is also used for the relativization of constituents belonging to adverbial clauses (60d) and complex NPs (60e).

(60)   a   [Meltem-in gör-düğ-ü]   yılan
               Meltem-G see-DIK-poss snake
               'the snake that Meltem saw'

       b [yılan-ın [[gap] kabağ-ın-ı]   ye-diğ-i]   adam
          snake-G   squash-3poss-A eat-DIK-3poss   man
          'the man whose squash the snake ate'

       c [[Hasan-ın [gap] kabağ-ı   ye-diğ-in-i]   san-dığ-ı]   yılan
          Hasan-G   squash-A eat-DIK-3poss-A believe-DIK-3poss snake
          'the snake that Hasan believes ate the squash'

       d [biz-im [[gap]   öl-düğ-ü   için] üzul-düğ-ümüz]   adam
          we-G   die-DIK-sg-3poss because sad-DIK-pl-3poss man
          'the man who we were sad because (he) died'

       e [ben-im [[gap] patlıcan-ı   ye-dığ-ı]   söylentisin-e inan-dığ-ım]   adam
          I-G   eggplant-A eat-DIK-3poss rumour-D believe-DIK-1poss man
          'the man who I believe the rumour that ate the eggplant'
          (all examples from Hankamer & Knecht 1976)

Finally, as the examples in (60) d and e show, the –*DIK* strategy is also used for the marking of factive sentential complements.

4.2.2 Previous Analyses

There has been a long standing debate in the literature on Turkish relative clauses as to what determines the choice of –*(y)AN* versus –*DIK* as the participial marker. We will

discuss only the account of Kornfilt (2000) and neglect the analyses of Underhill (1972), Hankamer & Knecht (1976), and Barker, Hankamer and Moore (1990).

Kornfilt (2000): Building on earlier work (Kornfilt 1984, 1991, 1997a/b), Kornfilt (2000) attempts to derive the choice of *–(y)AN* versus *–DIK* by assuming that (i)Turkish prenominal relative clauses are CPs, (b) –(y)AN participles are used only whenever –DIK participles (the elsewhere case) are illegitimate, and (c) from the fact that Turkish is a *pro*-drop language in combination with a generalized version of BT Principle B.

(61)   The A'-disjointness requirement:

A pronoun must be (A'-) free in the smallest Complete Functional Complex (CFC) which contains it.

The basic idea behind her proposal is that in Turkish 'strong' agreement always identifies a *pro* argument, i.e., a pronoun and that this pronoun must be both A- and A'-free in its smallest governing domain (Complete Functional Complex).

The relative clause participle with –DIK always comes with strong agreement, i.e., with (possessive) person and number agreement. According to Kornfilt (following Jaeggli, 1984) it therefore always identifies a *pro* argument in subject position, i.e., a *pro* subject is obligatory in the presence of the possessive agreement on participles marked with –DIK. Hence, -DIK cannot be used as a strategy for subject relativization. Because of the strong agreement that is associated with –DIK the use of this strategy would create a *pro* in subject position that is illegitimately bound by the relative operator in SpecCP. The participle with –(y)AN on the other hand, does not bear agreement. Therefore it does not require a pro in subject position and the resulting configuration, i.e., a trace in subject position bound by the relative operator in SpecCP is grammatical.

Cases of relativization out of a subject are more complex. Here the operator in SpecCP cannot be co-indexed with a *pro* in subject position and thus the –DIK participle with agreement should be fine. In order to accommodate these cases within her system Kornfilt assumes that for extraction out of a complex subject the subject has to move to a higher (non-CP) position (TopP) such as to avoid a subjacency violation. This movement creates a trace in a position that is c-commanded by the subject. If –DIK is used as the relative participle the strong agreement on it identifies the trace as *pro*. The subject in the

structurally higher position then illicitly binds a pronominal in violation of generalized BT principle B. With the -(y)AN participle, however, no *pro* is created in subject position and the derivation is grammatical.

Similarly, in impersonal passives and clauses with indefinite subjects the use of the –DIK participle that bears 'strong' agreement creates an expletive (non-thematic) *pro* in subject position. This pronominal is illegitimately bound by an operator in SpecCP even though relativization does not target the subject. To accomplish that Kornfilt uses a mechanism of index transmission. The C-head of the relative CP shares the index of the relative operator. This index is assigned to the subject position as well iff it contains a non-thematic subject, i.e., if it contains an expletive pro. Thus, using –DIK participles in these scenarios again results in a violation of generalized BT principle B. If the-(y)AN strategy is used, however, no expletive pro is created and illegitimately bound in subject position. Hence, -(y)AN participles yield a grammatical derivation.

Criticism: First and foremost, Kornfilt's account cannot capture the properties of relative clauses with genitive subjects crosslinguistically. First, since for her these clauses are CPs it remains unclear why relative pronouns and complementizers are prohibited to occur. Second, for the same reason it is unclear why these relatives are always non-finite, third, why the participle bears nominal agreement, fourth, why their subject cannot bear nominative case, and finally, fifth, why they pattern with reduced relatives in these regards.

Kornfilt's analysis is also problematic with regard to particular aspects of the choice between –(y)AN and -DIK. First, as we can see in (62) relativization of a possessor out of a subject invariably in default third person singular person/number agreement on the subject even if the possessee is a second person pronoun. This indicates that in these cases relativization does not involve a trace but an expletive *pro*-argument.

(62)   Baba-sı   denizci ol-an ben   yüz me   bilmiyorum
       Father-3poss sailor   be-AN   I   swimming   I-don't-know
       'I, whose father is a sailor, cannot even swim.'

The fact that there is a *pro* argument instead of a trace inside the relative shows that this type of relativization does not involve 'true' extraction out of the subject. Hence, the

subject does not need to move to a higher (non-CP) position to facilitate such an extraction and therefore does also not create a gap in subject position which could be identified as *pro* by the agreement on –DIK and in turn be illicitly bound by the subject. In other words, if this extraction does not take place the -DIK participle should be possible in this scenario.

If, however, movement of the subject to a higher position inside the relative CP is necessary for independent reasons, we expect the same reasons to apply in cases where the subject is non-complex, i.e., is not a sentential subject or a subject containing a possessor. Then using the participle with –DIK plus agreement always results in the creation of a *pro* argument in subject position and this pro will always be illegitimately bound by its antecedent subject and hence –DIK type participles should, contrary to fact, not even exist.

Second, with respect to impersonal passives and clauses with indefinite subjects, it remains unclear what the empty element in the subject position of the –(y)AN clause is and how it can cope with the EPP and the case feature that T (I) has to give.

4.2.3   The –(y)AN/-DIK Alternation within the Theory of Reduced Relatives

Within our theory of reduced relatives the crucial observation regarding the choice of the participle with –(y)AN versus the participle with –DIK is that the latter but not the former licenses genitive case on the relative clause subject. We will argue that in all the cases where the participle with –DIK and possessive agreement is used a genitive subject is present. This is obviously true in cases of object relativization, relativization of a possessor on an object, and relativization out of complex NP. As for relativization out of adverbial clauses and sentential object it is also trivially true in all the cases where a non-subject is relativized. If a subject is relativized out of these clauses we have to assume that the agreement on –DIK licenses genitive case on a *pro* subject. That this hypothesis is correct is confirmed by the fact that the subject position in these cases can be occupied by a resumptive pronoun that bears genitive case.

(63) a [[Hasan-ın [kendisin-in; kabağ-ı ye-diğ-in-i] san-dığ-ı] adam
Hasan-G self-G squash-A eat-DIK-3poss-A believe-DIK-3poss man
'the man that Hasan believes that (he) ate the squash'

b [biz-im [kendisin-in; öl-düğ-ü icin] üzül-düğ-ümüz] adam
we-G he-G die-DIK-3-sg-poss because sad-DIK-3-Pl-poss man
'the man who we were sad because (he) died'

The participle with –(y)AN on the other hand is used whenever the subject position is empty or whenever the element in subject position does not require genitive case. This is trivially true for the trace left behind in this position in subject relativization. It also seems to hold for clauses with indefinite subjects and impersonal passives.

In the literature on Turkish it has been claimed that indefinite subjects are incorporated into the verb (cf. Dede 1986, Enç 1991, Erguvanlı 1984). If this view is correct the question arises what satisfies the EPP on T in main clauses with indefinite subjects. Based on the fact that the verb in clauses with indefinite subjects exhibits default third person singular agreement Kornfilt (2000) argues that SpecTP in these clauses is filled with an expletive pro. Thus, it is this expletive pro that satisfies EPP on T. According to our theory of reduced relatives T is not projected in Turkish prerelatives. Hence, expletive pro need not be present in prerelatives with indefinite subjects. In other words, the only subject present is the one that is incorporated into the verb. Because of this incorporation process the subject is not in need of case and therefore –(y)AN can be chosen as the participial marker.

The same reasoning applies to clauses with impersonal passives. In main clauses with impersonal passives as well the default third person singular agreement is enforced on the verb. Kornfilt (2000) takes this as evidence to argue that clauses with impersonal passives contain an expletive pro in the SpecTP position. This pro satisfies EPP on T. Again, according to out theory of reduced relatives T is not projected and hence we don't need the expletive element to satisfy an EPP feature on it. Because no overt subject that is in need of case is present in these constructions relative clauses with impersonal passives can chose –(y)AN as the participial marker.

Finally, -(y)AN is also chosen as the participial morpheme when relativization targets a constituent in a complex subject, i.e., a possessor on a subject or a constituent

within a sentential subject. The complex subject in these scenarios does not receive genitive case. If our analysis of reduced relatives is on the right track then these complex subjects must be in a position where they do not require (genitive) case, i.e., possibly in an adjunct position. To test this hypothesis and to answer the question what mechanisms might trigger this behavior of complex subjects, however, requires an in depth analysis of this construction that is beyond the scope of this investigation. We will therefore leave it open for future research.

4.3 Summary

In the previous sections we discussed two specific phenomena that have been observed in the literature in connection with prenominal relative clauses: Ga-No conversion in Japanese and the choice of -(y)AN versus –DIK as the participial marker in Turkish prerelatives. We first discussed the various properties of the constructions and previous accounts thereof. As we could see, the previous accounts of Ga-No conversion and the choice of –(y)AN versus –DIK fail to derive the correct empirical generalization that they aim to explain. Furthermore, they also fail to recognize and are inadequate to account for the properties that reduced relatives and prerelatives share crosslinguistically. Our account, on the other hand, provides a unified analysis for both types of relatives and is able to derive both the similarities as well as differences between them. In addition, it provides an adequate explanation for the phenomena related to Ga-No conversion and the choice of –(y)AN versus –DIK in Turkish prerelatives. Therefore our account is theoretically and empirically superior.

5 Postnominal Relatives with Genitive Subjects

5.1 Hiaki

Recall from the discussion in chapter 2 that there are languages that have relative clauses with genitive subjects that surface in postnominal position. Hiaki is such a language. It exclusively uses postnominal relative clauses that do not permit relative pronouns and complementizers, whose verbs are participles that exhibit nominal inflection (for case and number) and are marked differently for subject versus object relativization, and whose subject cannot bear nominative case but is marked for genitive case instead.[75]

(64) a   hu 'o'ou hu-ka hamut-ta   waata [em   biča-ka-'u-ta]
           the man det-A woman-A love 2-sg-G see-prf-'U-A
           'The man loves the woman who you saw.'

      b   hu 'o'ou hu-ka hamut-ta   waata [enči   biča-ka-me-ta]
           the man det-A woman-A love 2-sg-A see-prf-ME-A
           'The man loves the woman who saw you.'

If our analysis is on the right track Hiaki permits reduced relative clauses with genitive because it licenses structural genitive case within NP as a structural case.

We have already seen that Hiaki relative clauses behave like typical reduced relatives. The question to ask now is whether it is true that Hiaki licenses structural genitive case within NP. As the data in (65) show, Hiaki has prenominal possessors that invariably precede the head noun (including all adjectives) and invariably follow the determiner.[76]

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[75] Recall that in order for the reduced relative to bear accusative marking it must be extraposed. Both examples in (64) contain extraposed reduced relatives. Reduced relatives without accusative marking, however, occur in immediate postnominal position as in (1):

(1) (Hu)[hamut [yé'ee-me]] née   tú'ure
     (that)woman dance-Nzr me-A like
     'The woman who is dancing likes me.

[76] Although demonstratives are permitted in this construction they are somewhat redundant because, as mentioned earlier, prenominal possessors seem to generally turn possessive DPs into definite constructions.

(65) Nee [uu Maria-ta bwalko tosai bankotat] katek
I this Maria-G soft white bench-A-on sit
'I am sitting on Maria's soft white bench.'

The fact that Hiaki prenominal possessors must follow the determiner is an especially strong argument in favor of analyzing the possessor as being in NP. The fact that the possessor occurs prenominally, on the other hand, supports the claim that this possessor is located in SpecNP where it can receive (structural) genitive case through a Spec-Head-relationship with the head noun.

Now that we have argued that genitive case in Hiaki is licensed within NP, the facts of Hiaki relative clauses follow. Hiaki relative clauses are reduced relatives. As such, their topmost projection is a NP and they lack the projection in which nominative case is licensed on the subject. In order to get case, the subject has two options. It can either relativize, in which scenario it receives case from the matrix verb as part of the higher DP or it can receive structural genitive case from N, the head of the topmost projection of the reduced relative, either through raising to Spec NP, or in situ via Agree.[77]

Before we conclude this section let us briefly discuss whether Hiaki relative clauses involve head-raising. Consider the example in (66).

(66) Kave ume vu'u livrom hinu-ne Maria-ta waatane-'u-m ehkuela vetchivo
No one many books buy-fut Maria-G need-'U-pl school for
Nobody would buy the many books that Maria needs for school.
(i) Maria needs many books for school (need >many
(ii) Nobody would read x,y,z,…that Maria needs for school and that are many.
(many > need)

For the example in (66) both the lower and the higher reading are available. According to the lower reading, i.e., the reading where the head noun reconstructs into the relative clause and need takes scope over many, Mary needs many books for school. The higher

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[77] Note that as in Turkish the morphology on the relative clause participle in Hiaki changes in subject versus object relativization as well. This can be taken as an indication of agreement that surfaces on the participle in the N-head of the reduced relative only if N is licensing genitive case on the subject. In other words, the different participial marker in object relativization could be a reflex of the case licensing process between N and the subject of the relative. If this is correct, it provides further evidence in support of the

reading requires the head noun to be interpreted outside the relative clause so that *many* can take scope over *need*. The resulting interpretation is that nobody would read the specific books Maria needs for school, which happen to be many. The fact that both readings are available shows both that reconstruction is available and that it is optional. Therefore we conclude that Hiaki relatives do involve head-raising.

5.2 Tohono O'odham

Recall from the discussion in chapter 2 that Tohono O'odham relatives can appear either pre- or postnominally. Recall furthermore that there was as much evidence in favor of the claim that these relatives are reduced relatives as there was against it. O'odham relatives seem to have a relative complementizer, *m*-, and finite verbs, which supports the claim that they are full relatives. On the other hand, *m*- could serve as a dummy element for the second position clitic and the verb could actually be non-finite given that O'odham permits ECM out of finite clauses. This seems to favor the claim that they might be reduced relatives.

In this section we will address the question whether Tohono O'odham at least has the necessary prerequisites to form relative clauses with genitive subjects. (Recall that O'odham does not overtly mark case and that thus we cannot see what case the subject in the O'odham relative clause bears.) In other words, we will have to ask whether prenominal possessors in O'odham can receive case within NP and whether this case is structural case. In addition we will address the question whether O'odham relative clauses involve a head-raising analysis.

Tohono O'odham has both pre- and postnominal possessors. Consider the examples in (67).

(67) a g Husi pigcul   b hegai pigcul-ij g Husi
         det Joe picture   that picture-his det Joe
         'Joe's picture'   'the picture of Joe'

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claim that the genitive case on the subject is structural case since agreement on the case licensing head occurs as a reflex of feature checking, which is involved only in structural case licensing.

As we can see in (67a), if the possessor occupies a prenominal position the head noun appears in its unmarked form. When the possessor surfaces in postnominal position, however, the head noun is marked for person and number agreement with the possessor. This type of agreement typically shows up as a reflex of a structural case checking relationship (cf. for example German where the determiner agrees with a prenominal possessor in person and number as well).[78] Thus, if this analysis of the construction in (67b) is correct, the case on the postnominal possessor in (67b) is structural case that is assigned within NP as is evidenced by the fact that the possessor appears in as the complement to the noun.[79]

There is, however, an alternative analysis for (67b). Specifically, one could argue that in (67b) the head noun has raised to D and incorporated into it. The morpheme –*ij*, 'his', that surfaces on the head noun would then have to be analyzed as a possessive determiner that requires raising of the head noun to D because of its nature as a bound morpheme.[80] Under this analysis the postnominal possessor in (67b) would be equivalent to the prenominal possessor in (67a). In other words, it would be a prenominal possessor that is stranded in postnominal position by N-movement. This analysis also requires the possessor to occupy a position within NP. This position is SpecNP and, as we have seen in various case before, it is typically a position where structural case is licensed via a Spec-Head relationship.

Thus, we conclude that independent of which analysis we choose we arrive at the result that O'odham has possessors that receive structural case within NP. For theoretical reasons, however, we favor the second account, as it provides a unified analysis for pre- and postnominal possessors in Tohono O'odham. The important result from this discussion for the purposes of this thesis is that we have shown that O'odham does have the means to construct reduced relatives with 'genitive' subjects. Whether it does indeed

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[78] In addition, if Krause (2000) is correct in claiming that inherent cases must be marked by a phonetically overt agreement morpheme, then all cases in O'odham should be structural cases because, as we discussed in chapter 1, O'odham does not overtly mark any case.

[79] Possessors are always arguments and never adjuncts. Thus the complement position to N is the only available position for this possessor.

[80] Note that the German possessive pronoun is likewise an element of D.

make use of this option is a different question that still remains unsolved. We will return to this problem in the following chapter.

Finally, before we conclude this section we will briefly discuss whether Tohono O'odham relative clauses do involve head raising. Note that all the arguments presented with respect to the availability of head raising here hold independent of whether O'odham relative clauses are reduced or full relatives. Consider the examples in (68).

(68) a Ñeid 'añ   i:da [mat   g Huan am bei] pigcul ab   hejel e-amjeḏ
        see 1-Aux this sub-3-Aux det John prloc get   picture prloc emph. self-about
        'I see the picture of himself that John took.'

     b* Ñeid 'añ hegai pigcul-ij   g Huan [mat   heg am bei]
        see 1-Aux that picture-his det John   sub-3-Aux he   prloc get
        'I see John's picture that he took.'

As we can see in (68) the anaphor that is contained in the head NP *pigcul ab hejel e-amjed*8, 'picture of himself', is bound by the subject of the relative clause, *g Huan*, 'John'. This is possible only if the whole head NP can reconstruct back into the relative clause, i.e., if this NP originated inside the relative. For the same reason (68b) is ungrammatical. In (68b) the head NP including the possessor *g Huan*, 'John', reconstructs back into the relative clause. There the subject pronoun illegitimately binds the R-expression and as a result the configuration is ungrammatical.

Consider now the example in (69).

(69) Hegai we:peg 'o'ohona mo   hegai uwĭ hab elid   mat   g Tolstoi 'o'oha.
      That   first book   sub-3 Aux that woman she thinks sub-3-Aux det Tolstoi wrote
      'The first book that the woman thought that Tolstoi wrote.'
      a. high reading: 1990 the woman thought Tolstoi had written Anna Karenina.
                       1991 she thought Tolstoi had written War and Peace.
                       Hence: Anna Karenina
                       (order of saying matters, order of writing is irrelevant)
      b. low reading: The woman thought that War and Peace is the first book that
                       Tolstoi wrote.Hence: War and Peace
                       (order of writing matters, order of saying is irrelevant)

The example in (69) has two readings. The first, i.e., the high reading is the one in which the head noun is interpreted in its surface position outside the relative clause. The lower

reading on the other hand requires the head noun to be interpreted inside the relative clause, which is only possible under a head raising analysis. The fact that both readings are available conveys that reconstruction of the head noun inside the relative in O'odham is optional.

There is one more interesting fact related to head raising in O'odham relative clauses. Compare (69) with (70), which is identical to (69), except for the fact that we are talking about three books that the woman thought Tolstoi had written here.

(70) Hegam waik 'o'ohona mo   hegai uwĭ hab elid mat   g Tolstoi ha-'o'oha.
      That three books sub-3 Aux that woman she thinks sub-3-Aux det Tolstoi wrote
      'The three books that the woman thought that Tolstoi wrote.'

In (70), where we talk about more than one book the verb of the relative clause bears the plural marker ha- whereas in (69) where we talk about just one book it does not bear this marker but appears in its singular form. The sensitivity of the relative clause verb to the number of the external head noun thus lends further support to the head-raising analysis.

To summarize, in this section we have seen that there is evidence that Tohono O'odham has the necessary prerequisites to construct reduced relative with genitive subjects. It has possessors that are located inside NP and receive structural case from the head noun. Furthermore, we have seen that like all other relative discussed up to this point Tohono O'odham relatives too involve a head raising analysis.

6 Reduced Relatives in Head-initial Languages

If it is the availability of genitive case in SpecNP that determines whether a reduced relative can contain a genitive subject or not we expect to find reduced relatives with genitive subjects in languages where genitive case is licensed in a specifier to the right of the noun as well. Postnominal specifiers are most likely to occur in consistently head initial languages. Most of the head-initial languages in turn are using an ergative-absolutive case marking system. Because ergative-absolutive languages exhibit properties

that somewhat obscure the facts we are looking for we will discuss them separately from nominative-accusative languages. We will begin by discussing reduced relatives in a nominative-accusative case marking language.

6.1 Nominative-Accusative Languages: The Case of Toba Batak

As we already discussed in chapter 2, Toba Batak is a consistently head final language. Subjects and objects appear to the right of the verb (71b) possessors and determiners appear to the right of the noun (71b).

(71) a Ditongos imana surat tu si Ria.
          Send   (s)he   letter D   SI Ria
          'She sent a letter to Ria.'

      b jabu ni si Ria i
          house NI SI Ria det
          'Ria's house (the house of Ria's)'
          (from Tuller, 1984)

The structural cases nominative and accusative are not overtly marked in Toba Batak. Genitive and dative case on the other hand, are marked by NI and TU respectively as we can see in the examples in (71).

The position of prenominal possessors is within NP. The evidence for this is provided by the fact that the determiner in (71) follows the possessor phrase. Note that it cannot be the determiner of the possessor *Ria* because proper names in Toba Batak are incompatible with overt determiners.[81]

(72) *si Ria i
        SI Ria det
        'the Ria'

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[81] According to Tuller (1984) a determiner following a proper name results in a pejorative interpretation much like in English in for example '*This Peter guy that I saw...*'.

Toba Batak has a variety of constructions in which even alleged main clause subjects are forced to appear in the genitive case. Examples for this are the so-called –*ni*-verbs and –*on*-verbs. According to Tuller (1984) –*ni*-verbs for instance are defective in that they cannot take bare dative complements (73) and do not allow extraction of the direct object (cf. (74a/b) with (74c) with the auxiliary *do*). Furthermore, they do not allow the (benefactive) derivational –*hon* and inflectional (future marking) –*on* endings (75) and cannot bear tense or aspect marking such as the perfective marker *nunga* in (76).

(73)   Tinongos   ni si Torus si Ria surat.
         send   G SI Torus SI Ria letter
         'Torus sent Ria a letter'

(74)   a* Tinongos   ni si Torus   surat *tu si Ria*
        b* *Tu si Ria*   tinongos   no si Torus   surat.
        c *Tu si Ria*   do tinongos   no si Torus   surat.

(75)   a* Tinongos-hon   ni si Torus   tu si Ria   surat
        b* Tinongos-on   ni si Torus   tu si Ria   surat

(76)   * Nunga   tinongos ni si Torus   surat.
           (from Tuller, 1984)

Tuller (1984) argues that in the case of –*ni*- and –*on* verbs we are dealing with deverbal noun constructions. Specifically she claims, that the genitive subject, the indirect object and the verb of the clause form a constituent that is headed by a noun, i.e., a NP. In this complex the subject gets its genitive case from the head-noun. The alleged direct object, however, is not part of this complex but an argument of the non-overt matrix verb *BE* such that the construction literally means: *A letter is Torus' to Ria's sending.*

(77)   [CP surat [I' [I BE] [VP[NP[[N tinongos] [NP ni si Torus]] [NP tu si Ria]]]]]

Tuller's analysis of these constructions as NPs is not only reminiscent of our analysis for reduced relatives, but also directly relates this construction to standard reduced relatives of which we know that one of their general properties is that they can be the complement to main verb *BE*.

Let us now turn to regular relative clause constructions with verbs that do not ordinarily take genitive subjects. The class of so-called *di*-verbs is what we are looking for here.[82] While in main clauses the subject of a *di*-verb does not bear genitive case (78a), this is the much-preferred option in a relative clause (78b).[83]

(78) a Ditongos (*ni) si Torus   surat tu si Ria
             DI-send   (*G) SI Torus   letter D SI Ria
             'Torus sent a letter to Ria.'

      b Huida   surat na ditongos ni si Torus tu si Ria.
         see-I   letter NA send   G SI Torus D SI Ria
         'I saw the letter that Torus sent to Ria'
         (from Tuller, 1984)

Tuller (1984) argues that these relative clauses involve the same structure as the *ni*-verbs discussed above, i.e., they involve a verb phrase that is selected by a nominal head. It is this nominal head that licenses genitive case on the subject in the same manner as an ordinary noun licenses case on its possessor. If this is correct then Toba Batak has reduced relatives that involve the same structure and mechanisms that we argued are involved in the derivation of English and Turkish reduced relatives.

There are two facts that support Tuller's analysis. First, in relative clauses with – *di*-verbs but not in main clauses with *di*-verbs the proximate element *i* (added to nouns which are close to the listener) is permitted to follow a pronoun in subject position.

(79) a Huida surat na ditongos-na   i   tu si Ria.
         see-I letter NA send-his(he-G) Det D SI Ria
         'I saw the letter that he sent to Ria'

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[82] The term di-verbs refers to the derivational morpheme –di which turns a verb into a ditransitive. Similarly ni-verbs refer to those verbs derived with –ni that do not permit direct objects, i.e., roughly the equivalent of passive participles in English. Finally, on-verbs have a future oriented interpretation which is contributed by the derivational morpheme –on, i.e., they are roughly equivalent to the English present participle albeit with a more future oriented interpretation. In other words, the terms ni-, on-, and di-verb refers to different derivational classes not to a difference in meaning.

[83] Tuller (1984) reports that relative clause subjects can also bear nominative case as a more marked option. Tuller attributes this fact to a change in the grammar of Toba Batak. This relates in an interesting way to Japanese relatives where the subject can freely alternate between nominative and genitive and Korean relatives whose subject was marked for genitive in middle Korean but must now be in the nominative case.

b　*Ditongos　imana　i　　　surat　tu si Ria.
　　　Send　　he　　Det　　letter　D SI Ria
　　'He sent a letter to Ria'
　　(from Tuller, 1984)

Personal pronouns generally cannot occur with the proximate *i* in Toba Batak. According to Tuller, in relative clauses, the proximate *i* that appears after the pronoun is not part of the phrase hosting the pronoun but part of the NP that heads the (reduced) relative clause. Because the head of this larger NP is not a pronoun the proximate *i* is permitted.

Second, Toba Batak relative clauses are invariably introduced by the marker *–na*. *Na* is a nominalizer that is regularly used for deriving nouns from, for example, adjectives. Adjectives bear final stress in Toba Batak whereas nouns bear penultimate stress. The fact that adding *na* to *timbo*, small, in (80) enforces penultimate stress shows that *na* requires the phrase it is in to be a nominal.

(80)　a　Na tímbo　ni si John　si Bob　do.
　　　　na small　G SI John　SI Bob　aux
　　　'John's tall one is Bob.'
　　　(from Tuller, 1984)

Thus, we conclude that Toba Batak has reduced relatives the employ the same structure and mechanisms as English and Turkish-type reduced relatives. In other words Toba Batak relatives lack the functional projection hosting tense and thus cannot license nominative case on their subject. In order to avoid a *Case Filter* violation the subject can either relativize or attempt to get case from the noun heading the reduced relative. The first option is available in every language. The second option is available in Toba Batak because, according to our view, genitive case in Toba Batak is a structural case that is licensed within NP.

Toba Batak is a (consistently) head initial language. Hence, its relative clauses always appear after the head noun, i.e., by standard definition they are postrelatives. The fact that they can exhibit genitive case subjects in their reduced relatives, provides additional evidence for the correctness of our analysis of reduced relatives. This analysis predicts that word order is not a relevant factor in determining whether a reduced relative can contain a genitive cased subject. Instead the key players in providing this option are

the fact that the reduced relative is headed by a noun in combination with the availability of structural genitive case within NP.

6.2 Ergative-Absolutive Languages

Finally let us briefly discuss the predictions that our analysis makes with respect to reduced relatives in Ergative-Absolutive languages. Ergative-Absolutive languages have been the in the center of a long-standing debate in Case Theory with the central questions what type of cases ergative and absolutive are (inherent versus structural) and where they are licensed. There are two main camps with respect to these questions.

According to proponents of the first camp (Anderson 1975, Levin 1983, Marantz 1984, Bobaljik 1993) the absolutive case corresponds to the accusative case in Nominative-Accusative languages. In other words absolutive is licensed low in the structure, presumably in SpecvP. The ergative case, according to the proponents of this camp, corresponds to nominative case. It is licensed high in the structure, i.e., in SpecIP/TP. Evidence for these claims comes from so called 'morphological ergative languages in which the ergative argument seems to c-command the absolutive.

Proponents of the second camp defend the view that the absolutive case is the case that corresponds to the nominative in Nominative-Accusative languages (Levin & Massam 1985, Murasugi 1990, Bok-Bennema 1991, Johns 1992, Bittner & Hale 1996).[84] In other words, proponents of the second camp propose that it is the absolutive case that is licensed in SpecIP/TP. Evidence for this claim comes from languages like for example Dyirbal in which the absolutive argument exhibits the behavior that is typical of nominative subjects (PRO is absolutive, only absolutives can perform conjunction reduction) and seems to c-command the ergative. Second, in nominative accusative languages it is typically the nominative case that does not exhibit a special case morpheme, i.e., bears a phonetically covert case morpheme. In Ergative-Absolutive languages this is typically a property of the absolutive but not of the ergative case.

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[84] For Levin & Massam (1985) this holds for transitive sentences. For intransitives they claim the absolutive to be licensed in a structurally high position, i.e., SpecIP.

Proponents of the second camp disagree, however, with respect to the question of where ergative case is licensed or what type of case ergative case is. For some authors ergative is a third structural case (Johns 1992, Bittner & Hale 1996). For others it is an inherent, i.e., theta-linked case (Levin & Massam 1985, Bok-Bennema 1991). For yet others ergative corresponds to the accusative case in Nominative-accusative languages (Murasugi 1990).[85]

Our theory of reduced relatives (including relative clauses with genitive subjects) introduces a new argument into the Ergative-Absolutive debate. According to this theory reduced relatives do not project the TP/IP layer. Thus, the case that is licensed in SpecIP/TP should not be able to occur on the subject of the reduced relative. Hence, if absolutive case is indeed licensed in SpecIP/TP then we expect this case to be banned from reduced relatives in Ergative-Absolutive languages. If it is, however, ergative case that is licensed in subject position then we expect it to be this case that cannot surface in reduced relatives.

Two properties of Ergative Absolutive languages complicate this test. First, in most of these languages the case that is licensed on possessors in NP typically is homophonous with the ergative case (cf. for example Tagalog or Tibetan). If it is indeed the ergative argument that behaves like the nominative in Nominative-accusative languages (i.e., which occupies SpecIP/TP), it would be almost impossible to show for these languages that the case on the subject in reduced relatives is licensed by a head different from the one that licenses ergative case in full clauses. In other words, because the case marking on the subject of reduced and full clauses would be identical it would be difficult to show that its source is a different one in each scenario.

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[85] In addition, we have to distinguish between projection theories of ergativity (Marantz 1984, Levin 1983, Johns 1992), purely morphological theories of ergativity (Bobaljik 1993, Levin & Massam 1985 (partly)), and licensing theories of ergativity (Murasugi 1990, Bok-Bennema 1991, Bittner & Hale 1996). Projection theories of ergativity hold that the difference between nominative-accusative languages and ergative-absolutive languages can be reduced to where the arguments are projected underlyingly. In nominative-accusative languages the agent (nominative) is projected high and the patient (accusative) is projected low in the structure. In ergative-absolutive languages on the other hand the patient (ergative) is projected high and the agent (absolutive) is projected low in the structure. Pure morphological theories of ergativity hold that nominative-accusative and ergative-absolutive languages project and license their arguments at the same level (agents high, patients low). For these theories, ergativity is a purely morphological phenomenon and does not indicate any differences in surface or underlying positions. Finally, according to licensing theories of ergativity, nominative-accusative languages and ergative-absolutive languages pattern in the way they project arguments. They differ, however, in the positions where the arguments are licensed.

Second, in many Ergative-Absolutive languages only absolutive arguments can undergo A-bar-movement (cf. for example Malagasy discussed in Keenan 1985). For relatives this means that only absolutives can relativize. This can lead to the mistaken impression that absolutives must relativize and hence to the conclusion that absolutives must occupy SpecIP/TP where indeed they might not. Alternatively, it could lead one to conclude that because A-bar-movement targets SpecCP in the cases where the absolutive argument must be relativized we are dealing with full clauses. In other words, one could wrongly conclude that a given relative is a full relative based on the assumption that when absolutives must be relativized this is because only absolutives can A-bar-move and hence because SpecCP is present when indeed SpecCP is not present and absolutives must be relativized because they require a position that is absent in reduced relatives.

To summarize, our theory of reduced relatives does introduce a new test for ergative versus absolutive subjects into the Ergative-absolutive debate. To successfully conduct this test, however, not only requires familiarity with the particulars of one or more Ergative-Absolutive languages but also a thorough and detailed research of their structures which is beyond the scope of the current investigation. We will hence leave this topic to future research.

8 Conclusion

In this chapter we developed a unified account of reduced relatives including relatives with genitive subjects. Based on previous analyses for standard reduced relatives we argued that all reduced relatives are projections that are smaller than CP. In particular, we claimed that these clauses do not project up to the functional level that hosts tense (IP/TP). This accounts for the lack of relative pronouns and complementizers, which is typical for standard reduced relatives and relative clauses with genitive subjects crosslinguistically. Furthermore, given that tense is the key player in nominative case licensing, this analysis also explains why reduced relatives cannot exhibit subjects with nominative case.

Based on the behavior of idioms, binding and scope reconstruction facts, and lower readings of adjectival modifiers Kayne (1994) and Bhatt (1999) argue for a head raising analysis for (reduced) relative clauses. We showed that these arguments carry over to relative clauses with genitive subjects as well, i.e. these relatives do involve head raising.

The behavior of perfect participles in reduced relatives supports an analysis according to which the topmost projection of these relatives is a NP. Only those perfect participles which in full-blown perfects combine with auxiliary *BE*, but not those which combine with auxiliary *HAVE*, are acceptable in reduced relatives. On the basis of this observation Iatridou, Anagnostopoulou & Izvorski (2000) argue that there is a nominal projection above PerfP and below the projection hosting *BE*, whose nominal head can incorporate into *BE* yielding auxiliary *HAVE*. When this is the case the perfect participle remains in PerfP and does not exhibit subject agreement. When the nominal head does not incorporate into *BE* it is the participle that raises and incorporates into the nominal head. As a result it exhibits subject agreement.

Reduced relatives project only up to this nominal head. Because the head hosting BE is missing this head cannot incorporate into it to create *HAVE*. As a result only perfect participles combining with *BE* are well formed. Furthermore the participle always incorporates into the nominal head in reduced relatives. This accounts for the nominal inflection on reduced relative participles as well as on the participles in relatives with genitive subjects.

The fact that reduced relatives are headed by N, i.e., NPs crucially tied into the explanation we provided for the differences between standard reduced relatives and relative clauses with genitive subjects. Reduced relatives in English and German enforce relativization of the matrix subject. Relative clauses in Turkish and Japanese, however, do permit non-subject relativization and relativization of a non-matrix subject. This difference between reduced and prenominal relatives is due to a difference in genitive case licensing in NP. In Turkish and Japanese but not in English and German genitive case licensed in NP is structural case.

Nominative case is not licensed on the subject of the reduced relative. In order to avoid a *Case Filter* violation the subject can do one of two things. It can either relativize

and become the head noun of the relative construction or it can attempt to get case from the nominal that heads the reduced relative. The former is a successful strategy for any language with reduced relatives. The latter, however, is possible only in those languages in which structural genitive case is licensed in NP, i.e., in languages like Japanese and Turkish. Hence in German and English the subject must relativized whereas in Turkish and Japanese it has the option to remain inside the relative clause.

Our account predicts that in head-initial languages where structural genitive case is licensed in NP to the right of the noun reduced relatives with genitive subjects should be possible in postnominal position. This prediction was confirmed by the behavior of Toba Batak reduced relatives. Toba Batak is a nominative –accusative case marking language. Most head-initial languages, i.e., languages in which NP is left-headed, however, are ergative-absolutive languages. Our account for reduced relatives directly relates to the debate about the position in which ergative and absolutive case are licensed. If either of these cases is licensed below IP it should be able to occur in reduced relatives. If, however, one of these cases is licensed in IP we predict that it cannot occur in these relative clauses.

Chapter IV

Reduced Relatives and Appositives

1 Introduction

In the previous chapters we argued that relative clauses with genitive subjects are reduced relatives. We also showed that reduced relatives can be prenominal, postnominal, and head-internal relatives. In addition, we argued that they are non-finite relatives and that as such they cannot be headless relatives. The criterion of classification that we have not yet discussed concerns the range of possible interpretations for reduced relatives. With respect to their interpretation, we traditionally distinguish between restrictive and non-restrictive (appositive) relative clauses. The question that we have to answer now is thus whether reduced relatives can be both restrictives and appositives.

There are two competing theories regarding the syntactic behavior of appositives. One view holds that appositives are subordinate clauses (Smith 1964, Jackendoff 1977). According to the competing view, appositives are main clauses (Ross 1967, Thompson 1971, Emonds 1979, Sells 1985a/b, Demirdache 1991). If the *Main Clause Hypothesis* is correct, reduced relatives with genitive subjects should never be appositives. If they are reduced clauses, they cannot exhibit properties typical of main, i.e., full clauses.

As we have discussed before, many reduced relatives with genitive subjects are prerelatives. The claim that these relatives are reduced relatives hence relates directly to the debate about whether prerelatives can be appositives or not. It has been argued in the literature (cf. among others de Rijk (1972) for Basque; Kuno (1973) for Japanese, and Keenan (1985) for Malagasy) that prerelatives do not exhibit the syntactic distinctions associated with restrictives and appositives. In other words, it has been claimed that prerelatives can be appositives but that they, unlike English postrelatives, do not formally distinguish restrictives from appositives. This claim is based on two observations. First,

prerelatives can modify proper names, as is typical for appositives. And, second, they are never separated from their head noun by an intonation break, which is characteristic of postnominal appositives. Other researchers hold, however, that prerelatives can never be appositives. This view is defended for example for Turkish in Tosun (1999).

In this chapter we will argue for the hypothesis in (1).

(1)   Reduced Relatives cannot be Appositives

In other words, we will follow the *Main Clause Hypothesis* for appositive relatives. We will show that reduced relatives with genitive subjects neither exhibit the syntactic properties that are typical of appositives nor an appositive interpretation even when they modify proper names. We will show, furthermore, that aside from a restrictive reading, reduced relatives that modify proper names can also receive interpretations that are typical for *Free Adjuncts* or *Absolutes*. Relative clauses with nominative subjects, however, do permit appositive readings. In other words, they can be appositives. This is expected if, as we argued in chapter 2, they are full clauses.

The chapter is organized as follows. The first section summarizes the main characteristics of appositive relatives and their treatment under the *Main Clause Hypothesis*. In section two, we will apply a variety of tests for the restrictive/appositive distinction to relative clauses with genitive subjects. It will be shown that these relatives, although they can modify proper names, do not exhibit the characteristics typical of appositives. In section three and four, we will motivate an analysis of relatives with genitive subjects modifying proper names as *Free Adjuncts* and *Absolutes*. To this end we will investigate the semantic behavior of relative clauses with genitive subjects on subjects and objects with gaps in object and subject position. Further support for the analysis of the relative clauses with genitive subjects as *Free Adjuncts* and *Absolutes* will be provided based on control facts. In section 5, we will proceed to show that standard reduced relatives in languages like English and German cannot be appositives as well. In the remainder of the chapter, we will discuss the behavior of full relatives and relative clauses in languages without overt case marking with respect to the restrictive/appositive distinction. The final section provides a brief summary of the discussion.

2 Appositives

2.1 Properties of Appositives

The most well-known property that distinguishes appositive from restrictive relatives is that appositives are set off from the rest of the sentence by an intonation break. Furthermore, restrictives and appositives differ with respect to their behavior regarding their antecedent, the relative pronoun involved, tense, parasitic gaps, Weak Crossover, and in their interaction with quantifiers.

While restrictive relatives must have a NP as their antecedent, the antecedent of an appositive can be any maximal projection, i.e., NP, AP, VP, PP, IP, or CP (2).

(2)	a	I live with Meltem, who is my classmate.	NP
	b	Elena is Italian, which Meltem is not.	AP
	c	I sent my resume with FedEx, which is the best way to send documents.	PP
	d	We asked Shogo to watch a movie with us, which he never did.	IP
	e	It is frequently grey in Michigan, which bothers Jon.	VP
	f	I visit Arizona whenever I have the money, which isn't very often.	CP

A further difference between restrictives and appositives in English is that in restrictives the relative pronoun can be either *that*, a wh-word, or phonetically zero (3) while in appositives the relative pronoun must be a wh-word (4).

(3)	a	I read the book that David recommended.
	b	I read the book which David recommended.
	c	I read the book David recommended.

(4)	a	I read *Consequences of Antisymmetry*, which David recommended.
	b	*I read *Consequences of Antisymmetry*, that David recommended.
	c	*I read *Consequences of Antisymmetry*, David recommended.

Restrictives and appositives differ also in their behavior regarding tense. While restrictives can be infinitival, appositives must always be finite. [86]

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[86]There are, however, infinitival relatives, in particular subject-infinitival relatives, that seem to be able to be appositives and that thus contradict this claim.

(1) War and Peace, to be read tomorrow, is Tolstoi's finest novel.

We will discuss the alleged infinitival appositives in more detail in section 5.3.

(5)   a   Good professors to teach syntax arrived.
         b   * David and Sabine, to teach syntax arrived.

This correlates with a further property of appositives, namely that the tenses found in these relatives are those found in main clauses. Appositives cannot be non-finite and neither can main clauses.

In addition, as discussed in Safir (1986), unlike restrictives, appositives are 'invisible' at LF. They are insensitive to *Weak Crossover* (6) and cannot contain parasitic gaps (7).[87]

(6)   a   *A man$_i$ who$_i$ his$_i$ wife loves t$_i$ cooked dinner.
         b   Barry, who$_i$ his$_i$ wife loves t$_i$ cooked dinner.

(7)   a   John is a man [who$_i$ [everyone who knows e$_i$]   admires t$_i$]
         b   *John is a man [who$_i$ [Bill who knows e$_i$]   admires t$_i$]
         c   John is a man [who$_i$ [Bill who knows Mary]   admires t$_i$]
            (from Demirdache, 1991)

Restrictives and appositives also differ in their interactions with quantifiers in the matrix clause. First, restrictives, but not appositives, can have a quantifier as their antecedent.

(8)   a   *No one, who is a semanticist, is a phonologist.
         b   *Every/each/any student, who is a physicist, is a mathematician.
         c   Every/each/any student, that is a physicist, is a mathematician.

Second, unlike in the case of restrictives, no quantifier in the matrix clause can bind a pronoun in an appositive relative.[88]

(9)   a   Every man$_i$ likes a woman, who smiles at him$_i$.
         b   *Every man$_i$ likes a Mary, who smiles at him$_i$.

Some of the properties of appositives that we have just discussed are specific to English while others hold crosslinguistically. The table in (10) summarizes the major

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[87] That appositives do not license parasitic gaps was originally discussed in Safir (1986). That they are insensitive to Weak Crossover has been discussed in Higginbotham (1980, 1981), and Safir (1984, 1986) contra Chomsky (1982) who assumes that Weak Crossover is not found in relative clauses at all.
[88] This fact has originally been noted in Giorgi (1984) and Safir (1986).

differences between restrictives and appositives marking those that are English-specific through shading.

(9)

	Restrictive	Appositive
a Intonation break	No	Yes
b Relative pronoun must be wh	No	Yes
c Must be finite	No	Yes
d *Quantifier as antecedent	No	Yes
e Antecedent must be NP	Yes	No
f License Parasitic Gaps	Yes	No
g Sensitive to Weak Crossover	Yes	No
h Matrix CP quantifier binds pronoun in relative CP	Yes	No

2.2 The Main Clause Hypothesis

The *Main Clause Hypothesis* is the formalization of Ross' (1967) idea that despite their appearance as wh-relatives appositives are main clauses derived from underlyingly conjoined clauses. This hypothesis, among others, is defended and further developed by Emonds (1979), Thompson (1971), Sells (1985a, 1985b), and Demirdache (1990).

Ross' (1967) argumentation for the *Main Clause Hypothesis* is based on the observation that a parenthetical coordinate clause beginning with *and* can be replaced by an appositive relative clause.

(11) a Enrico, and he is the smartest of us all, got the answer in seven seconds.
     b Enrico, who is the smartest of us all, got the answer in seven seconds.
        (from Ross, 1967)

Furthermore, the fact that appositives are separated from the rest of the sentence by an intonation break, that like main clauses, appositives are never infinitival, and that the tenses found in appositives are those found in main clauses immediately support the *Main Clause Hypothesis*. Finally, certain sentence adverbs that generally appear in main clauses, like for example *frankly*, can also appear in appositives.

According to the strict version of the MCH as promoted in Emonds (1979), the appositive never forms a single constituent with its antecedent at any level of representation. This stands in sharp contrast to the *Subordinate Clause Hypothesis,* according to which the appositive and its antecedent do form a constituent at any level of representation. Weaker versions of the *Main Clause Hypothesis* hold that appositives are subordinate clauses. They claim that appositives form a constituent with their antecedent at the levels of D- and S-structure but that at LF they are lifted out of the clause in which they are generated and are attached to the main clause. As a result of this process, appositives are interpreted as independent clauses. This view is defended in Demirdache (1990).

In this thesis, we will adopt the *Main Clause Hypothesis* for appositives without committing to any particular proposal within this camp. Important for our purposes is the fact that any version of the *Main Clause Hypothesis* predicts that reduced relatives cannot be appositives, since they do not exhibit properties typical of main clauses.[89] Thus, we predict that likewise relative clauses with genitive subjects, if they are indeed reduced relatives, cannot be appositives.

3 Relative Clauses with Genitive Subjects cannot be Appositives

3.1 Prerelatives and Appositives

As we have mentioned before, it has been claimed in the literature that prerelatives do not make a formal distinction between restrictives and appositives. In other words, it has been claimed that prerelatives can be either restrictives or appositives. This claim was

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[89] Allegedly problematic cases to this claim will be dealt with in section 5.3.

first made for Basque by de Rijk (1972), and for Japanese by Kuno (1973). Both authors base their claim that there are prenominal appositives on the fact that in Basque (12) and Japanese (13) prerelatives can modify proper names.

(12) a Egunero kilo erdi bat txokolate jaten duen Beobide'tar Pantxika...
          'Francisca Beobide, who eats a pound of chocolate every day,...

       b Nik asko maite zaitudan Andone...
          'Antonia, whom I love very much,..'

       c Esan sion erdiko gelan dagon Meltxorrek...
          'Melchior, who lives in the room in the middle...'
          (from de Rijk, 1972)

(13) a watakusi-ni   eigo-o   osiete-iru Mary
         I-to   English-A teaching-is Mary
         'Mary, who is teaching me English'
         (from Kuno, 1973)

       b watashi-wa   MIT-de   hataraku John-ni at-ta
         I-Top   MIT-loc   works   John-D see-pst
         'I saw John, who works at MIT'

Unlike appositives in English and other languages using postrelatives, however, these prerelatives are not set off from the rest of the sentence by an intonation break.[90] Thus, Kuno and de Rijk conclude that there is no formal distinction between restrictives and appositives in the languages they are investigating, i.e., in languages with prenominal relative clauses.

The fact that in some languages prerelatives can modify proper names, however, cannot be taken as sufficient evidence for the claim that all prerelatives can be appositives. First, there are a variety of languages among others Tagalog and Ondorra Basque in which prerelatives cannot modify proper names. Second, as we have seen in the previous section there are various tests for the restrictive appositive distinction that have not yet been applied to languages with alleged prerelative appositives.

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[90] It is unclear what causes the intonation break between the head noun and the appositive relative in languages with postnominal relative clauses. We could assume that this is due to a syntax-phonology interaction that is somehow restricted to the post-N position (for a proposal along these lines cf. Kayne 1994). This, however, is just a speculation. We will leave this question to future investigation.

In the next section we will apply some of these test to prenominal relative clauses with genitive subjects that modify proper names in order to investigate whether these relative clauses can indeed be appositives or not. If our hypothesis that reduced relatives cannot be appositives is correct, we expect that the class of relative clauses with genitive subjects including prerelatives with genitive subjects cannot be appositives. As we will see, relative clauses with genitive subjects indeed pattern in their syntactic behavior with restrictive and not with appositive relatives.

3.2 Testing 'Appositives' with Genitive Subjects

Not all of the properties of appositives discussed above qualify equally well for testing whether there are appositives with genitive subjects. For example, as we have already seen in the previous chapters, because they are reduced relatives, relative clauses with genitive subjects do not permit the use of relative pronouns or complementizers. Thus, we cannot use a test as to whether relatives with genitive subjects can be appositives that is based on the fact that for example in English restrictives and appositives differ in what kind of relative pronoun they permit. On the other hand, there are languages like, for example, Turkish that have both (prenominal) relatives with genitive subjects, which (by hypothesis) cannot be appositives and (postnominal) relatives with nominative subjects that can be true appositives. In these languages the lack of relative pronouns in clauses with genitive subjects (and thus the difference in relative pronouns between true appositives with nominative subjects and the alleged appositive with a genitive subject) could be taken as a first indication that there really are no appositives with genitive subjects.

The tests that we will conduct here address the questions whether the alleged appositive relatives with genitive subjects are insensitive to Weak Crossover, whether they license parasitic gaps, and how they interact with quantifiers in the matrix clause. We will conduct these tests on Turkish relatives. Turkish has both prerelatives with genitive subjects and postnominal relatives with nominative subjects. This provides us with the opportunity to not only conduct the relevant tests on reduced relative clauses

with genitive subjects but to also compare their behavior to that of 'ordinary' appositives within the same languages. By employing this strategy we ensure that the results of our tests are 'real'. In other words, we ensure that the behavior of relative clauses with genitive subjects is indeed different from the behavior of 'true' appositives with nominative subjects, and thus that our results are not just due to other constraints that are active in the language.

We start by testing Turkish relative clauses with genitive and nominative subjects on proper names with respect to Weak Crossover. Consider the data in (14) and (15).

(14)   *Prerelative with Genitive Subject*

      *Onun eşinin   onu çok sev-diğ-i   John bize yemek pişirdi
      he-G wife-poss-G him much love-DIK-3poss John to us cook
      'John, whom his wife loves very much, cooked for us.'

(15)   *Postrelative with Nominative Subject*

      John, ki   onun eş-i   onu çok seviyor bize yemek pişirdi
      John, who he-G wife-3poss him much love   to us cook
      'John, whom his wife loves very much, cooked for us.'

As we can see in (15) the postnominal relative with a nominative subject that modifies a proper name does not exhibit a Weak Crossover effect. This is expected if this relative clause is indeed an appositive.[91] The alleged prerelative appositive with a genitive subject in (14), however, is ungrammatical, i.e., it is sensitive to Weak Crossover. This behavior is typical of restrictive relatives.

Note that this behavior of the prerelative in (14) not only shows that this clause can be a restrictive but that in fact conveys that this relative must be a restrictive. If this prerelative had the chance to be an appositive there should be a reading under which it is grammatical. The fact that there is no such reading, i.e., that this relative can never be grammatical hence is evidence that these clauses must be restrictives.

Consider now the behavior of Turkish relatives with nominative and genitive subjects on proper names with respect to the licensing of parasitic gaps.

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[91] The example should be and is ungrammatical if we try to enforce a restrictive reading e.g. *the John whom his wife loves very much.*

(16) *Prerelative with Genitive Subject*

?John$_j$ [$_{RC}$[$_{RC}$ t$_i$ tanıyan [e]$_j$] Bill-in$_i$ sev-diğ-i]   bir adam-dır
John   know-AN   Bill-G like-DIK-3poss a man-be
'John is a man whom Bill, who knows, likes.'

(17) *Postrelative with Nominative Subject*

*John$_j$ bir adam-dır [$_{RC}$ ki Bill, [$_{RC}$ ki   [e]$_j$ tanıyor]] seviyor
 John a man-be who Bill   who   knows   like
'John is a man whom Bill, who knows, likes.'

Again we can observe a contrast in grammaticality between the prerelative with a genitive subject in (16) and the postrelative with a nominative subject in (17). The parasitic gap in the (postnominal) relative with the nominative subject is illicit. This is perfectly normal if this clause is an appositive relative since appositives behave as islands with respect to parasitic gap licensing. The (prenominal) relative with the genitive subject in (16), which also contains a parasitic gap, on the other hand, is considerably less marked if not completely grammatical. This is unexpected if this relative clause truly were an appositive relative (cf. the English examples in (6)). Rather this behavior of the prerelative supports the hypothesis that despite the fact that it modifies a proper name this relative is a restrictive relative which do license parasitic gaps.[92]

Let us now turn to the interaction of relative clauses with genitive versus nominative subjects with quantifiers in the matrix clause. Consider the following data.

(18) *Prerelative with Genitive Subject*

Her   adam ona   gülümse-yen Mary-yi seviyor
Every man   at him smile-AN   Mary-A love
'Every man loves (the) Mary, who smiles at him'

(19) *Postrelative with Nominative Subject*

???Her adam Mary-yi seviyor, ki   ona   gülümsüyor
  Every man   Mary-A love who at him smile
'Every man loves Mary, who smiles at him'

Recall that no quantifier in the matrix clause can bind a pronoun in an appositive relative. This is exactly what we find with relative clauses with nominative subjects on proper names in Turkish (18). A quantifier in the matrix clause can, however, bind a pronoun in a restrictive relative. This is what we find with the Turkish relative with the genitive subject in (19). Again, this is evidence for the claim that relative clauses with genitive subjects cannot be appositives.[93]

4 Reduced Relatives with Genitive Subjects and their Interpretations

In the previous section we have seen that the syntax of reduced relatives with genitive subjects is that of restrictive relatives. Now we have to ask how they behave with respect to their semantics. In other words, we have to ask what kind of interpretations they permit. This is the goal of the following sections.

We will show that in concord with their syntactic behavior, reduced relatives with genitive subjects can never get an appositive interpretation. We will furthermore show

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[92] Unlike the Weak Crossover fact this and the following example merely convey that the prerelative in Turkish can be a restrictive. This is because there is a strong tendency in speakers to choose the readings that yield grammatical results over those that don't.

[93] Naturally, we are also curious as to how standard reduced relatives behave with respect to these tests. There are a variety of independent reasons why this is not possible. First, for reasons to be discussed later on (cf. section 5), standard postnominal reduced relatives on proper names can neither be restrictive nor appositive. They receive an altogether different reading. The same is true for standard prenominal reduced relatives if the DP they are in does not contain a determiner (cf. section 5). Furthermore, in English, prenominal reduced relatives cannot contain more than the participle and at most an adverb. Hence, none of the above tests can be conducted on English since all of these tests require the presence of a complement.

In German on the other hand, which permits objects in prenominal reduced relatives does not have Weak Crossover effects. In addition, not even full restrictive relatives in German license parasitic gaps. The only test we can conduct in German is whether quantifiers can bind a pronoun in a prenominal reduced relative. This seems to be the case for the prenominal reduced relative in (1). The postnominal appositive on the other hand is ungrammatical in this context as expected (cf. (2)). As we discussed above, however, this test by itself only shows that these relatives can be restrictives but not that they are forced to be restrictives.

(1)   Jeder Mann liebt   die   ihn   anlächelnde Maria.
        Every man loves   the   him   smiling-at   Mary
        'Every man loves (the) Mary who smiles at him.

(2)   *Jeder Mann liebt Maria, die   ihn   anlächelt.
        Every man   loves Mary   who him   smile-at
        'Every man loves Mary who smiles at him.

that they can always receive a restrictive interpretation. Finally, we will show that these clauses also permit a rather unexpected reading. They can receive an interpretation that is typical for *Free Adjuncts* and *Absolutes*.[94]

Note that it is important not to confuse reduced relatives with Free Adjuncts or Absolutes. Reduced relatives are participial clauses that yield restrictive readings. We will show that the same participial clause can also receive a Free Adjunct/Absolute reading. In these cases, however, the participial clause is clearly not a relative clause but a Free Adjunct. We will henceforth proceed to simply call the clauses under investigation participial or reduced clauses (with genitive subjects) specifying as we go along when they are reduced relatives and when they are Free Adjuncts.

4.1 Stump (1985) on Free Adjuncts, Nominative, and Augmented Absolutes

Before we proceed to show that reduced relatives with genitive subjects can receive interpretations that are regularly found with Free Adjuncts and Absolutes it is necessary to discuss the properties of the Free Adjunct/Absolute construction.[95] Examples of these constructions are given in (20).

(20) a *Walking home,* he found a dollar.   Free Adjunct
      b *His father being a sailor,* John knows all about boats. Nominative Absolute
      c *With the children asleep,* Mary watched TV.   Augmented Absolute
         (from Stump, 1985)

Free Adjuncts and Absolutes are non-finite predicative phrases with the function of an adverbial subordinate clause. They are typically set off by an intonation break and may be headed by N, A, V, or PP. The head of a verbal free adjunct may be a present or past participle as well as an infinitive. It may be active or passive and may be in the

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[94] This has been originally discussed in Tosun (2000) (based on an observation by Meltem Kelepir p.c.) for Turkish prerelatives with a gap in subject position that occur on proper names in the subject position of the matrix clause.

[95] Keep in mind that even though the subject in the relative clauses under consideration is not present in the relative clause (it is relativized) we are dealing with relative clauses that can exhibit genitive subjects here.

perfect alone or in the perfect combined with the progressive aspect (the progressive aspect may not occur alone).

Free Adjuncts and Absolutes can depend on matrix or subordinate clauses and can occur either immediately before or after them. The subject position of a Free Adjunct or Absolute is commonly controlled by subject of the superordinate clause (related free adjunct). Frequently, however, it is also controlled by a non-subject-position in the superordinate clause or an extra-linguistic controller (unrelated free adjunct).

Free Adjuncts and Absolutes have the gross syntactic characteristic of adverbial clauses. The logical connection to the clause they modify is not specified. They can be interpreted for example as *because-*, *if-*, *when-*, and adversative clauses. This is known as the semantic variability of Free Adjuncts and Absolutes. Most of what we know about the interpretation of Free Adjuncts and Absolutes we owe to Stump (1985). He argued that at least in certain context the interpretation of Free Adjuncts and Absolutes is predictable.[96]

In particular, he argued that in the context of a modal in the matrix or superordinate clause Free Adjuncts containing a stage level predicate are interpreted as conditional, i.e., *if*-clauses. Consider the examples in (21).

(21) a *Wearing that new outfit,* Bill would fool everyone.
         = If he wore that new outfit, Bill would fool everyone.

      b *Standing on a chair,* John can touch the ceiling.
         = If he stands on a chair, John can touch the ceiling.

      c *Taken in the prescribed dosage,* it must be very effective.
         = If it is taken in the prescribed dosage, it must be very effective.
         (from Stump, 1985)

If, however, in the context of a modal in the matrix the Free Adjunct contains an individual level predicate, it is interpreted as a *because*-clause.

(22) a Having unusually long arms, John can touch the ceiling.
         = Because John has unusually long arms, he can touch the ceiling.

This is important because, as we will see later on, relative clauses that have nominative subjects do behave completely different.

[96] In our discussion of his findings we focus exclusively on the Free Adjunct construction. It is important, however, to keep in mind, that the same results are obtained for Nominative and Augmented Absolutes.

b Weighing only a few tons, the truck might reach the top of that hill.
= Because it weighs only a few tons, the truck might reach the top of that hill.
(from Stump, 1985)

Similarly, Stump argued that in the context of an adverb of frequency in the matrix/superordinate clause Free Adjuncts with stage level predicates are interpreted as *when*-clauses whereas Free Adjuncts with individual level predicates are interpreted as *because*-clauses. Compare the examples in (23) and (24).

(23) a Lying on the beach, John sometimes smokes a pipe.
When John is lying on the beach, he sometimes smokes a pipe.

b Carrying a load of over 1500kg, our truck often makes the bridge shake.
When our truck carries a load of over 1500kg, it often makes the bridge shake.

(24) a Being a sailor, John sometimes smokes a pipe.
Because John is a sailor, he sometimes smokes a pipe.

b Weighing four tons, our truck often makes the bridge shake.
Because it weighs four tons, our truck often makes the bridge shake.

4.2 Participial Clauses on Subjects as Free Adjuncts

Naturally, if we want to motivate an analysis that claims that the participial clauses that can be reduced relatives with genitive subjects can also be a Free Adjunct we have to test whether these clauses can have the same interpretations. We will use Stump's findings as a relevant test for this question.[97] Hence, we have to test whether the clauses under

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[97] The interpretations of Free Adjuncts/Absolutes with stage level predicates in the context of a modal or an adverb of frequency in the matrix clause are not quite as unambiguous as Stump presents them. In general it seems possible to assign either an *if-* or a *when-* or a *because*-reading to Free Adjuncts/Absolutes containing stage level predicates. Stump is correct though in claiming that with a modal in the matrix clause the *if*-reading is strongly preferred and that with an adverb of frequency the *when*-reading is the most prominent reading. We will provide an explanation for the ambiguities that arise with stage-level predicates in the final chapter of this thesis. For our purposes in this chapter Stumps observations can be used as a test regardless. This is because for our discussion here the only fact that is of relevance is whether reduced relatives can receive these readings and whether they show the same preferences regarding their interpretation in the relevant contexts as Free Adjuncts/Absolutes do.

consideration yield *when*-readings when they contain a stage-level predicate in the context of an adverb of frequency in the superordinate clause and whether they yield *because*-readings when they contain an individual-level predicate in this context. Furthermore, we have to test whether a modal in the matrix clause causes participial clauses with genitive subjects that contain a stage level predicate to be interpreted as *if*-clauses and as *because*-clauses when they contain an individual-level predicate.[98]

In this section we will conduct these tests on participial clauses with genitive subjects that have a gap in subject position and that modify proper names which occupy the subject position of the superordinate clause. We start by investigating these clauses in the context of an adverb of frequency in the superordinate (matrix) clause. Consider the examples in (25) – (26).

(25)   *Japanese*

   a   kaigai-kara kuru Clinton-wa   taitei supiichi-o suru
       abroad-from come Clinton-top usually speech-A do
       'Clinton, who comes from abroad usually gives a speech'
       (i)   When Clinton comes from abroad he usually gives a speech
       (ii)   The Clinton who comes from abroad he usually gives a speech.
       (iii)# Clinton, who comes from abroad usually gives a speech

   b   seijika   dearu Clinton-wa taitei supiichi-o suru
       politician copula Clinton-top usually speech-A   do
       'Clinton who is a politician usually gives a speech'
       (i)   Because Clinton is a politician he usually gives a speech.
       (ii)   The Clinton who is a politician usually gives a speech.
       (iii)# Clinton who is a politician usually gives a speech

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[98] Keep in mind that even though the subject is not overtly present in the relative clauses to be discussed below (it is relativized) in this section we are discussing reduced relatives that typically exhibit genitive subjects. Standard reduced relatives in languages as for example English and German, i.e., reduced relatives that enforce subject relativization will be discussed below.

(26) *Turkish*[99]

 a Yurtdısı-ndan gel-en Ecevit, çoğunlukla ulus-a seslen-ir.
  Abroad-abl come-AN Ecevit usually nation-D address-aor
  'Ecevit, who comes from abroad, usually addresses the nation'
  (i) When Ecevit comes from abroad, he usually addresses the nation.
  (ii) The Ecevit who comes from abroad, he usually addresses the nation.
  (iii)# Ecevit, who comes from abroad, usually addresses the nation.
  (from Tosun, 1999)

 b politikacı ol-an Ecevit, çoğunlukla ulus-a seslen-ir.
  Politician-A be-AN Ecevit usually nation-D address-aor
  'Ecevit, who is a politician, usually addresses the nation.'
  (i) Because he is a politician, Ecevit usually addresses the nation.
  (ii) The Ecevit who is a politician usually addresses the nation.
  (iii) # Ecevit, who is a politician, usually addresses the nation.

As the examples in (24) – (25) convey, participial clauses with a gap in subject position that occur on proper names in the subject position of the matrix clause can indeed receive a Free Adjunct interpretation when the matrix clause contains an adverb of frequency. If they contain a stage level predicate they are interpreted as *when*-clauses. If they contain an individual level predicate they are interpreted as *because*-clauses. In addition, all of the examples in (24) – (25) can receive a purely restrictive reading. This indicates that these participial clauses can but are not enforced to be Free Adjuncts. They can be reduced relatives with a restrictive reading as well. Important for our purposes, however, is the fact that these clauses can never receive an appositive interpretation.[100]

 Next we have to test what happens when the matrix clause contains a modal. Consider the examples in (27) – (28).

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[99] That prerelatives modifying proper names in Turkish are not appositives but Free Adjuncts has been originally discussed in Tosun (1999). Tosun's analysis, however, is restricted to prerelatives with gaps in subject position that modify proper names in the subject position of the matrix clause. In the following sections we will extend the investigation to subject-prerelatives modifying objects and object-prerelatives modifying subjects and objects.

[100] This is true for Turkish and Hiaki (to be discussed later on) in which relative clauses always have genitive subjects, i.e., are always reduced relatives. We will see in section 6 that the situation is slightly different for Japanese which can have relative clauses with nominative subjects, i.e., full clauses. Japanese subject relatives of this kind (with nominative subjects) can be appositives when they modify for example a proper name.

(27) *Japanese*

a Atarashii fuku-o   kiru   John-wa   minna-o   yorokobase-rareru noni
  new   clothes-A wear-prs John-top everyone-A can-please   noni
  'John, who wears new clothes, can please everyone.'
  (i)   If John wears new clothes, he can please everyone.
  (ii) The John, who wears new clothes, can please everyone.
  (iii)#John, who wears new clothes, can please everyone.

b gakuseidearu John-wa   pai-pu-ga/o   su-eru
  student copula John-Top pipe-N/A   smoke-can
  'John, who is a student, can smoke pipe'
  (i)   Because John is a student he ca smoke pipe
  (ii) The John who is a student can smoke pipe.
  (iii)#John, who is a student, can smoke pipe.

(28) *Turkish*

a Yurtdısı-ndan gel-en   Ecevit ulus-a   seslen-ir-di[101].
  Abroad-abl   come-AN   Ecevit nation-D   address-aor-pst
  'Ecevit, who comes from abroad, addressed the nation.'
  (i)   If Ecevit came from abroad he would address the nation
  (ii) The Ecevit who comes from abroad addressed the nation.
  (iii)#Ecevit, who comes from abroad, addressed the nation.

b Ankara'da   otur-an Hasan Basbakan'la   görüş-ebil-di.
  Ankara-loc live-AN Hasan Prime Minister-ins meet-can-pst
  'Hasan, who lives in Ankara, could meet the Prime Minister'
  (i)   Because Hasan lives in Ankara, he could meet the Prime Minister.
  (ii) The Hasan who lives in Ankara could meet the Prime Minister.
  (iii)#Hasan, who lives in Ankara, could meet the Prime Minister
  (from Tosun, 1999)

As we can infer from the examples in (27) – (28) in the context of a modal in the matrix clause the *if-reading* is available for the participial clauses under consideration if they contain stage level predicates. The *because*-reading is also available for these clauses if they contain an individual level predicate and if the superordinate clause contains a modal. Again, in this respect these clauses pattern with Free Adjuncts. Furthermore, also the restrictive reading is available in each of these examples again indicating that these

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[101] Note that the morphological make up of the matrix predicate is identical to that of a consequent clause in a Turkish conditional. In particular the past morpheme *–di* on the matrix predicate that is of importance.

clauses can alternate between being a reduced relative with a restrictive reading and being a Free Adjunct. An appositive interpretation is not available.

We thus conclude that reduced/participial clauses (which if the gap they contain is not in subject position exhibit genitive subjects) that modify proper names in the subject position of the matrix clause can exhibit the same range of interpretations as Free Adjuncts, i.e., can be Free Adjuncts. Furthermore, they can also always be restrictive reduced relatives, i.e., receive a restrictive interpretation. They can, however, not receive an appositive interpretation. In the following section we will consider further evidence for claim that participial clauses with genitive subjects can be Free Adjuncts.

4.3 Further Evidence for the Free Adjunct Analysis

4.3.1 Turning if-readings into because-readings

In the previous section we have seen that in the context of a modal in the superordinate clause a Free Adjunct containing a stage level predicate is interpreted as an *if*-clause, i.e., as a conditional. Consider now the following data.

(29)   a Having *worn that new outfit,* Bill could fool everyone.
          = *If he wore that new outfit, Bill could fool everyone.
          = Because he wore that new outfit (yesterday) Bill could fool everyone.

        b *Having stood on a chair,* John can touch the ceiling.
          = *If he stood on a chair, John can touch the ceiling.
          = Because he stood on a chair (yesterday) John can touch the ceiling.

As we can see in (29), once we change the temporal/aspectual properties of the Free Adjunct such that the action it describes is cast into the past, the *if*-reading 'vanishes' and is replaced by a *because*-reading.

Naturally, if our participial clauses can indeed be Free Adjuncts, we expect them to exhibit the very same behavior. Consider the data in (30) – (31).

(30)   *Japanese*

    a   Atarashii fuku-o   kiru   John-wa   minna-o   yorokobase-rareru noni
       new   clothes-A wear-prs John-top everyone-A can-please   noni
       'John, who wears new clothes, can please everyone.'
       (i)   If John wears new clothes, he can please everyone.
       (ii)   The John, who wears new clothes, can please everyone.
       (iii) #John, who wears new clothes, can please everyone.

    b   Atarashii fuku-o   kita   John-wa minna-o   yorokobase-rareru ta-noni
       new   clothes-A wear-pst John-topeveryone-A can-please   ta-noni
       'John, who wore new clothes, can please everyone.'
       (i)   Because John wore new clothes, he can please everyone.
       (ii)   The John, who wore new clothes, can please everyone.
       (iii) # John, who wore new clothes, can please everyone.

(31)   *Turkish*

    a   Yurtdısı-ndan gel-en   Ecevit ulus-a   seslen-ir-di.
       Abroad-abl   come-AN   Ecevit nation-D   address-aor-pst
       'Ecevit, who comes from abroad, addressed the nation.'
       (i)   If Ecevit came from abroad he would address the nation
       (ii)   The Ecevit, who comes from abroad, addressed the nation
       (iii) #Ecevit, who comes from abroad, addressed the nation.

    b   Yurtdısı-ndan gelmiş   ol-an Ecevit ulus-a   seslen-ir-di.
       Abroad-abl   come-prf   be-AN Ecevit nation-D   address-aor-pst
       'Ecevit, who came from abroad, addressed the nation.
       (i)   Because Ecevit came from abroad he addressed the nation
       (ii)   The Ecevit, who came from abroad, addressed the nation
       (iii) #Ecevit, who came from abroad, addressed the nation.

The data in (30) – (31) show that this prediction is indeed correct. Once we change the form of the verb from present to past tense (Japanese) or from imperfective to perfective (Turkish) the *if*-reading of participial clauses with genitive subjects turns into a *because*-reading just as in the Free Adjuncts in (29). This is further proof that when these clauses yield Free Adjunct readings they are in fact true Free Adjuncts.

4.3.2 Control

4.3.2.1 Free Adjuncts and Control

Further evidence for the Free Adjunct analysis of participial clauses with genitive subjects on proper names in the subject position of the superordinate clause comes from the behavior of the standard Free Adjuncts and Absolutes with respect to control. Consider the following data.

(32)   a PRO_i wearing the new outfit, $Mary_i$ visited John.
         b   *PRO_i wearing the new outfit, Mary visited $John_i$.

(33)   a PRO_i walking through the park, $Mary_i$ saw John.
         b   *PRO_i walking though the park, Mary saw $John_i$.

(34)   a PRO_i walking through the park, $John_i$ was seen by Mary.
         b   *PRO_i walking though the park, Mary was seen by $John_i$.

As these data convey Free Adjuncts are obligatorily subject/agent controlled. This is true for sentence-final Free Adjuncts as well.

(35)   a $Mary_i$ visited John PRO_i wearing the new outfit.
         b   *Mary visited $John_i$ PRO_i wearing the new outfit.
         c $Mary_i$ was visited by John PRO_i wearing the new outfit.
         d   *Mary was visited by $John_i$ PRO_i wearing the new outfit.

Why do Free Adjucts necessarily involve control, i.e., why does the gap in Free Adjuncts have to be PRO and cannot simply be a trace? There are various ways to think about this problem. We will assume that Free Adjucts are reduced clauses, i.e., that they are smaller than CP.[102] If they do not contain a CP layer, however, the gap inside the Free Adjunct cannot be an A-bar-movement trace. This is because A-bar-movement requires SpecCP as a (intermediate) landing site, which by our assumption is not available in Free Adjuncts. The gap in the Free Adjunct cannot be a trace of head raising either because this process applies only in relative clauses but not in Free Adjuncts. Because these are the only conceivable ways to interpret the gap in the Free Adjunct as a trace and because

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[102] Further evidence for this claim will be provided in chapter 5.

both are not available for Free Adjuncts we conclude that the gap in Free Adjuncts cannot be a trace. Hence, it must be either pro or PRO. We know independently that pro is not licensed in English. In addition, the verb in Free Adjuncts is non-finite, i.e., does neither bear tense marking nor the person and number marking that is necessary to identify pro. Therefore the gap in Free Adjuncts can only be PRO.

The control properties of Free Adjuncts lead us to predict that only those participial clauses that occur on proper names in the subject position of the matrix clause should be able to yield Free Adjunct readings, i.e., be Free Adjuncts. Participial clauses on proper names in object position, on the other hand, should not be able to act as Free Adjuncts. This is because they would be patient (object) controlled which, as we have just seen, is not possible for the true Free Adjuncts.

Finally, the control properties of Free Adjuncts also make an important prediction regarding participial clauses with genitive subjects that have a gap in object position. Free Adjuncts involve control of a PRO-argument. In participial clauses with a gap in object position PRO would have to occupy the object position, i.e., a lexically governed position. This, however, is incompatible with the requirement on PRO to be ungoverned. Thus, we also predict that participial clauses that have a gap in object position and occur on proper names, regardless of whether these proper names are in the subject or the object position of the matrix clause, should not permit Free Adjunct readings. In the following sections we will test our predictions.

4.3.2.2 Participial Clauses with a Gap in Subject Position modifying Objects

The next logical step in our investigation is to determine whether participial clauses on proper names in object position can be Free Adjuncts or not. As in the previous section we start by testing these clauses in the context of an adverb of frequency in the matrix clause. Consider the examples in (36) – (37).

(36) *Japanese*

    a   Jane-wa byouki-dearu John-(no-tame-)ni shibashiba ryouri-suru
          Jane-Top sick-cop   John(of-sake-)-D frequently cook-do
          'Jane frequently cooks for John, who is sick.'
          (i)   # Jane frequently cooks for John when he is sick.
          (ii) ok Jane frequently cooks for the John who is sick.
          (iii) # Jane frequently cooks for John, who is sick.

    b   Jane-wa funanori-dearu John-ni shibashiba   denwa-suru
          Jane-Top sailor-cop   John-D frequently   phone-do
          'Jane frequently calls John, who is a sailor.'
          (i)   # Jane frequently calls John because he is a sailor.
          (ii) ok Jane frequently calls the John who is a sailor.
          (iii) # Jane frequently calls John, who is a sailor.

(37) *Turkish*

    a   Mary işinde geri ol-an John-u sık sık şihayet eder
          Mary behind work be-AN John-A often   complains
          'Mary often complains about John, who is behind on his work.'
          (i)   # Mary often complains about John because he is behind on his work.
          (ii) ok Mary often complains about the John who is behind on his work.
          (iii) # Mary often complains about John, who is behind on his work.

    b   Jane denizci ol-an   John-u sık sık   ar-ıyor
          Jane sailor be-AN John-A frequently call-prog
          'Jane frequently calls John, who is a sailor.'
          (i)   # Jane frequently calls John because he is a sailor.
          (ii) ok Jane frequently calls the John who is a sailor.
          (iii) # Jane frequently calls John, who is a sailor.

As these examples convey, in the context of an adverb of frequency in the superordinate clause these participial clauses can neither receive a *when-* or a *because*-reading or an appositive reading for that matter. They can only receive a restrictive reading. In other words, the typical Free Adjunct readings for these contexts are not available to participial clauses modifying proper names in object position. These clauses can only be restrictive reduced relatives. This is expected under the control analysis of Free Adjuncts. Free Adjuncts are obligatorily agent (subject) controlled. Since participial clauses on objects would be patient (object) controlled they cannot receive Free Adjunct readings. Thus, these findings confirm that the participial clauses on subjects tested in the previous section are indeed Free Adjuncts.

The next question is how participial clauses that contain a gap in subject position and occur on proper names in the object position of the matrix clause behave when the matrix clause contains a modal. Consider the following examples:

(38) *Japanese*

    a   Jane-wa kaigai-kara modotte-kuru John-to   kekkon-shi nakere-ba-ike-nai
        JaneTop abroad-from return-aspect John-with marriage-do   must
        'Jane must marry John, who is returning from abroad.'
        (i)   # Jane must marry John if he is returning from abroad.
        (ii) ok Jane must marry the John who is returning from abroad.
        (iii) # Jane must marry John, who is returning from abroad.

    b   Jane-wa funanori-dearu John-to   kekkon-shi   nakere-ba-ike-nai
        Jane-Top sailor-cop   John-with marriage-do   must
        'Jane must marry John, who is a sailor.'
        (i)   # Jane must marry John because he is a sailor.
        (ii) ok Jane must marry the John who is a sailor.
        (iii) # Jane must marry John, who is a sailor.

(39) *Turkish*

    a   Jane yurtdışı-ndan dön-en   John-la   evlen-ebil-ir
        Jane abroad-from   return-AN John-with marry-might-aor
        'Jane must marry John, who is returning from abroad.'
        (i)   # Jane must marry John if he is returning from abroad.
        (ii) ok Jane must marry the John who is returning from abroad.
        (iii) # Jane must marry John, who is returning from abroad.

    b   Mary dilbilimci ol-an   Chomsky-yle konuş-abil-ir
        Mary linguist   be-AN Chomsky-with talk-can-aor
        'Mary can talk to Chomsky, who is a linguist.'
        (i)   # Mary can talk to Chomsky because he is a linguist.
        (ii) ok Mary can talk to the Chomsky who is a linguist.
        (iii) # Mary can talk to Chomsky, who is a linguist.

These examples confirm the findings from above. Also in the context of a modal in the superordinate clause participial clauses that have a gap in subject position and occur on proper names in object position cannot receive the Free Adjunct readings that were available to these relatives on proper names in subject position. In other words, these clauses cannot be interpreted as either *if-* or *because*-clauses. They can also not receive

an appositive interpretation. They can only be interpreted as restrictive relatives. Again, this is expected given the *Main Clause Hypothesis* for reduced relatives and given the behavior of Free Adjuncts with respect to control and thus confirms that the participial clauses with a gap in subject position that yield Free Adjunct readings are indeed Free Adjuncts.

4.3.2.3 Participial Clauses with a Gap in Object Position modifying Subjects

This section deals with participial clauses with genitive subjects that have a gap in object position and modify proper names in the subject position of the superordinate clause. As before in the case of participial clauses with a gap in subject position we need to test how these clauses behave in the context of an adverb of frequency or modal in the superordinate clause, i.e., we need to test whether they exhibit the Free Adjunct readings or not. As should have become clear from the discussion in the previous section we do in fact not expect these clauses to exhibit the behavior of Free Adjuncts. This is because Free Adjuncts involve control, i.e., PRO. For participial clauses with a gap in object position this means that it is their object position that would need to be controlled. PRO, however, is not licensed in object position.

Consider the data in (40) - (41)

(40)   *Japanese*[103]

       a ??/*Mary-nokenkyuu-anotameni   atteiru John-wa tokidoki gitaa-o hiku
            Mary-G study-for-the-sake-of meet   John-Top sometimes guitar-A play
        'John, who Mary meets for studying, sometimes plays guitar.'
        (i)   # When Mary meets him for studying, John sometimes plays guitar.
        (ii) ok The John who Mary meets for studying, sometimes plays guitar.
        (iii) # John, who Mary meets for studying, sometimes plays guitar.

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[103] Note, that in this section we will only discuss those Japanese prerelatives that have a genitive cased, i.e., *-no* subject. Prerelatives with nominative (*-ga*) subjects will be discussed in the section on 'Mixed Languages'.

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b ??/*tsuma-no takusan ryouri-suru John-wa yoku guai-ga warukunaru
    wife-G a lot cook-do John-Top often condition-N bad become
    'John, for whom his wife cooks a lot, often gets sick.'
    (i) # Because his wife cooks a lot for him, John often gets sick.
    (ii) ok The John for whom his wife cooks a lot, often gets sick.
    (iii) # John, for whom his wife cooks a lot, often gets sick.

(41) *Turkish*

a Mary-nin çalişmak için buluş-tuğ-u John bazen gitar çalar.
    Mary-G study for meet-DIK-3poss John sometimes guitar play
    'John, who Mary meets for studying, sometimes plays guitar.'
    (i) # When Mary meets him for studying, John sometimes plays guitar.
    (ii) ok The John who Mary meets for studying, sometimes plays guitar.
    (iii) # John, who Mary meets for studying, sometimes plays guitar.

b John-un Fransızca öğret-tiğ-i Mary, genellike iyi giyinir
    John-G French-A teach-DIK-3poss Mary, usually well dress
    'Mary, to whom John taught French, often dresses well.'
    (i) # Because John taught her French, Mary often dresses well.
    (ii) ok The Mary to whom John taught French often dresses well.
    (iii) # Mary, to whom John taught French, often dresses well.

The only reading available for the Japanese and Turkish examples in (40) and (41) is a restrictive reading, i.e., these clauses must be restrictive reduced relatives. Moreover, in Japanese reduced relatives with a gap in object position that have *–no* subjects, i.e., genitive subjects, are extremely marked, if not completely ungrammatical when they modify a proper name in the subject position of the superordinate clause. Thus, these examples confirm our prediction that an adverb of frequency in the superordinate clause does neither induce a *when-* or a *because*-reading for a participial clause with a gap in object position that occurs on a proper name in the subject position of the matrix clause. In other words, the exmaples in (40) and (41) confirm that these clauses cannot receive the interpretation that is typical for Free Adjuncts that occur in the context of an adverb of frequency in the superordinate clause.

Let us now take a look at the behavior of participial clauses that have a gap in object position and a genitive subject in the context of a modal in the superordinate clause. Consider the examples in (42) – (43).

(42) *Japanese*

a ??/*John-no Furansugo-o oshieta Mary-wa ryoujikan-de hatarakeru
        John-G French-A   taught   Mary-Topconsulat-at   can work
    'Mary, to whom John taught French, could work at a consulate.'
    (i)   # If John taught her French, Mary can work at a consulate.
    (ii) ok The Mary to whom John taught French could work at a consulate.'
    (iii) # Mary, to whom John taught French, could work at a consulate.

b ??/*Mary-no kiss-o shita Peter-wa hansamu darou.
        Mary-G kiss-A did   Peter-Top handsome might be
    'Peter, who Mary kissed, might be handsome.'
    (i)   # Because Mary kissed him, Peter might be handsome.
    (ii) ok The Peter who Mary kissed might be handsome.
    (iii) # Peter, who Mary kissed, might be handsome.

(43) *Turkish*

a John-un Fransızca öğret-tiğ-i   Mary, bir konsoloslukta çalış-abil-ir/-di
    John-G French-A teach-DIK-3poss Mary, a consulate-at work   can
    'Mary, to whom John taught French, can work at a consulate.'
    (i)   # If John taught her French, Mary can work at a consulate.
    (ii) ok The Mary to whom John taught French could work at a consulate.'
    (iii) # Mary, to whom John taught French, can work at a consulate.

b Mary-nin öp-tüğ-ü   Peter yakşıklı ol-abil-ir.
    Mary-G kiss-DIK-3poss Peter beautiful be
    'Peter, who Mary kissed, must be beautiful.'
    (i)   # Because Mary kissed him, Peter must be beautiful.
    (ii) ok The Peter who Mary kissed must be beautiful.
    (iii) # Peter, who Mary kissed, must be beautiful.

These examples confirm our findings from above. Participial clauses that have a gap in object position and occur on proper names in the subject position of the matrix clause cannot receive the interpretation that is typical of Free Adjuncts in the context of a modal in the superordinate clause. They can neither be interpreted as *if-* nor as *because*-clauses. Instead, the only reading available for these clauses is a restrictive reading. In addition, in Japanese reduced relatives with genitive subjects that have a gap in object position are either highly marked or completely ungrammatical in this environment.

These results are not surprising. Unlike participial clauses with a gap in subject position, participial clauses with a gap in object position cannot be Free Adjuncts. This is because Free Adjuncts involve control of a PRO-argument. In participial clauses with a

gap in object position this would require PRO to be located in object position, i.e., in a lexically governed position. This however is incompatible with the properties of PRO.[104]

If the Free Adjunct readings were available to participial clauses with a gap in object position, then the fact that they are available to participial clauses with a gap in subject position would not be more than a co-incidence. In other words, the fact that participial clauses exhibit the semantic behavior of Free Adjuncts would be of relatively little significance if at the same time they did not exhibit the syntactic behavior of Free Adjuncts as well. That the participial clauses tested up to this point not only match the semantic but also the syntactic properties of Free Adjuncts thus strongly supports the claim that in the cases where Free Adjunct readings are available to participial clauses these clauses indeed are Free Adjuncts.

The findings in this section support our analysis in two ways. First, the fact that participial clauses with a gap in object position on proper names in subject position do not exhibit Free Adjunct readings supports our claim that in the case where these readings are available to participial clauses we deal indeed with Free Adjuncts.

Second, the fact that when the prenominal participial clause with the genitive subject is a reduced relative the only reading available to it is a restrictive reading, re-enforces the claim that reduced relatives with genitive subjects cannot be appositives.

4.3.2.4 Participial Clauses with a Gap in Object Position modifying Objects

Finally, we also have to test the behavior of participial clauses with genitive subjects that have a gap in object position and occur on proper names in the object position of the matrix clause with respect to the availability of Free Adjunct, restrictive, and appositive readings. As for the participial clauses with gaps in object position discussed in the previous section we predict that the Free Adjunct reading should be unavailable because of the ban on PRO in object position. The appositive reading should also be unavailable if the hypothesis that reduced clauses cannot be appositive relatives is correct.

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[104] Note that there are Free Adjuncts and Absolutes that do not contain a gap, e.g., *with John having left, the party was much less fun*. The participial clauses under consideration, however, always contain a gap and are Free Adjuncts that necessarily ivolve control.

Consider the following examples.

(44) *Japanese*

    a ??Jane-wa John-no shoku-wo sagasu koto-wo   susumeru   Peter-ni
       Jane-top John-G job-A   find   Nzr-A   recommend Peter-D
       shibashiba denwa-suru
       frequently   phone-do
       'Jane often talks to Peter, who John is forcing to apply for a job.'
       (i)   # Jane often talks to Peter when John is forcing him to apply for a job.
       (ii) ok Jane often talks to the Peter who John is forcing to apply for a job.
       (iii) # Jane often talks to Peter, who John is forcing to apply for a job.

    b ??Jane-wa Peter-ga keiai-suru   John-(no-tame-)ni shibashiba denwa-suru
       Jane-top Peter-G admiration-do John-(of-sake-)D   frequently phone-do
       'Jane often calls John, who Peter admires.'
       (i)   # Jane often calls John because Peter admires him.
       (ii) ok Jane often calls the John, who Peter admires.
       (iii) # Jane often calls John, who Peter admires.

(45) *Turkish*

    a Jane John-un işe başvurmaya zorla-dığ-ı   Peter-le sık sık   konuşuyor
       Jane Joh-G   job-D apply-D force-DIK-3poss Peter-with often talk
       'Jane often talks to Peter, who John is forcing to apply for a job.'
       (i)   # Jane often talks to Peter when John is forcing him to apply for a job.
       (ii) ok Jane often talks to the Peter who John is forcing to apply for a job.
       (iii) # Jane often talks to Peter, who John is forcing to apply for a job.

    b Jane Peter-in hayran ol-duğ-u   John-u sık sık ar-ıyor
       Jane Peter-G admire be-DIK-3poss John-A often   calls
       'Jane often calls John, who Peter admires'
       (i)   # Jane often calls John because Peter admires him.
       (ii) ok Jane often calls the John, who Peter admires.
       (iii) # Jane often calls John, who Peter admires

As these examples show, in the context of an adverb of frequency in the matrix clause participial clauses with genitive subjects that have a gap in object position and occur on proper names in the object position cannot exhibit readings that are typical of Free Adjunct in this context. In other words, they can exhibit neither *when-* nor *because-* readings Moreover, they can also not be interpreted as appositives. The only interpretation that is available for these clauses is the restrictive reading.

Consider now the behavior of these clauses in the context of a modal in the superordinate clause.

(46) *Japanese*

    a ??Jane-wa Peter-no ie-o   ageru John-to   kekkon-shi nakere-ba-ike-nai
        Jane-top   Peter-G house-A give   John-with marriage-do must
        'Jane must marry John, who Peter is giving a house.'
        (i)   # Jane must marry John if Peter is giving him a house.
        (ii) ok Jane must marry the John, who Peter is giving a house.
        (iii) # Jane must marry John, who Peter is giving a house.

    b ??Jane-wa Peter-no keiai-suru   John-to   kekkon-shi nakere-ba-ike-nai
        Jane-top Peter-G admiration-do John-with marriage-do must
        'Jane must marry John, who Peter admires.'
        (i)   # Jane must marry John because Peter admires him.
        (ii) ok Jane must marry the John, who Peter admires.
        (iii) # Jane must marry John, who Peter admires.

(47) *Turkish*

    a Jane Peter-in yeni bir ev   ver- diğ-i   John-la   evlenmek zorunda
        Jane Peter-G new a   house give-DIK-3poss John-with   marry   must
        'Jane must marry John, who Peter is giving a new house.'
        (i)   * Jane must marry John if Peter is giving him a new house.
        (ii) ok Jane must marry the John, who Peter is giving a new house.
        (iii) # Jane must marry John, who Peter is giving a new house.

    b Jane Peter-in hayran   ol-duğ-u   John-la   evlenmek zorunda
        Jane Peter-G admire   be-DIK-3poss John-with   marry   must
        'Jane must marry John, who Peter admires.'
        (i)   # Jane must marry John because Peter admires him.
        (ii) ok Jane must marry the John, who Peter admires.
        (iii) # Jane must marry John, who Peter admires.

In these examples too the Free Adjunct readings, i.e., *if-* and *because*-readings, as well as the appositive reading are not available. The participial clauses must be reduced relatives and can only receive a restrictive interpretation.

The conclusion we have to draw based on these findings and the results of the discussion in the previous sections is clear. Despite the fact that they can modify proper names reduced relatives with genitive subjects cannot be appositives. On the other hand these participial clauses can be Free Adjuncts if they contain a gap in subject position and

if they occur on proper names in the subject position of the matrix clause. In the context of an adverb of frequency in the superordinate clause they are interpreted as *when*-clauses if they contain a stage-level predicate and as *because*-clauses if they contain an individual level predicate. In the context of a modal in the higher clause they are interpreted as *if*-clauses if they contain a stage-level predicate and as *because*-clauses if they contain an individual level predicate.

The behavior of participial clauses with genitive subjects that have a gap in object position provides syntactic evidence for the claim that participial clauses with a gap in subject position on proper names are indeed Free Adjuncts. Free Adjuncts involve control of a PRO-argument. Because of its requirement to be ungoverned PRO cannot appear in object position, i.e., in a position which is lexically governed. Thus the Free Adjunct hypothesis of participial clauses on proper names predicts that those participial clauses that have a gap in object position should not be able to receive Free Adjunct readings. As we have seen in this and the previous section, this prediction is borne out. When they contain a gap in object position participial clauses must be reduced relatives. These relatives in turn can only receive a restrictive interpretation. An appositive interpretation is not available.

4.3.3 Further Tests

In section 3 of this chapter we have shown with respect to Weak Crossover, parasitic gap licensing and quantifier binding reduced relatives with genitive subjects behave like restrictives and not like appositives. One might now wonder how Free Adjuncts behave with respect to these tests and whether participial clauses can exhibit the same behavior.

Let us start with Weak Crossover. Because Free Adjuncts always have a gap in subject position Weak Crossover environments cannot be constructed with Free Adjuncts in main clauses. We need to construct a Free Adjunct that contains a pronoun and is located in an embedded clause in order to conduct this test. Furthermore, because the relevant environment cannot be construed inside the Free Adjunct we need to move a wh-

phrase or quantifier across the Free Adjunct in order to obtain a Weak Crossover environment. Consider the examples in (48).

(48) a *Which man$_i$ do you think that wearing his$_i$ shirt Mary surprised?
      b *Which man do you think that wearing Bills shirt Mary surprised?

As we can see in (48), the sentence initial Free Adjunct creates a weak island so that the sentence is ungrammatical independent of a Weak Crossover violation. Hence it is not surprising that same example in Turkish is ungrammatical as well.

(49) Onun gömleğ-in-i giyen   Mary hangi adamı onurlandırıyor?
      his-G shirt-3poss wear-AN Mary which man   flatter
      'Which man$_i$ does Mary flatter wearing his$_i$ shirt?'

There is another serious problem with the Weak Crossover test. It seems to be the case that sentence final Free Adjuncts, are insensitive to the effects that cause the ungrammaticality of the examples in (48).

(50)   Which man$_i$ do you think that Mary surprises wearing his$_i$ shirt?

This contributes further to the difficulties in evaluating what the situation regarding the behavior of Free Adjuncts with respect to Weak Crossover truly is.[105] It remains unclear why sentence initial Free Adjuncts behave different from sentence final Free Adjuncts here. We will leave this problem to future research.

In any event, even if we had an explanation for this fact, i.e., found out what saves sentence final Free Adjuncts from Weak Crossover violations we could still not compare sentence final Free Adjuncts to Turkish participial clauses. Turkish is a strictly head-final language. Hence participial clauses can never appear in sentence final position. Therefore, we cannot test whether the behavior of Turkish participial clauses regarding

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[105] It has often been claimed that Weak Crossover occurs specifically when the pronoun is to the left of the gap irrespective of the structural position of the pronoun. This explains why the example in (50) should be better than the one in (48) but it does not explain why the weak island effect does not occur here.

Weak Crossover changes in sentence final position as well. Hence the Weak Crossover test is inconclusive.

Also the attempt to test the behavior of Free Adjuncts with respect to parasitic gap licensing leads us nowhere. In fact we cannot even set up the relevant environment because of the incompatibility of Free Adjuncts with gaps in object position.

This leaves us with quantifier binding. Can a quantifier in the matrix clause bind a pronoun in a Free Adjunct? Yes (even though, again, the sentence final Free Adjunct seems to be better).

(51) a   Every man$_i$ thinks that wearing his$_i$ shirt Mary is beautiful.
      b   ?Every man$_i$ thinks that Mary is beautiful wearing his$_i$ shirt.

The same is true for Turkish participial clauses.

(52) Her adam onun gömleğin-i   giyen   Mary-nin güzel olduğunu düsünüyor.
      Every man his-G shirt-3poss wear-AN Mary-G beautiful be-DIK-3poss think
      'Every man$_i$ thinks that Mary is beautiful wearing his$_i$ shirt.'

Note, however, that this is also a property of restrictive relatives, i.e., a quantifier in the matrix clause can also bind a pronoun in a restrictive relative. The same is true for the Weak Crossover example from above. Not only sentence initial Free Adjuncts but also restrictive relatives are sensitive to Weak Crossover. Hence the judgements for the participial constructions in Turkish might alternatively be a reflex of the restrictive reading as well. In conclusion, although the question whether participial clauses in Turkish behave like Free Adjuncts with respect to Weak Crossover and quantifier binding is important, the results of these tests are unfortunately inconclusive.

4.4 Summary

In this and the previous sections we argued that participial clauses that contain a gap in subject position and occur on proper names in the subject position of the matrix clause

can be Free Adjuncts. This was evidenced first by the availability of Free Adjunct readings for the clauses under consideration. The behavior of these clauses in the context of a modal in the superordinate clause provided further evidence for this claim. As in true Free Adjuncts a change of the temporal/aspectual properties of the verb in these clauses that casts the described action into the past, causes the *if-reading* to change in to a *because-reading*. In addition, these clauses also exhibit the control properties of Free Adjuncts. Free Adjuncts are obligatorily agent (subject) controlled. This leads us to the prediction that only those participial clauses should be able to act as Free Adjuncts that contain a gap in subject position and occur on a proper name in the subject position of the superordinate clause. This is indeed correct.

Last but not least, it is important to note that the Free Adjunct reading is a *can*, not a *must*. Participial clauses on proper names can also always be reduced relatives. In their function as reduced relatives these clauses receive a restrictive reading. They can, however, not receive an appositive reading. This, is strong evidence for the claim that reduced relatives cannot be appositives.

5 Standard Reduced Relatives

After we showed that reduced relatives with genitive subjects cannot be appositives we now have to ask whether the same holds for standard reduced relatives, i.e., reduced relatives that enforce subject relativization. To this end we will investigate the behavior of German and English reduced relatives on proper names. We will show that like reduced relatives with genitive subjects, standard reduced relatives cannot be appositives. Unlike reduced relatives with genitive subjects, however, standard postnominal reduced relatives also do not permit a restrictive reading. They can only be Free Adjuncts.

5.1 Standard Prenominal Reduced Relatives

Both English and German, for example, have standard prenominal reduced relatives. Can they be appositives? No. Consider the following examples.

(53) a   The singing John walks through the streets.
          (i) ok   The John who is singing walks through the streets
          (ii) #   John, who is singing, walks through the streets.
          (iii) # While he is singing John walks through the streets.

      b   Singing John walks through the streets.
          (i) #   The John who is singing walks through the streets
          (ii) #   John, who is singing, walks through the streets.
          (iii)ok While he is singing John walks through the streets.

      c   I see the singing John.
          (i) ok   I see the John who is singing.
          (ii) #   I see John, who is singing.
          (iii) # I see John while he is singing.

      d   *I see singing John.

(54) a   *(Der) laut singende John geht durch die Stadt.
           The   loud singing John walks through the city.
          'The loud singing John walks through the city.'
          (i) ok   The John who is singing loudly walks through the city.
          (ii) #   John, who is singing loudly, walks through the city.
          (iii) # While he is singing loudly John walks through the city.

      b   Ich sehe *(den)laut singenden John.
          I see loud singing John.
          'I see the loud singing John.'
          (i) ok   I see the John who is singing loudly.
          (ii) # I see John, who is singing loudly.
          (iii) # I see John while he is singing loudly.

The examples in (53) show that in English, without the determiner the prenominal participial clause seems to automatically be reanalyzed as a Free Adjunct when it

modifies a subject and is ungrammatical on objects.[106] In other words, prenominal participial clauses in NPs without overt determiners can only be Free Adjuncts.

In German, on the other hand, prenominal participial clauses in a NP without an overt determiner are always ungrammatical (54). Once the determiner is present, however, a restrictive reading of the participial clause is enforced in both the English and German examples, i.e., it must be a reduced relative.

Why does the presence of an overt determiner force prenominal participial clauses in English and German to be restrictive relatives? We conjecture that this is because the presence of the overt determiner, which precedes the prenominal participial clause, indicates that the reduced relative must be inside NP. In this position, however, the relative clause must combine with the head noun via predicate modification. This process always yields restrictive relatives.[107]

When the determiner is not present the participial clause seems to automatically be analyzed as being outside NP, presumably in an adjunct position to DP. Outside NP, however, predicate modification is not possible. Hence the restrictive reading is unavailable. The appositive reading is also unavailable because the participial clause is a reduced clause. Therefore in this position the participial clause can only be interpreted as a Free Adjunct.

5.2 German Postnominal Reduced Relatives

Recall that standard reduced relatives in English and German enforce subject relativization. Hence we will be concerned with postnominal participial clauses that have

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[106] When the participial clause is a Free Adjunct in English it does not form a constituent with NP/DP any longer. In German, however, even when they receive Free Adjunct readings participial clauses do form a constituent with DP (presumably they are DP adjuncts in this scenario), they can, for example, topicalize along with the DP they are in (cf. (55)). The same is true for Turkish, in which the participial clause, even if it receives a Free Adjunct reading, can never be separated from its host DP (cf. Tosun, 2000). This difference between English on the one hand and German and Turkish on the other might be due to the fact that English but not German and Turkish has Free Adjunct aside from the participial clauses that can also be interpreted as (reduced) relative clauses.

[107] Note that for English there is an alternative explanation, namely, that a definite determiner on a proper name turns the proper name into a set noun. The same explanation does not work for certain dialects of German, however, where proper names require overt definite determiners and do not receive a set noun interpretation.

a gap in subject position only. The first test we have to conduct is whether these clauses can exhibit restrictive, appositive, and Free Adjunct readings when they modify a proper name in subject position. Consider the following examples. (Note that the translations are given in the form of the corresponding English postnominal participial clause. Furthermore, the judgements for the English and German constructions are identical. Thus, what holds for German postnominal participial clauses holds for English postnominal participial clauses as well.)

(55) a   Jon, aus dem Ausland kommend, hält gewöhnlich eine Rede.
          Jon from the abroad coming   give usually   a   speech
          'Jon coming from abroad usually gives a speech.'
          (i)   ok   When Jon comes from abroad he usually gives a speech.
          (ii) #   The Jon who comes from abroad usually gives a speech.
          (iii) #   Jon, who comes from abroad, usually gives a speech.

      b   Jon, aus einer Seemannsfamilie stammend, raucht oft   Pfeife.
          Jon from a   sailor-family   coming smokes often pipe
          'Jon coming from a family of sailors often smokes pipe.'
          (i)   ok   Because Jon comes from a family of sailors he often smokes pipe.
          (ii) #   The Jon who comes from a family of sailors often smokes pipe.
          (iii) #   Jon, who comes from a family of sailors often smokes pipe.

In (55) we deal with a postnominal participial clause on a proper name in subject position in the context of an adverb of frequency in the superordinate clause. Participial clauses with genitive subjects in this environment yielded both restrictive and Free Adjunct readings. An appositive interpretation for these clauses was not possible. The appositive reading is unavailable also for standard postnominal participial clauses. In addition, however, and unlike in participial clauses with genitive subjects, the restrictive reading is unavailable for standard postnominal participial clauses as well. The same is true if we change the superordinate clause such that it contains a modal.

(56) a   Jon, einen Hut tragend, könnte jedem   gefallen.
          John, a   hat wearing could everybody please
          'Jon wearing a hat could please everybody'
          (i)   ok   If he is wearing a head John could please everybody.
          (ii) #   The Jon who is wearing a head could please everybody.
          (iii) #   The Jon who is wearing a head could please everybody.

    b   Jon, aus einer Seemannsfamilie stammend, darf Pfeife rauchen.
         Jon from a   sailor-family   coming   can pipe smoke
         'Jon coming from a family of sailors can smoke pipe.
         (i) ok Because Jon comes from a family of sailors he can smoke pipe.
         (ii) # The Jon who comes from a family of sailors can smoke pipe.
         (iii) # Jon, who comes from a family of sailors can smoke pipe.

Again, unlike for participial clauses with genitive subjects in these contexts, for standard postnominal participial clauses not only the appositive but also the restrictive reading is missing. Why should this be?

    One could hypothesize that in order to obtain a restrictive reading in languages like English and German we need the presence of a definite determiner. As the examples in (57) show, however, the presence of such a determiner causes standard reduced relatives on a proper name to be ungrammatical.[108]

(57)   a   *Der Jon, aus dem Ausland kommend, hält gewöhnlich eine Rede.
         The Jon from the abroad coming   give usually   a   speech
         *'The Jon coming from abroad usually gives a speech.'

      b   *Der Jon, aus einer Seemannsfamilie stammend, raucht oft   Pfeife.
         The Jon from a   sailor-family   coming   smokes often pipe
         *'The Jon coming from a family of sailors often smokes pipe.'

      c   *Der Jon, einen Hut tragend, könnte jedem   gefallen.
         The Jon   a   hat wearing could everybody please
         '*The Jon wearing a hat could please everybody'

      d   *Der Jon, aus einer Seemannsfamilie stammend, darf Pfeife rauchen.
         The Jon from a   sailor-family   coming   can pipe smoke
         '*Jon coming from a family of sailors can smoke pipe.

Now we have two puzzles. Why is it that the determiner on a proper name with standard prenominal participial clauses in German (and English) is grammatical and yields a restrictive reading whereas it is ungrammatical on proper names with standard

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postnominal participial clauses? And, how is this related to the fact that standard postnominal participial clauses cannot receive restrictive readings?

Note that things get even more confusing once we take full postnominal relatives into account. These clauses can modify proper names that come with a determiner (58). Hence it cannot be that there is a general ban on determiners with postnominal relatives.

(58)   Ich mag den Peter der mir ein Eis   gekauft hat.
       I   like the Peter who me a ice-cream bought has
       'I like the Peter who bought ice-cream for me.'

So what is going on? As we discussed above, the restrictive reading is the result of predicate modification applying to the head noun and the adnominal participial clause. It can apply only if the participial clause is inside NP. Hence the fact that the restrictive reading is absent for postnominal participial clauses indicates that they are attached to a projection outside NP, presumably DP. In fact, they (unlike full postnominal relatives) are forced to be outside NP as the non-availability of the restrictive reading shows.

If this argument is on the right track, we have an interesting explanation as to why both the restrictive and the Free Adjunct reading are available to participial clauses in Turkish and Japanese. These languages do not have overt definite determiners. Assuming that the determiner is nevertheless present covertly speakers could then choose to attach the participial clause either within NP, which results in the restrictive reading, or outside of it, which results in the Free Adjunct reading. We will see later on that Tohono O'odham relatives seem to confirm this claim.

At this point, however, all of this is more or less a speculation. A careful investigation of this problem requires an investigation in its own right and is beyond the scope of this thesis. For the purposes of this thesis the important result the examination of the data in (55) and (56) yields is that standard postnominal participial clauses on proper names in subject position can, as predicted by the *Main Clause Hypothesis*, not receive an appositive interpretation.[109]

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the overt determiner forces these speakers to interpret these clauses as being inside NP, i.e., as having combined with the head noun via predicate modification.

[109] There are, however, some counterexamples to this generalization. We will discuss these problematic cases in the following section.

Let us now look at standard postnominal participial clauses on proper names in object position. Relevant examples are given in (59).

(59) a   Maria ruft Peter aus der Schule kommend oft an.
          Maria calls Peter from the school coming often to
          'Mary often calls Peter coming from school.'
          (i)   ok   Mary often calls Peter when she comes from school.
          (ii)   #   Mary often calls Peter when he comes from school.
          (iii) #   Mary often calls the Peter who is coming from school.
          (iv)   #   Mary often calls Peter, who is coming from school.

      b   ?Maria ruft Peter aus Texas stammend oft an.
          Mary calls Peter from Texas coming often to
          'Mary often calls Peter coming from Texas.'
          (i)   ?   Mary often calls Peter because she is from Texas.
          (ii)   #   Mary often calls Peter because he is from Texas.
          (iii) #   Mary often calls the Peter who is from Texas.
          (iv)   #   Mary often calls Peter, who is from Texas.

      c   Maria könnte Peter im Park spazierend sehen.
          Mary could Peter in-the park walking see
          'Mary could see Peter walking in the park.'
          (i)   ok   Mary could see Peter if she is walking in the park.
          (ii)   #   Mary could see Peter if he is walking in the park.
          (iii) #   Mary could see the Peter who is walking in the Park.
          (iv)   #   Mary could see Peter, who is walking in the Park.

      d   ?Maria könnte Peter aus Texas stammend mögen.
          Mary could Peter from Texas coming like
          'Mary could like Peter coming from Texas.'
          (i)   ?   Mary could like Peter because she is from Texas.
          (ii)   #   Mary could like Peter because he is from Texas.
          (iii) #   Mary could like the Peter who is from Texas.
          (iv)   #   Mary could like Peter, who is from Texas.

These examples confirm the findings from above. Neither a restrictive nor an appositive reading is available for standard postnominal participial clauses on proper names in object position. The only salient reading is the Free Adjunct reading for the same reasons as discussed above.

Furthermore, the only Free Adjunct reading that is available is the one where the agent (subject) of the superordinate clause is the agent of the action expressed in the

participial clause. This is expected because, as we have discussed at length in section 4, Free Adjuncts are obligatorily agent (subject) controlled.

We therefore conclude that first, and most importantly, our prediction that standard reduced relatives cannot be appositives is indeed borne out. Second, like participial clauses with genitive subjects, standard participial clauses can receive Free Adjunct readings. Standard postnominal participial clauses differ from participial clauses with genitive subjects, however, in that this is the only interpretation they permit. This might be due to the attachment site of standard postnominal participial clauses, which is presumably outside the domain where predicate modification can apply (NP). One question, however, remains. Why can participial clauses receive Free Adjunct interpretations? We will return to this problem in the final chapter.

5.3 Potential Counterexamples

Now that we have shown that both standard pre- and postnominal reduced relatives can indeed not be appositives, let us briefly turn to potential counterexamples to our claim that reduced relatives cannot be appositives. These counterexamples are provided by three different constructions.

5.3.1 PP-Adjuncts

The first of these concerns PP-adjuncts. Relevant examples are given below.

(60) a Mary over there is a pretty girl.
      b John at the bar over there likes Martinis.

The claim that these PPs are actually reduced relatives is based on the observation that all these examples could be derived from relative clauses to which *whiz*-deletion (wh+be-deletion) has applied.

(61) a Mary ~~who is~~ over there is a pretty girl.
  b John ~~who is~~ at the bar over there likes Martinis.

Could we say that these PPs are not reduced relatives? There are indeed differences between these PPs and typical reduced relatives. First, we have already seen that both German and English permit prenominal reduced relatives. Neither language, however, permits prenominal PPs.

(62) a *The from Texas girl is pretty.
  b *I see the at the bar man.

(63) a *Das aus Texas Mädchen ist hübsch.
  The from Texas girl is pretty.
  'The girl from Texas is pretty.'

  b *I sehe den an der bar Mann.
  I see the at the bar man
  'I see the man at the bar.'

Furthermore, we have also seen that reduced relatives in both English and German permit the occurrence of certain adverbs (cf. (64a)/(65a)). Again, this is not true for these PPs (cf. (64b)/(65b).[110]

(64) a the ~~which was~~ definitely altered manuscript
  b *Peter ~~who is~~ definitely at Harvard

(65) a der spät zur Arbeit kommende Mann
  the late to work coming man
  'the man who is coming to work late'

  b *der Mann spät in seinem Büro
  the man late in his office
  'the man who is in his office late'

Finally, there are languages like, for example Greek (Sabine Iatridou, p.c.) that employ PPs but at the same time do not have reduced relatives.

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[110] Note that certain adverbs might be more felicitous than others, once they appear after the PP. In this position, however, they do not modify the PP but the superordinate clause.

Are these differences sufficient to claim that PP modifiers are not reduced relatives? In order to answer this question we would have to settle on defining what exactly characterizes a reduced relative, i.e., what properties a phrase must have in order to qualify as a reduced relative. What could those properties be? We could, for example, assume that any phrase that intersects with the meaning of the head noun, i.e., further specifies the head noun, is a relative clause. The PPs under consideration then would be relative clauses and they would be reduced relatives because they do not contain relative pronouns or complementizers and no finite verb. This definition, however, runs into the problem that it also qualifies any pre- or postnominal possessor, as a reduced relative. Possessor phrases are DPs, i.e., arguments. It remains unclear whether it is truly desirable to classify these DPs as relative clauses.

Alternatively, we could assume that reduced relatives must always contain a non-finite verb. This definition, however, runs into problems with adjectival copulas, which can be reduced relatives but do not exhibit verbs. We will leave the problem of how to define what a (reduced) relative clause is for future research to answer. In absence of such a definition we conclude that the PPs under consideration might but need not be a counterexample to our claim that reduced relatives cannot be appositives.

5.3.2 Subject -Infinitival Relatives

The second construction that seems to contradict our argument that reduced relatives cannot be appositives concerns infinitival relatives. It has been argued in Bhatt (1999) that subject infinitival relatives, i.e., infinitival relatives with a gap in subject position are reduced relatives.[111] His arguments for this claim are that these relatives do not permit relative pronouns or complementizers, that their verb is not tensed, that they enforce subject relativization, and that they can be the complement of main verb BE. If subject-infinitival relatives are indeed (standard) reduced relatives, we expect them to not

[111] According to Bhatt (1999) object infinitival relatives, i.e., relative clauses of the type in (1a) (from Bhatt 1999) are full clauses. They cannot be appositives (1b).

permit appositive readings. As the data in (66) show, however, this does not seem to be entirely correct.

(66)   a   The book [to be read tomorrow] is Tolstoi's finest novel.
       b   War and Peace [to be read tomorrow] is Tolstoi's finest novel.

Does this mean we have been on the wrong all along, that the *Main Clause Hypothesis* is wrong and that reduced relatives can be appositives after all? We can, like before, raise the question of whether these clauses are indeed reduced relatives. While Bhatt (1999) argues that they are, Pesetsky and Torrego (2001) take indeed the oposite view. For Pesetsky & Torrego (2001) both subject and object infinitival relatives are full clauses. For them the lack of relative pronouns and complementizers in subject relatives is not due to the fact that these are reduced relatives but to the fact that they involve subject-extraction. In subject-extraction the feature on C is not spelled out. If it is, it causes ungrammaticality analogous to that-trace filter violations.

However, even if Pesetsky and Torrego are correct in claiming that these relatives are not reduced relatives, the infinitival clauses in (66) still pose a problem. According to the Main Clause Hypothesis only finite clauses can be appositives. Thus, the fact that the infinitival clauses in (66) seem to be able to get appositive readings is problematic even if they are full clauses.

We can now raise the question of whether these infinitival relatives do indeed behave like 'regular' appositives, i.e., full wh-clauses. There are indeed various differences between true appositives and the infinitival relatives of the type in in (66). First, as the example in (67) shows, active subject infinitival relatives cannot receive an appositive interpretation, i.e., the passive is a prerequisite for the reading in (66b).

(67)   a   The man [to fix the sink] is waiting in the hall.
       b   *John [to fix the sink] is waiting in the hall.

For true appositives, on the other hand, it does not matter whether their verb is in the active or passive voice. The appositive reading is available regardless.

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(1) a   I am looking for a book [to read].
b   *I am looking for War and Peace [to read tomorrow].

(68)   a   Peter, who is kissing Mary right now, is my best friend.

           b   Peter, who is being kissed by Mary right now, is my best friend.

Second, unlike true appositives (69a) subject infinitival relatives cannot occur in sentence final position (69b).

(69)   a   Mary favors Peter, who will be interviewed tomorrow.

           b   *Mary favors Peter, to be interviewed tomorrow.

Third, true appositives do not need to contain a modal operator. The appositive reading is available even if the clause is not modal.

(70)   a   Peter, who could be my best friend, likes Mary.

           b   Peter, who is my best friend, likes Mary.

Subject infinitival relatives, on the other hand, need modality in order to receive the alleged appositive interpretation. While infinitival relatives are inherently modal, a non-modal interpretation of subject-infinitival relatives can be enforced when we modify the head noun of the construction with either a superlative, an ordinal, or *only* (cf. Bhatt 1999 and references cited therein). Once we force a non-modal interpretation of the infinitival relative clause, however, the alleged appositive reading disappears.[112]

(71)   Peter to be considered by the committee first is the best candidate for the job.
        (i) # Peter, who has been considered....   Non-modal
        (ii)   Peter, who should be considered...   Modal

In addition, the modality found in the subject infinitival relatives that seem to permit appositive readings is also different from the type of modality found in 'ordinary' infinitival relative clauses. According to Hackl and Nissenbaum (1998) infinitival relatives can receive either a *could-* or a *should*-reading. The *should*-reading is always available, whereas the *could*-reading is only available with weak determiners.[113]

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[112] For a detailed account of modality in infinitival relatives cf. Bhatt (1999).

[113] In addition, these relatives are derived by head-raising only if the *could*-reading is available, i.e., reconstruction effects cannot be found with the *should*-reading.

(72)   a   There are many books about John for him to read.
            (i)   There are many books about John that he should read.
            (ii) #There are many books about John that he could read.

        b   There are many books about him for John to read.
            (i)   There are many books about him that John should read.
            (ii)   There are many books about him that John could read.

Subject infinitival relatives of the type in (66), however, do neither receive a *could-* nor a *should-*reading. Instead they have the flavor of a purpose clause (cf. Bhatt 1999). They are interpreted as something that is scheduled to be done in the future.

(73)   War and Peace to be read tomorrow is Tolstoi's finest novel.
        (i) # War and Peace, which should be read tomorrow…
        (ii) # War and Peace, which could be read tomorrow…
        (iii)# War and Peace, which will be read tomorrow…

To summarize, subject infinitival relatives with alleged appositive readings differ from true appositives in that they require the passive voice and (covert) modality and must appear in non-sentence final position in order to receive this reading. In this regard they are considerably more restricted than true appositives, which in turn raises doubt on their status as true appositives and therefore also on their status as potential counterexamples for our claim that reduced/infinitival relatives cannot be appositives. The question why and how the passive, modality and the position that the infinitival relative occupies conspire to yield a reading that seems to be an appositive reading, however, is beyond the scope of the current investigation.

5.3.3 English Standard Reduced Relatives

Finally, there also seem to be participial clauses that permit interpretations that could be taken to be appositive readings.

(74)   John, sitting at the bar over there/right now, is in love with Mary.

Also these clauses do, however, not pattern with true appositives in their behavior. First, it seems that in order for the participial clause to get the alleged appositive reading the action that it describes must be in the active voice. Once the passive is used, only the Free Adjunct reading is available

(75) a John, kissing Mary over there, is my best friend

      b John, being kissed by Mary over there, is my best friend
         (i) #John, who is being kissed by Mary over there, is my best friend
         (ii) Because John is/was kissed by Mary over there he is my best friend.

Second, the alleged appositive reading for these clauses is only available if they occur on subjects but not if they occur on objects (cf. Iatridou, lecture notes fall 2000).

(76) I like John sitting on the bar over there.
      (i) # I like John, who is sitting on the bar over there.
      (ii) I like John when/because I am sitting on the bar over there.
      (iii) I like that John is sitting on the bar over there.

Third, participial clauses with the alleged appositive readings are only possible when the action the participial clause describes is somehow connected to the actual situation. When the participial clause does not contain elements like, for example, *over there* or *right now*, the interpretation cannot be appositive (77a). Similarly, when the verb of the participle clause is in the perfective aspect, i.e., when the event described is cast into the past, and thus not directly relevant to the actual situation, the alleged appositive reading is also unavailable (77b) (cf. Iatridou, lecture notes fall 2000).

(77) a John, sitting at the bar, is in love with Mary.
         (i) #John, who is sitting at the bar, is in love with Mary.
         (ii) Because John is sitting at the bar he is in love with Mary.

      b John, having sat on the bar over there, is in love with Mary.
         (i) #John, who was sitting on the bar over there, is in love with Mary.
         (ii) Because John was sitting on the bar over there he is in love with Mary.

Notably, this behavior of the participial clauses is shared by the PP-adjuncts discussed in section 5.3.1. Only certain locative PPs, e.g., *over there*-PPs (78a) can in fact receive what seems to be an appositive interpretation. All other PPs can only receive a restrictive reading (78b-d) and are sometimes even awkward without the definite determiner on the proper name (78c/d).

(78)   a   John at the bar over there is my best friend.
        b   John from Texas is my best friend.
        c   ??John in the car is my best friend.
        d   ?John at the window is my best friend.

None of these restrictions are imposed on true appositive relatives. Hence there is sufficient evidence to cast doubt on the claim that these reduced relatives and PPs are indeed appositives. Because of the fact that they need to contain deictic elements we will for now call them deictic relatives. It remains yet to be investigated, however, why they need to contain these elements and how they are connected to the alleged appositive reading of these clauses. We will leave these questions for future research.

6 More on Reduced Relatives

In this section we will discuss special cases of reduced relatives. First we will consider Hiaki participial clauses with genitive subjects which can neither receive appositive nor Free Adjunct readings. Second, we will discuss Tohono O'odham participial clauses, which seem to get Free Adjunct readings even when they have a gap in object position.

6.1 Hiaki

In the previous chapters we argued that Hiaki has reduced relative clauses. This is evidenced by the fact that Hiaki relatives lack relative pronouns and complementizers,

that the verb of the relative clause is nominalized and, most importantly, that the subject of the relative bears genitive case. If this is correct, i.e., if Hiaki relatives are reduced relatives then we do expect them to prohibit appositive readings.

Consider the following Hiaki data.

(79)   a   Juan [vankotat   weye-ke-me] techotat   humak   mamte-ne
           John   bench-on   stand-prf-Nzr ceiling-on might   touch-will
           (i)   The John who is standing on a chair might touch the ceiling.
           (ii)   * John, who is standing on a chair, might touch the ceiling.
           (iii) *If John is standing on a chair he might touch the ceiling.

        b   Juan [teeve koomim hippue-me] techotat   humak   mamte-ne
           John long arm   have-Nzr   ceiling-on might   touch-will
           (i)   The John who has long arms might touch the ceiling.
           (ii)   * John, who has long arms, might touch the ceiling
           (iii) *Because John has lomg arms he might touch the ceiling.

        c   Juan [huya-ania-po   weye-me] amak   viva-ta yeyena.
           John tree-wilderness-in walk-Nzr   sometimes cigarette smoke
           (i)   The John who walks through the woods sometimes smokes a cigarette.
           (ii)   *John, who walks through the woods, sometimes smokes a cigarette.
           (iii) *When John walks through the woods he sometimes smokes a cigarette.

        d   Juan [kuchureo 'án-me]   amak   viva-ta yeyena.
           John fisherman be-Nzr sometimes   cigarette smoke
           (i)   The John who is a fisherman sometimes smokes a cigarette.
           (ii)   *John, who is a fisherman, sometimes smokes a cigarette.
           (iii) *Because John is a fisherman he sometimes smokes a cigarette.

These data clearly show that, as predicted, Hiaki relative clauses on proper names cannot be interpreted as appositives. Furthermore, and also as expected, these relatives can have a restrictive reading. Unlike for Turkish and Japanese relatives with genitive subjects, however, the Free Adjunct readings in the Hiaki examples above is not available.

Recall from our discussion in section 5 that English prenominal reduced relatives yield only restrictive readings in the presence of an overt definite determiner and only Free Adjunct readings when this determiner is missing. Recall furthermore that in order to capture the behavior of English and German postnominal reduced relatives, which only yield Free Adjunct readings and are illicit with overt definite determiners we suggested that the Free Adjunct reading arises if the relative is outside of the domain where

predicate modification can apply. In other words, the Free Adjunct reading arises when the relative is outside NP. The restrictive reading, however, is the result of predicate modification (plus determiner), i.e., arises when the reduced relative is inside NP.

If these hypotheses are correct this means that Hiaki relatives are always located inside NP and that therefore they can only yield restrictive readings. To investigate what principle enforces them to remain in NP, however, would exceed the scope of this thesis. We will leave this question for future research. For our purposes the relevant result regarding the data in (79) is that as predicted Hiaki relatives cannot be appositives.

6.2 Tohono O'odham

Recall from the discussion in chapter 2 that we did not arrive at a conclusion regarding the question whether Tohono O'odham relatives are reduced or full clauses. O'odham relatives seem to have a relative complementizer, *m-*, and finite verbs, which supports the claim that they are full relatives. On the other hand, *m-* could serve as a dummy element for the second position clitic and the verb could actually be non-finite given that O'odham permits ECM out of finite clauses.

Let us put O'odham relatives to the test now regarding the restrictive-appositive distinction. Consider the following examples:

(80) a Huan mo   'an daikuḏ da:m ke:k o 'a'ahe g ki: ma'ispaḏag
         John sub-3aux imp chair on   stand fut touch det house ceiling
         'John, who is standing on a chair, can touch the ceiling.'
         (i) ok If John is standing on a chair he can touch the ceiling.
         (ii) # The John who is standing on a chair can touch the ceiling.
         (iii) # John, who is standing on a chair, can touch the ceiling.

      b Huan mo   ce'ecew no:nhoi o 'a'ahe g ki: ma'ispaḏag
         John sub-3aux long   arms   fut touch det house ceiling
         'John, who has long arms, can touch the ceiling.'
         (i) ok Because John has long arms he can touch the ceiling.
         (ii) # The John who has long arms can touch the ceiling.
         (iii) # John, who has long arms, can touch the ceiling.

c   Huan   mo   'am 'oidagc'eḍ oimeḍ   'o   hebaicujc je:ñ   g pi:ba
    John   sub-3aux imp in the field walk   3aux   sometimes smoke det pipe
    'John, who is walking through the fields sometimes smokes pipe.'
    (i)   ok   If John is walking through the fields he sometimes smokes pipe.
    (ii)   #   The John who is walking through the fields sometimes smokes pipe.
    (iii) #   John, who is walking through the fields, sometimes smokes pipe.

d   Huan   mo   wuḍ   ṣondal 'o   hebaicujc je:ñ   g pi:ba
    John   sub-3aux   copula soldier 3aux   sometimes smoke det pipe
    'John, who is a soldier sometimes smokes pipe.'
    (i)   ok   Because John is a soldier he sometimes smokes pipe.
    (ii)   #   The John who is a soldier sometimes smokes pipe.
    (iii) #   John, who is a soldier, sometimes smokes pipe.

As the examples in (80) convey, the O'odham clauses under consideration can receive Free Adjunct readings in the relevant contexts while they cannot receive appositive readings. As we will see shortly, the Free Adjunct readings are available only to reduced clauses. Hence the O'odham clauses under consideration must be reduced, i.e., participial clauses.

The reduced clauses in (80) cannot receive a restrictive interpretation. This interpretation is available only if the DP embedding the reduced clause is headed by the definite determiner *hegai* (which has to precede *Huan* in (80)). In other words, O'odham has reduced relatives but they require the presence of a definite determiner. As predicted by the *Main Clause Hypothesis*, these clauses can never be appositives.

That O'odham relative clauses cannot be appositives is furthermore confirmed by their behavior in Weak Crossover contexts. Consider the example in (81).

(81)   *Huan mo   heg 'oksega s-hohoid 'at   s-hotam jiwa
        John   sub-3-aux his wife   like   3aux early   arrive
        'John who his wife loves arrived early.'

O'odham relatives on proper names are sensitive to *Weak Crossover*. This is a property of restrictive relatives. True appositives are insensitive to *Weak Crossover*. Hence we conclude that O'odham relative clauses cannot be appositives.

Finally, consider the following examples.

(82) a S-ho:ho'id 'añ   g Mali:ya mat   we:m cipk g Huan we:nag
         like   1aux det Mary sub-3aux-pst with work det John brother
         'I like Mary who, worked with John's brother.' (intended)
         (i)   # I like Mary, who worked with Johns brother.
         (ii) ok I like the Mary who worked with Johns brother.
         (iii)ok I like Mary when she is/was working with John's brother.

      b Ñeid 'añ   g Mali:ya mat   hanolawt ñ-wehejeḓ g Huan ma:gina
         see 1aux det Mary sub-3aux-pst buy   me-for   det John car
         'I see Mary who bought John's car for me.' (intended)
         (i)   # I see Mary, who is buying John's car for me.
         (ii) ok I see the Mary who is buying John's car for me
         (iii) ok I see Mary (while she is) buying John's car for me.

      c Ñeid añ   g Mali:ya mat   huhuid g Huan totobĭ
         see 1aux det Mary   sub-3aux-pst chase   det John rabbits
         'I saw Mary, who is chasing John's rabbits.' (intended)
         (i)   # I saw Mary, who is chasing John's rabbits.
         (ii) ok I saw the Mary who is chasing John's rabbits.
         (iii) ok I saw Mary while she was chasing John's rabbits.

The clauses in the examples in (82) only permit a restrictive reading and a Free Adjunct reading. From the discussion in this chapter it should have become clear that the availability of the Free Adjunct reading is connected to the clause being a reduced clause.[114] Thus, the availability of the Free Adjunct readings for O'odham relatives on proper names strongly supports the claim that when these clauses are interpreted as relative clauses they are indeed reduced relatives.

Note, though, that the relatives in (82) modify proper names in object position and should actually not permit a Free Adjunct reading provided that Free Adjuncts are agent (subject) controlled. There is, however, reason to assume that control is not involved in these constructions in O'odham. The auxiliary in the relative clause agrees with the relativized agent in number, i.e., it identifies this agent as a third person subject. Thus the relative clause internal subject cannot be PRO, which is a prerequisite for control, but rather resumptive pro. In addition, the subject of the superordinate clause is a first person subject it can thus not felicitously be identified as the agent of the action in the relative clause. If, however, the agent of the superordinate clause is a third person subject then it

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[114] We will further motivate this claim and explain the reason behind this fact in the following chapter.

is possible to construe this subject as the agent of the action described in the relative clause.

7 Full Relative Clauses

In the previous sections we have seen that, as predicted by the *Main Clause Hypothesis*, reduced relatives cannot be appositives. Naturally the question arises what the status of relative clauses with nominative subjects is with respect to the restrictive-appositive distinction. Can relatives with nominative subjects be appositives?

According to the *Main Clause Hypothesis* full relatives should be able to but do not necessarily have to be appositives. In other words, while the *Main Clause Hypothesis* entails that reduced relatives cannot be appositives it does not make a specific claim about full relatives other than that in principle they can be appositives.

We know that full postrelatives in for example English and German can be appositives. The following section will investigate this problem in closer detail for prerelatives with nominative subjects.

7.1 Japanese

Recall that Japanese prerelatives have a choice between nominative and genitive case marking on their subject. In the previous sections we have already discussed the behavior of Japanese subject prerelatives as well as the behavior of Japanese object prerelatives with genitive (*-no*) subjects with respect to the availability of Free Adjunct readings. Recall that Japanese object prerelatives with genitive subjects are highly marked and can receive only a restrictive reading. The question we have to address now is how Japanese object prerelatives with nominative subjects behave in the context of an adverb of frequency or modal in the superordinate clause. Consider the examples in (83) and (84).

(83) a Mary-ga kenkyuu-anotameni atteiru Jon-wa tokidoki gitaa-o hiku
Mary-N study-for-the-sake-of meet Jon-top sometimes guitar-A play
'Jon, who Mary meets for studying, sometimes plays guitar.'
(i) # When Mary meets him for studying, Jon sometimes plays guitar.
(ii) ok Jon, who Mary meets for studying, sometimes plays guitar.
(iii)ok The Jon who Mary meets for studying, sometimes plays guitar.

b tsuma-ga takusan ryouri-suru Jon-wa yoku guai-ga warukunaru
wife-N a lot cook-do Jon-top often condition-N bad become
'Jon, for whom his wife cooks a lot, often gets sick.'
(i) # Because his wife cooks a lot for him, Jon often gets sick.
(ii) ok Jon, for whom his wife cooks a lot, often gets sick.
(iii)ok The Jon for whom his wife cooks a lot, often gets sick.

c Jane-wa Jon-ga shoku-wo sagasu koto-wo susumeru Peter-ni
Jane-Top Jon-N job-A find Nzr-A recommend Peter-D
shibashiba denwa-suru
frequently phone-do
'Jane often talks to Peter, who Jon is forcing to apply for a job.'
(i) # Jane often talks to Peter when Jon is forcing him to apply for a job.
(ii) ok Jane often talks to Peter, who Jon is forcing to apply for a job.
(iii)ok Jane often talks to the Peter who Jon is forcing to apply for a job.

d Jane-wa Peter-ga keiai-suru Jon-(no-tame-)ni shibashiba denwa-suru
Jane-Top Peter-N admiration-do Jon-(of-sake-)D frequently phone-do
'Jane often calls Jon, who Peter admires.'
(i) # Jane often calls Jon because Peter admires him.
(ii) ok Jane often calls Jon, who Peter admires.
(iii)ok Jane often calls the Jon who Peter admires.

(84) a Jon-ga Furansugo-o oshieta Mary-wa ryoujikan-de hatarakeru
Jon-N French-A taught Mary-top consulat-at can work
'Mary, to whom Jon taught French, could work at a consulate.'
(i) # If Jon taught her French, Mary could work at a consulate.
(ii) ok Mary, to whom Jon taught French, could work at a consulate.
(iii)ok The Mary to whom Jon taught French, could work at a consulate.

b Mary-ga kiss-o shita Peter-wa hansamu darou.
Mary-N kiss-A did Peter-top handsome might be
'Peter, who Mary kissed, might be handsome.'
(i) # Because Mary kissed him, Peter might be handsome.
(ii) ok Peter, who Mary kissed, might be handsome.
(iii)ok The Peter, who Mary kissed, might be handsome.

c   Jane-wa   Peter-ga ie-o   ageru Jon-to   kekkon-shi nakere-ba-ike-nai
     Jane-Top Peter-N house-A give   Jon-with marriage-do must
     'Jane must marry Jon, who Peter is giving a house.'
     (i)   # Jane must marry Jon if Peter is giving him a house.
     (ii) ok   Jane must marry Jon, who Peter is giving a house.
     (iii)ok   Jane must marry the Jon who Peter is giving a house.

d   Jane-wa Peter-ga keiai-suru   Jon-to   kekkon-shi   nakere-ba-ike-nai
     Jane-Top Peter-N admiration-do Jon-with marriage-do must
     'Jane must marry Jon, who Peter admires.'
     (i)   # Jane must marry Jon because Peter admires him.
     (ii) ok   Jane must marry Jon, who Peter admires.
     (iii)ok   Jane must marry the Jon who Peter admires.

As these examples convey, unlike object prerelatives with genitive subjects, Japanese object prerelatives with nominative subjects are grammatical when they modify proper names. More importantly, these relatives do not receive a Free Adjunct reading. They are interpreted as true appositives.

The fact that the object prerelatives in (83) and (84) cannot receive a Free Adjunct interpretation is not surprising. The same argument as in the discussion of object prerelatives with genitive subjects applies. Free Adjuncts involve control of a PRO argument. In object prerelatives PRO would have to be located in object position, i.e., in a lexically governed position. This is incompatible with the requirement on PRO to be unbound in its governing category.

What is in need of explanation, however, is the fact that object prerelatives with nominative subjects can be interpreted as true appositives whereas object prerelatives with genitive subjects can only be restrictive relatives. The theory of prerelatives developed in the previous chapters in combination with the *Main Clause Hypothesis* for appositives provides a straightforward answer to this problem. Prerelatives with genitive subjects are reduced relatives, i.e., are smaller than CP. If appositives are necessarily main clauses than we do not expect these relatives to ever be appositive.

Prerelatives with nominative subjects, on the other hand, must contain more structure, in particular more higher level functional categories than the prerelatives with genitive subjects. This is evidenced already by the mere fact that their subject is bearing nominative case. Nominative case is licensed by the functional head T which is apparently absent in prerelatives with genitive subjects, i.e., with subjects that cannot

bear nominative case. If the *Main Clause Hypothesis* for appositives is correct, the fact that Japanese object prerelatives with nominative subjects can receive an appositive reading thus provides further evidence for the claim that these relatives are indeed full clauses, i.e., CPs.[115]

Thus it seems that Japanese has the choice between object prerelatives that are full clauses and object prerelatives that are reduced clauses. If this is correct the question arises whether the same holds for subject prerelatives. In section 4 we have already seen that Japanese subject prerelatives can be Free Adjuncts. In this regard Japanese behaves like Turkish, which only has reduced relatives. In other words, Japanese subject prerelatives can be reduced relatives. But can they also be appositives, i.e., full clauses? Consider the data in (85).

(85)   a   kaigai-kara   kuru   Clinton-wa   taitei   supiichi-o suru
           abroad-from   come   Clinton-top   usually speech-A do
           (i) Clinton, who comes from abroad usually gives a speech.
           (ii) When Clinton comes from abroad usually gives a speech
           (iii) The Clinton who comes from abroad he usually gives a speech.

       b   seijika   dearu Clinton-wa   taitei   supiichi-o suru
           politician cop   Clinton-top   usually speech-A do
           (i) Clinton who is a politician usually gives a speech.
           (ii) Because Clinton is a politician he usually gives a speech.
           (ii) The Clinton who is a politician usually gives a speech.

       c   Atarashii fuku-o   kiru   Jon-wa   minna-o   yorokobase-rareru noni
           new   clothes-A wear-prs Jon-top everyone-A can-please   noni
           (i) Jon, who wears new clothes, can please everyone.
           (ii) If Jon wears new clothes, he can please everyone.
           (iii) The Jon, who wears new clothes, can please everyone.

       d   gakuseidearu Jon-wa pai-pu-ga/o   su-eru
           student cop   Jon-Top pipe-N/A   smoke-can
           (i) Jon, who is a student, can smoke pipe.
           (ii) Because Jon is a student he ca smoke pipe
           (iii) The Jon who is a student can smoke pipe.

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[115] Note that nothing in our analysis prevents a restrictive reading for these object prerelatives with nominative subjects. Especially since an intonation break between the head noun and the prerelative (which phonologically types appositives in English) is missing, nothing is present to indicate the difference between *Jon who I saw* and *Jon, who I saw* in Japanese. Indeed the restrictive reading is available for these prerelatives as well although depending on the context it is more or less easy to get. The appositive reading is by far the more dominant one.

As we can see each of the examples in (85) can receive an appositive reading in addition to the restrictive and the Free Adjunct reading. Thus, it seems that Japanese subject prerelatives can be construed as either reduced or full relatives which is exactly what we find with Japanese object prerelatives as well. For our purposes it it is important that as predicted by our analysis forreduced relatives with genitive subjects in combination with the *Main Clause Hypothesis* for appositives Japanese subject prerelatives can be reduced relatives with either restrictive or Free Adjunct readings and that object prerelatives with genitive subjects are always reduced relatives and thus must be restrictives.

7.2 Korean

A similar point as for Japanese can be made for Korean in which the subject of prerelatives always bears nominative case. Let us start by discussing Korean object prerelatives. For these prerelatives we first predict that whenever they occur on proper names they shoule be able to receive an appositive interpretation. This is because prerelatives with nominative subjects are full clauses. According to the *Main Clause Hypothesis*, appositives are full clauses as well and thus nothing prevents Korean prerelatives from being appositives. Given that Japanese full relatives cannot receive Free Adjunct readings we furthermore expect that Korean object prerelatives cannot be Free Adjuncts either.[116] Note that even if they were reduced relatives the Free Adjunct reading would be excluded because Free Adjuncts involve control of a PRO argument. In object prerelatives PRO has be located in object position, i.e., in a lexically governed position. This is incompatible with the properties of PRO. As the data in (86) and (87) convey, both predictions are borne out. Korean object prerelatives are interpreted as appositives and cannot be interpreted as Free Adjuncts.[117]

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[116] The reason why full relative clauses cannot be Free Adjuncts while reduced relatives can will be dicussed in chapter 4.

[117] In addition, although the appositive reading is by far the most prominent one, the relatives in (4) and (5) can receive a restrictive reading, which depending on the context is more or less easy to get. Our account does not prevent this reading. It is compatible with the facts we find in languages with postrelatives where every appositive on a proper name (i.e., on NP) can also be interpreted as a restrictive relative.

(86) a Mary-ka kongpuha-lyeko manna-nun Jon-un ttayttaylo kitha-lul chi-n-ta
Mary-N study-for meet-Nzr Jon-top sometimes guitar-A play-prs-decl
'Jon, who Mary meets for studying, sometimes plays guitar.'
(i) # When Mary meets him for studying, Jon sometimes plays guitar.
(ii) ok Jon, who Mary meets for studying, sometimes plays guitar.
(iii) ok The Jon who Mary meets for studying, sometimes plays guitar.

b Jon-i pule-lul kaluchi-n Mary-nun congcong os-ul cal ip-nun-ta
Jon-N French-A teach-Nzr Mary-Top often clothes well wear-prs-decl
'Mary, to whom Jon taught French, often dresses well.'
(i) # Because Jon taught her French, Mary often dresses well.
(ii) ok Mary, to whom Jon taught French, often dresses well.
(iii) ok The Mary to whom Jon taught French, often dresses well.

c Jane-eun Peter-ka ilcali-ey sinchengha-lako seltukha-ko iss-nun Jon-eykey
Jane-Toc Peter-N job-to apply to persuade-ing be-Nzr Jon-to
cacwu ceynhwa-lul kel-n-ta
frequently telephone-Acc call-prs-decl.
'Jane often talks to Peter, who Jon is forcing to apply for a job.'
(i) # Jane often talks to Peter when Jon is forcing him to apply for a job.
(ii) ok Jane often talks to Peter, who Jon is forcing to apply for a job.
(iii) ok Jane often talks to the Peter who Jon is forcing to apply for a job.

d Jane-eun Peter-ka conkyungha-nun Jon-eykey cacwu ceynhwa-lul kel-n-ta
Jane-Top Peter-N admire-Nzr Jon-to frequently telephone-A call-prs-decl.
'Jane often calls Jon, who Peter admires.'
(i) # Jane often calls Jon because Peter admires him.
(ii) ok Jane often calls Jon, who Peter admires.
(iii) ok Jane often calls the Jon, who Peter admires.

(87) a Jon-i pule-lul kaluchi-n Mary-nun yengsakwan-eyse ilha-lsuissta
Jon-N French-A teach-NZ Mary-Top consulate-at work can
'Mary, to whom Jon taught French, could work at a consulate.'
(i) # If Jon taught her French, Mary could work at a consulate.
(ii) ok Mary, to whom Jon taught French, could work at a consulate.
(iii) ok The Mary, to whom Jon taught French, could work at a consulate.

b Mary-ka khisuha-n Peter-nun alumta wul keti-i thullimepta
Mary-N kiss-NZ Peter-Top beautiful must
'Peter, who Mary kissed, must be beautiful.'
(i) # Because Mary kissed him, Peter must be beautiful.
(ii) ok Peter, who Mary kissed, must be beautiful.
(iii) ok The Peter, who Mary kissed, must be beautiful.

c   Jane-eun Peter-ka say cip-ul cwu-lyekoha-nun Jon-kwa kyulhonhay-ya ha-n-ta
    Jane-Top Peter-N new house give-intend-N   Jon-with marry must-prs-decl.
    'Jane must marry Jon, who Peter is giving a new house.'
    (i)   # Jane must marry Jon, if Peter is giving him a new house.
    (ii) ok   Jane must marry Jon, who Peter is giving a new house.
    (iii)ok   Jane must marry the Jon who Peter is giving a new house.

d   Jane-eun Peter-ka conkyungha-nun Jon-kwa kyulhonhay-ya ha-n-ta
    Jane-Top Peter-N admire-Nzr   Jon-with marry   must-prs-decl.
    'Jane must marry Jon, who Peter admires.'
    (i)   # Jane must marry Jon because Peter admires him.
    (ii) ok   Jane must marry Jon, who Peter admires.
    (iii)ok   Jane must marry Jon, who Peter admires.

The more interesting question to ask is how Korean subject prerelatives behave with respect to the Free Adjunct and appositive readings. Are they restricted to just being appositives, or Free Adjuncts, or can they be both? Consider the data in (88).

(88)   a   haypyen-ey nwuuw-n Jon-un   ttayttaylo phaiphu tampay-lul phin-ta
           beach-at   lie-Nzr   Jon-top sometimes pipe cigarette-A   smoke-decl
           (i)   Jon, who is lying on the beach, sometimes smokes a pipe.
           (ii) When Jon is lying on the beach he sometimes smokes a pipe.
           (iii) The Jon who is lying on the beach sometimes smokes a pipe.

       b   senwon-i-n   Jon-un   ttayttaylo phaiphu tampay-lul phin-ta
           sailor-be-Nzr Jon-top sometimes pipe cigarette-A   smoke-decl
           (i)   Jon, who is a sailor, sometimes smokes a pipe.
           (ii) Because Jon is a sailor he sometimes smokes a pipe.
           (iii) The Jon who is a sailor sometimes smokes a pipe.

       c   Uyca-ey se-n   Jon-eun chencang-ey   son-i   tah-ul swu iss-ta
           chair-at stand-Nzr Jon-top ceiling-to   hand-N touch be   able-decl.
           (i)   Jon, who is standing on a chair, can touch the ceiling.
           (ii) If Jon is standing on a chair, he can touch the ceiling.
           (iii) The Jon who is standing on a chair can touch the ceiling.

       d   phal-i kil-n   Jon-eun chencang-ey   son-i   tah-ul swu iss-ta
           arm-N long-Nzr Jon-top ceiling-to   hand-N touch be   able-decl.
           (i)   Jon, who has long arms, can touch the ceiling.
           (ii) Because Jon has long arms, he can touch the ceiling.
           (iii) The Jon who has long arms can touch the ceiling.

The data in (88) show that as in Japanese, Korean subject prerelatives can be interpreted either as appositives or as restrictives or as Free Adjuncts. This means that Korean also has the option of construing subject prerelatives as either full or reduced clauses. When they are full they can yield either an appositive or a restrictive interpretation. When they are reduced they result either in the Free Adjunct or the restrictive interpretation. Unlike Japanese, however, Korean does not have the same option for object prerelatives. Korean object prerelatives are always full clauses. They always permit appositive readings.

This raises the question why Korean prerelatives have the option to be reduced relatives even though object relatives must always be full clauses.[118] This extends to the more general question why languages that have full relative clauses like for example English also employ reduced relatives (which in English are restricted to subject relativization). At this point any hypothesis we could make to this effect would be more or less a speculation. Therefore we will put this problem aside for future investigation.

7.3 Summary

Both Japanese and Korean have prenominal relatives that are full clauses. These relatives can be appositives as well as restrictives. In addition, both languages can construe subject prerelatives as either reduced or full clauses. In the former case they can receive Free Adjunct and restrictive interpretations. In the latter scenario they yield appositive and restrictive readings.

From the discussion in this and the previous sections the following picture emerges with respect to the availability of restrictive, appositive, and Free Adjunct readings for full versus reduced relative clauses.

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[118] For Japanese one could make the claim that prerelatives that are reduced relatives form a class with object prerelatives with genitive subjects and that prerelatives that are full clauses form a class with object relatives with nominative subjects. This, however, is not possible in Korean where object prerelatives must always be full clauses.

(89)

	Reduced Relatives (genitive subjects)	**Full Relatives** (nominative subjects)
restrictive reading	Yes	Yes
appositive reading	No	Yes
Free Adjunct reading	Yes	No

8 Languages without overt Case Marking

Recall that in Chinese and Navajo the case a given NP receives is not phonetically overt. We are thus not able to tell by surface appearance whether the case on the subject of Navajo and Chinese prerelatives is nominative or genitive case. Case can thus not be taken as an indication for whether or not the relative clauses in these languages are reduced or full clauses.

In chapter 2 we arrived at the conclusion that Navajo relative clauses are reduced relatives whereas Chinese relative clauses are full relatives. If this hypothesis is correct we expect Navajo to prohibit appositive readings for relative clauses on proper names whereas in Chinese they should in principle be available.

Let us now turn to Navajo. Relevant clues to the status of the Navajo relative clauses as a reduced relative so far only came from two facts. First, these relatives do not exhibit relative pronouns or complementizers. And second, the relative clause verb bears a nominalizer that indicates whether the action described happened in the past or not, which is reminiscent of the formation of present and past participles in the Indo-European languages. To show that in addition these relatives cannot be appositives would provide further proof for their status as reduced relatives.

It has been argued by Perkins (1982) and Andrews (1975) that Navajo head-internal relatives cannot be appositives. They cannot modify proper names (cf. (90)). The same is true for Navajo prerelatives (cf. (91)).

(90) a Ashkii ba'níltsood-ę́ę dóó Níbaa' ahigá
   boy I.fed.him-NZR and Níbaa' they.are.fighting
   'The boy whom I fed and Nibaa' are fighting.'

   b * Ashkii dóó Níbaa' ba'níltsood-ę́ę ahigá
   boy and Níbaa' I.fed.her-NZR they.are.fighting
   'The boy and Níbaa' whom I fed are fighting.'
   (from Perkins, 1982)

(91) a *Aɬhosh-ígíí Jon aɬhą́ą́'.
   imp-3-sleep-Nzr Jon imp-3-snore
   'Jon, who is sleeping is snoring.'

   b *Shí baa níyá-(gh)ą́ą Jon naalnish
   I to-him perf-1-walk-Nzr Jon imp-3-work
   'Jon, to whom I walked is working.'

Thus, we conclude that, given the correctness of the *Main Clause Hypothesis* for appositives, prerelatives in Navajo are indeed reduced relatives.

For Chinese on the other hand Ning (1993) and Li (2000) argued that the prerelatives in this language are full clauses. If this is correct, Chinese prerelatives should in principle be able to be appositives. Consider the data (92).

(92) a Ni zuotian kanjian de Zhangsan shi wo pengyou
   you yesterday saw DE Zhangsan is my friend
   'Zhangsan, who you saw yesterday, is my friend.'
   (i) The Zhangsan who you saw yesterday is my friend.
   (ii) Zhangsan who you saw yesterday is my friend.

   b cong guowai huilai de Zhangsan tongchang gei yi ge yanzhang.
   from abroad come DE Zhangsan often give-one-Cl speech
   'Zhangsan, who comes from abroad, often gives a speech.'
   (i) ok The Zhangsan who comes from abroad often gives a speech.
   (ii) ok Zhangsan who comes from abroad often gives a speech.
   (iii) # When Zhangsan comes from abroad he often gives a speech.

   c dang xuezhe de Zhangsan hui gei yi ge yanzhang
   be scholar DE Zhangsan can give-one-Cl speech
   'Zhangsan, who is a scholar, can give a speech.'
   (i) ok The Zhangsan who is a scholar can give a speech.
   (ii) ok Zhangsan, who is a scholar, can give a speech.
   (iii) # Because Zhangsan is a scholar he can give a speech.

As we can see in (92) prerelatives in Chinese can modify proper names. When they do they can receive either a restrictive or an appositive reading.[119] This is expected if they are indeed full clauses. Furthermore, like Japanese and Korean full prerelatives, Chinese prerelatives also prohibit Free Adjunct readings for the full relative clause. We will address the question for the cause of this behavior in the final chapter.

9 Summary

In this chapter we evaluated the hypothesis that relative clauses with genitive subjects are reduced relatives with respect to their ability to receive appositive (non-restrictive) interpretations. According to the *Main Clause Hypothesis* for appositive relatives these clauses are main, i.e., full clauses. If this is correct then relative clauses with genitive should not be able to receive appositive interpretations. This is because reduced clauses cannot exhibit properties of main, i.e., full clauses.

As a first step towards proving that relative clauses with genitive subjects can indeed not be appositives we conducted several tests that distinguish between restrictives and appositives on a language that uses both reduced prerelatives with genitive subjects and full postrelatives. These tests showed that the reduced prerelatives modifying proper names behave like typical restrictives whereas the full postrelatives behaved like typical appositives.

The second piece of evidence was provided by the range of interpretations reduced relatives on proper names permitted. Reduced relatives including relative clauses with genitive subjects do not permit appositive (non-restrictive) interpretations even if they modify proper names. Prenominal relative clauses with nominative subjects, on the

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[119] Del Gobbo (2001), who tested the very same examples, arrived at a different conclusion. Her consultants could not interpret the examples above as appositive relatives. (Her speakers agreed on the availability of the restrictive reading and the unavailability of the Free Adjunct interpretation though.) Thus there seems to be a split among speakers as to whether they can get the appositive reading for these examples. Note, however, that this is not problematic for our analysis because this analysis does only permit but not require full relatives to be appositives. There might be independent principles at work that cause the unavailability of the appositive readings for certain Chinese speakers (cf. del Gobbo (2001) for a possible explanation).

other hand, do permit appositive interpretations. This provided further evidence for the claim that relative clauses with genitive subjects are reduced relatives and that prerelatives with nominative subjects are full relatives.

Aside from the restrictive reading reduced clauses with a gap in subject position that occur on proper names in the subject position of the superordinate clause were found to permit an additional reading in the context of a modal or an adverb of frequency in the superordinate (matrix) clause. Specifically, when the reduced clause contains a stage level predicate it is interpreted as an *if-clause* if the superordinate clause contains a modal and as a *when-clause* if the superordinate clause contains an adverb of frequency. When the reduced clause contains an individual level predicate it is interpreted as a *because-clause* in both contexts. This is reminiscent of the behavior of Free Adjuncts and Absolutes. Further proof for the claim that reduced clauses can be Free Adjuncts was provided by tense and control facts. The question that has not been addressed so far is what factors cause reduced clauses to yield Free Adjunct interpretations and whether they have to leave DP to get it. We will return to this problem in the following chapter.

Chapter V

Unsolved Questions

1 Introduction

In the previous section we have argued that reduced relatives, including relative clauses with genitive subjects, cannot be appositives. We have furthermore shown that when these participial clauses contain a gap in subject position and modify proper names in the subject position of the superordinate clause they yield not only a restrictive reading but can alternatively be interpreted as Free Adjuncts. The question that has not yet been answered, however, is why these participial clauses can get this reading.

In this chapter we will argue that this is possible because Free Adjuncts and reduced relatives share a crucial property: They both lack a CP layer. Based on a comparison between English Free Adjuncts and Navajo conditionals we will show that this property is responsible for the various readings observed with Free Adjuncts and, more generally, for the fact that reduced clauses are interpreted dependent on the properties of T in the superordinate clause.

Finally, we will address one further question in this chapter. Most prenominal relatives are relatives with genitive subjects, i.e., reduced relatives. Thus, we have to ask whether this is an accident or whether it is connected to another property of the grammar that languages with prerelatives share. We will explore possible avenues of reasoning that future research might take with respect to this question.

2 On Free Adjuncts and their Interpretations

In the previous section we have seen that in the context of a modal in the matrix clause Free Adjuncts and Absolutes can be interpreted as *if*-clauses if they contain a stage level predicate and as *because*-clauses if they contain an individual level predicate. Similarly, in the context of an adverb of frequency in the superordinate clause they can be interpreted as *when*-clauses if they contain a stage level predicate and as *because*-clauses if they contain an individual level predicate. The same is true for participial clauses on proper names in the subject position of the superordinate clause.[120]

This raises two (related) questions. First, how do Free Adjuncts get these readings? And second, why can the same kind of participial clause that can be a reduced relative behave like a Free Adjunct in this regard? We will aim to answer these questions based on a discussion of the syntax and semantics of Navajo conditionals and conditional counterfactuals, i.e., we will mainly focus on the conditional interpretation of Free Adjuncts. The *when*- and *because*-readings will be briefly discussed at the end of the section.[121] We will start our discussion with a review of the types of conditionals and conditional counterfactuals found in English.

2.1 On Conditionals and Conditional Counterfactuals

Conditional structures have been viewed as quantificational structures (Kratzer 1986, Lewis 1973, 1975) where instead of quantification over individuals we deal with quantification over possible worlds. The if-clause provides the restrictor of the quantifier over possible worlds whose nuclear scope is the matrix clause.

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[120] Recall from footnote 85 that these readings are not as unambiguous as Stump presents them. In general it seems possible to assign either an *if*- or a *when*- or a *because*-reading to Free Adjuncts/Absolutes with stage level predicates. Stump is correct though in claiming that with a modal in the matrix clause the *if*-reading is strongly preferred and that with an adverb of frequency the *when*-reading is the most prominent reading. We will return to this issue shortly.

[121] We will focus mainly on the structure of Free Adjuncts here. Keep in mind, though, that our findings should, with some modifications, also hold for Nominative and Augmented Absolutes.

English has five types of conditionals and conditional counterfactuals. The first is a non-counterfactual conditional as in (1).

(1) If Mary cleans the house, her mother will do the shopping.

This conditional is about the future. It does not make any claim about whether Mary will clean the house or not. It is neutral in this respect. From now on we will call conditionals of this type *Future Neutral Vivids* (FNV). An example of the second type of conditional in English is given in (2).

(2) If Mary cleaned the house (tomorrow), her mother would do the shopping.

Like the FNV in (1) this conditional is about the future, as shown by the possibility of inserting *tomorrow*. Unlike the FNV in (1), however, this conditional strongly implies that Mary is actually unlikely to clean the house. Hence it is not neutral with respect to the future. The event that is described in the antecedent of the conditional, i.e., Mary's cleaning the house is less likely to happen in the conditional in (2) than it is in the FNV in (1). Therefore, we will call conditionals like the one in (2) *Future Less Vivids* (FLV).

In (3) we see a conditional that is about the present.

(3) If Mary were cleaning the house, her mother would be doing the shopping.

Unlike the Future Less Vivid this conditional not only implies that Mary is not likely to clean the house, it asserts that Mary is not cleaning the house at this point in time and that her mother is not doing the shopping. Thus it is a counterfactual conditional. Because it is about the present we will call it a *Present Counterfactual* (PrCF). Finally, English also exhibits counterfactual conditionals that are about the past, i.e., *Past Counterfactuals* (PCF). A relevant example for this construction is given in (4).

(4) If Mary had cleaned the house, her mother would have done the shopping.

These conditionals refer to events that did not come true in the past. For (4) this means that there was a point prior to the time of the utterance when Mary's mother would have

done the shopping if Mary had cleaned the house. Mary, however, did not clean the house and thus her mother also did not do the shopping.

Finally, we could consider one more type of counterfactual conditional whose antecedent behaves like the antecedent of a Past Counterfactual and whose consequent behaves like that of a Present Counterfactual or Future Less Vivid.

(7) If Mary had cleaned the house, her mother would do the shopping (tomorrow).

Like Past Counterfactuals this conditional asserts that Mary did not clean the house. In line with Future Less Vivids and Present Counterfactuals, however, the consequent of this conditional is about the future which is confirmed by its compatibility with *tomorrow*. We will henceforth call these counterfactuals Mixed Counterfactuals (MCF). With this in mind let us now consider Iatridou's (2000) account of the interpretation of conditional counterfactuals.

2.2 Iatridou (2000) on Counterfactuality and Tense

Iatridou (2000) argues that the grammatical ingredient that induces counterfactuality is past tense.[122] Overt past tense morphology is found in FLVs, PrCFs, and PCFs as shown in the English examples in (5).

(5) a If Peter took his medicine, he would get better.   FLV
     b If Peter were taking his medicine, he would get better.   PrCF
     c If Peter had taken his medicine, he would have gotten better. PCF

As these examples furthermore show, overt past tense morphology is present in both antecedent and consequent of the conditionals given that *would* is the past form of *will* (cf. Comrie 1985, Quirk et al. 1985, Palmer 1986, Abusch 1988).

Overt past tense morphology, however, does not go hand in hand with a past tense interpretation here. We have already seen that Future Less Vivids like the one in

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[122] That past tense morphology is a necessary ingredient for counterfactuality has also been shown for Tohono O'odham (Hale 1969), Proto-Uto-Aztecan (Steele 1975), Japanese, Korean (Han 1996, Cho 1997), Hebrew, Turkish, Basque, Hindi and others (James 1982, Fleischman 1989, Bhatt 1997, Tosun 2000).

(5a) are about the future, i.e., they are compatible with future adverbs. Moreover, they are incompatible with adverbs like *yesterday* (6a). This is a mystery given the overt past tense marking. Similarly, Present Counterfactuals are about the present and not the past, which is confirmed by their incompatibility with past adverbials as well (6b).

(6) a *If Peter took his medicine yesterday, he would get better. FLV
  b *If Peter were taking his medicine yesterday, he would get better. PrCF

Iatridou's conclusion is that the past tense morphology in these environments does not contribute its usual temporal interpretation. To distinguish it from past tense morphology that does contribute a temporal interpretation she calls this past tense *Fake Past*. We will adopt this term here.

  Furthermore, Iatridou shows that Past Counterfactuals contain fake past tense as well. The Past Counterfactuals in English, Modern Greek, and various other Indo-European languages use the pluperfect of the verb. Pluperfects are made up of two layers of past (cf. among others Steedman 1997). In counterfactuals, one of these layers is fake. The other is used for a true past tense interpretation. Iatridou demonstrates this based on a sentence, which normally cannot take the pluperfect but is able to do so as a Past Counterfactual.

(7) a *Napoleon had been tall.
  b If Napoleon had been tall, he would have defeated Wellington.
   (Iatridou 2000:245)

Thus, all counterfactual conditionals contain Fake Past Tense. The question that arises is what meaning does this fake past tense morphology contribute?

  Iatridou proposes that past tense morphology has the following general meaning:

(8) $T(x)$ excludes $C(x)$ (Iatridou 2000:246)

where $T(x)$ refers to the topic x, the x that we are talking about, and $C(x)$ to the x that for all we know is the x of the speaker. In the temporal use of the past tense this translates to the fact that the topic time excludes the time of the speaker's utterance. In counterfactual

environments, however, the meaning it contributes is that the set of worlds that we talk about is not the set of actual worlds, i.e., worlds of the speaker.

Various formal tools depending on the theory of tense one employs can achieve the effect of the exclusive function in (8) on the meaning of an utterance. We will take the point of view here that Past Tense is an operator that ranges over either times or worlds. When this operator ranges over times the interpretation it yields is that the topic time, i.e., the time we are talking about is not the time of the utterance. When it ranges over worlds the interpretation it yields is that the topic worlds do not include the world of the speaker.

2.3 Tense in Navajo Counterfactuals

In Indo-European languages fake past tense is found in the antecedent *and* the consequent of the counterfactual conditional. This in turn, given the analysis of fake past above, accounts for the contrary to fact interpretation of both antecedent and consequent. In Navajo, however, past tense morphology is present only in the consequent of the counterfactual conditional. Consider the examples in (9) – (11). [123]

(9) a Shiye'azee' yąąh ííléeh-go   ch'į'íłdįįh dooleeł ńt'ę́ę́.   FLV
        My son medicine on it make-Imp-go   survive-Imp Fut Past
        'If my son put medicine on it (his wound), he would survive.'

     b Shiye'azee' yąąh ííléeh-go   ch'į'doołdįįł ńt'ę́ę́.   FLV
        My son medicine on it make-Imp-go   survive-Fut Past
        'If my son put medicine on it (his wound), he would survive.'

(10) a Shiye' azee'   yąąh áyiilaa-go   ch'į'íłdįįh dooleeł ńt'ę́ę́.   MCF
        My son medicine on it make-Prf-go   survive-Imp Fut Past
        'If my son had put medicine on it (his wound), he would survive.'

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[123] Future Neutral Vivids and Present Counterfactuals are not discussed in (9) – (11). The former has been omitted since it is not a counterfactual conditional. Present Counterfactuals differ from Future Less Vivids only in the type of verb they employ in the antecedent. The former employs stative, the latter non-stative verbs. In this study we will only consider Future Less Vivids, Mixed Counterfactuals, and Past Counterfactuals. A discussion of Present Counterfactuals in Navajo can be found in Krause (2000).

b   Shiye' azee' yąąh áyiilaa-go   ch'į'doołdįįł ńt'ę́ę́.   MCF
    my son medicine on it make-Prf-go   survive-Fut   Past
    'If my son had put medicine on it (his wound), he would survive.'

(11)   Shiye' azee'   yąąh áyiilaa-go   ch'į'nįłdįid dooleeł ńt'ę́ę́.   PCF
          my son medicine on it make-Prf-go   survive-Prf   Fut Past
          'If my son had put medicine on it (his wound), he would have survived.'

Despite the fact that (fake) past tense is present only in the consequent of the Navajo counterfactual these examples receive a typical counterfactual interpretation. So what is going on?

2.4 Analysis
2.4.1 Navajo if-clauses

There are two approaches we can take with respect to this problem. We could assume that all conditional counterfactuals across languages must be like the Indo-European ones discussed in Iatridou (2000), i.e., must have past tense in both antecedent or consequent. In this case we have to find an explanation for the missing past in the Navajo counterfactual. Alternatively we could assume that crosslinguistically conditional counterfactuals are like Navajo counterfactuals. In this case we would have to show that and explain why the past tense marking in the antecedent of the counterfactuals discussed by Iatridou is redundant.

There are several reasons to take the first approach. First and foremost, even though past tense morphology is missing in the antecedent of a Navajo counterfactual it does receive a contrary to fact interpretation. In other words, if there is no fake past tense in the antecedent of the Navajo counterfactual it remains mysterious how it can receive the interpretation that the set of topic worlds excludes the set of speaker worlds, i.e., an interpretation that occurs only when Fake Past is present.

Second, if all counterfactuals crosslinguistically are indeed like Navajo counterfactuals, i.e., if Fake Past were only necessary in the consequent then the Fake Past in the antecedent of an English counterfactual should be redundant and hence

dispensable without an effect on the interpretation. This, however, is not the case. If we omit the past tense morphology in an English FLV for example, we cannot get a contrary to fact interpretation for the antecedent any more. In other words, while the antecedent in (12a) implies that Mary did actually not clean the house, the antecedent in (12b) without the past tense morphology does not contribute this meaning any longer. This antecedent is neutral with respect to whether Mary cleaned the house or not and is in fact not felicitous with the consequent any more.

(12)   a   If Mary had cleaned the house, her mother would do the shopping.
        b   * If Mary cleans the house, her mother would do the shopping.

Finally, Navajo counterfactuals are not as drastically different from the Indo-European ones discussed in Iatridou (2000) as it appears at first glance. After all, past tense morphology can be found in Navajo counterfactuals and like its Indo-European counterpart it is a *Fake Past*. The FLV is about the future in Navajo as in English. Also the PrCF does not refer to past situations in Navajo. We will therefore assume that Iatridou's account of past tense in counterfactuals is basically correct and that Navajo has a special property that allows it to make ends meet with just one past tense morpheme in counterfactual conditionals.

If we want to adhere to Iatridou's analysis of counterfactuality, it must be the case that *Fake Past* is somehow, although non-overtly, also present in the antecedent of the Navajo counterfactual. There are two ways to achieve this. Either the antecedent (embedded CP) of the counterfactual contains a covert past tense marker of its own or the overt past tense marker of the consequent (matrix clause) *nt'ę́ę́,* can somehow reach into the antecedent.

There is no reason to assume that the first assumption is correct. There are, however, arguments that support the second hypothesis. Specifically, there are arguments that support the claim that the *if-clause*, which lacks overt tense marking, is not a full clause. First, despite its apparent function as a complementizer-like element in *adverbial-* and *if-clauses*, the subordinator *–go* is not an element of C. It is a participializer that can attach to nominals as well as to verbs (cf. Young & Morgan 1987).

(13) a shimá   náshineesxaal
        my mother beat me up
        'My mother beat me up.'

     b shimá-go   náshineesxaal
        my mother-go beat me up
        'Being my mother, she beat me up.'

(14) a Tsinyaagi   'ashhosh.
        under the tree I am sleeping
        'I am sleeping under the tree.'

     b Tsinyaagi   'ashhosh-go tł'iish sháátis yi'na'
        under the tree I am sleeping-go snake over me crawled
        'As I lay sleeping under the tree a snaked crawled over me.'

Participial clauses, however, like the reduced relative that are the topic of this thesis are, as we have seen, clauses that are smaller than CP, i.e., they do not contain a CP-layer.

Second, the past tense marker *nt'ę́ę́* cannot occur in the *if-clause* of the counterfactual. Given that *nt'ę́ę́* is an element of C this is expected if the *if-clause* does not have a CP-layer.[124]

(14) a [Dibé (*ńt'ę́ę́) neineeskaad (*ńt'ę́ę́)]–go maʼiitsoh yiyiiłtsą dooleeł ńt'ę́ę́.
        sheep   herd-Prf-if   wolf   see-Prf   Fut   Past
        'If he had herded sheep, he would have seen a wolf'

     b Shiye' azee'   yąąh áyiilaa-go   ch'į'nįłdįid ńt'ę́ę́.
        my son medicine on it make-Prf-go survive-Prf Past
        'If my son has put medicine on it (his wound), he has survived.'

If-clauses in English on the other hand are clearly full CPs. They permit past tense and exhibit a complementizer - *if*. Now that we have found a property of Navajo counterfactuals that distinguishes them from their English counterpart, we have to ask

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[124] This is in line with Pesetsky & Torrego (2000) who argue that *Tense* is hosted by C. If this view is correct, *nt'ę́ę́* is an element of C. From this and the assumption that the if-clause in Navajo is not a CP it follows that the inflected verb in the above examples must occupy the I-position. This is because first, inflection on the verb is permitted in both the embedded and the matrix clause, which indicates raising of the verb to (one or multiple) inflectional heads. Second, if the C-position is not available then the verb will stop raising at the highest inflectional head available.

how this property is related to the fact that they exhibit past tense morphology only in the consequent of the counterfactual.

2.4.2 Tense variables and binding

In previous work on tense (Partee 1973, 1984; Enç 1987; Higginbotham 1998) it has been argued that tenses can be anaphoric and that their interpretation is constrained by syntactic principles. We will adopt this view. Specifically, we will follow Enç (1987) in assuming that the functional head T (I) must be anchored, i.e., bound by either its own C-head or by another T (I) in its governing category (Enç's *Anchoring Principle* for tense). In addition, we will assume that not only another T (I) but also another C-head in its governing category can bind this functional head.

If we are correct in assuming that the antecedent of a Navajo counterfactual does not contain a CP-layer and therefore also no C, it follows that the functional head I of the *if-clause* can be bound only by either the matrix C or I heads. For our discussion of past tense in counterfactuals this means that the antecedent of the Navajo counterfactual receives a *Fake Past* interpretation due to the fact that the overt past tense marker, i.e., the past tense operator in the consequent binds a tense variable in it. This leaves us with the question where this tense variable comes from.

We will assume that each verb introduces such a variable. This variable can be bound by the past tense marker *nt'ę́ę́* in the consequent (matrix clause) of the counterfactual, which provides the antecedent with one layer of pastness. This past is *Fake Past*. It is interpreted in the sense that the topic world is not the world of the speaker, i.e., this layer of pastness feeds the 'contrary to fact' interpretation.

Up to this point our analysis only grants one layer of pastness in the antecedent of the Navajo counterfactual. Past Counterfactuals in Navajo, however, seem to contain two layers of past in both antecedent and consequent. They receive an interpretation according to which the set of worlds we talk about is not the set of speaker worlds and they are also interpreted such that the topic time excludes time of the utterance. In other words, the first of layer of pastness is used for the *Fake Past*, i.e., world-interpretation

whereas the second is used for a true past tense, i.e., temporal interpretation. What then is the source of this second layer of past tense?

I propose that this second layer of past is introduced by the perfective. The perfective presents an event in its entirety. It includes the initial and final endpoints of the event, i.e., the event is presented as being closed. This closed event is related to the reference time of the sentence which in the simplest case coincides with the time of the utterance, the now, but can also be specified by adverbials for instance to be in the past or future. Since the event described by the perfective is closed, i.e., completed, it is located prior to this reference time. In other words, the event described by the perfective is interpreted as having occurred in the past with respect to the reference time. Accordingly we can talk about events that have occurred prior/in the past regarding the immediate present or some day in the past (yesterday), or that will have occurred by tomorrow.

This analysis of the perfective in Navajo is confirmed by the fact that in regular declarative sentences without overt adverbs in Navajo the perfective always receives a past tense interpretation (16a). In the presence of an overt adverb that specifies the time of reference for past or future, however, the perfective is interpreted as either a future or a past perfective (16b,c).

(16)   a   kintahdi níyá
           town in   1-arrive-Prf
           'I arrived in town.'

        b   'adą́ą́dą́ą́'kintahdi   níyá
           yesterdaytown in   1-arrive-Prf
           'I arrived in town yesterday.'

        c   yiską́ągo nihaa yíníyáago t'áá 'íídą́ą́' kintahgóó niséyáa dooleeł
           tomorrow   see-go alreday   town to   make trip-Prf Fut
           'By the time you come to see us tomorrow I will have already made
           a trip to town.'
           (Young & Morgan 1987: 202)

To summarize the discussion up to this point, we argue that despite surface appearance Navajo counterfactuals do contain fake past tense in both antecedent and consequent. The antecedent (*if-clause*) of a Navajo counterfactual is smaller than CP. As

a result the tense variable introduced by the functional head I cannot be bound by an operator in its own clause but must be bound by the overt past tense marker in the consequent (matrix clause). This provides the *if-clause* with one layer of past tense, which is used for the counterfactual interpretation. Past Counterfactuals contain perfective verb stems in both clauses. The perfective introduces a second layer of past which receives a true past tense interpretation. Thus, in Past Counterfactuals there are two layers of pastness of which one is used for the counterfactual and the other for a true past tense interpretation.

Consider now the summary of the findings of the previous section in table (17).[125]

(17)

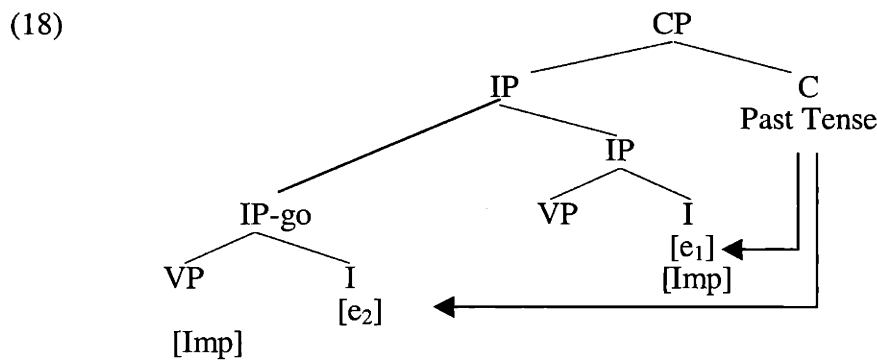|	Antecedent	Consequent
FLV	Imperfective	Future-Stem + Past Imperfective Stem + Future + Past
PCF	Perfective	Perfective Stem + Future + Past
MCF	Perfective	Future-Stem + Past Perfective Stem + Future + Past

The *Future Less Vivid* in Navajo is made up of an imperfective verb-stem in the antecedent. In the consequent it contains the past tense marker *nî'ę́ę́* combined with either an imperfective verb-stem and the future marker *dooleeł* or a future stem on its own.[126]/[127] According to our analysis the verb in both the antecedent and the consequent

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[125] We will not discuss the behavior of aspect in conditional counterfactuals here. An account for the behavior of aspect in Indo-European counterfactuals can be found in Iatridou (2000). An account for the behavior of aspect in Navajo counterfactuals is provided in Krause (2000).

[126] Like past tense, the future is a necessary ingredient for counterfactuality in Navajo. Since it is beyond the scope of this study to analyze its exact contribution in counterfactuals, we will assume for now that its basic function is that of a modal operator. Navajo counterfactuals also differ from the Indo-European counterfactuals in future marking. In many Indo-European counterfactuals overt future markers are found in both antecedent and consequent whereas in Navajo the future marker (like the past tense) only shows up in the consequent.

[127] Navajo does not have verb-stems in the traditional sense. It also has no infinitives. Instead the Navajo verb is equipped with a set of different verb-stems for the imperfective, perfective, future, optative, usitative/iterative and progressive. Since these stems are mutually exclusive, one cannot combine imperfective and future in a single verb-stem. Thus, if an imperfective verb-stem is chosen in the

introduces a tense variable. This variable is bound by the overt past tense marker *nî'ę́ę́* in the consequent. Accordingly, both antecedent and consequent contain one layer of past which is used for the counterfactual (*Fake Past*) interpretation. This situation is depicted by the tree diagram in (18), where *e* indicates a tense variable introduced by the functional head I. (Note that aside from the fact that the *if-clause* needs to be structurally lower than the past tense marker in order to be in its binding domain, our analysis does not make any claim about the exact syntactic position of this clause. For expository purposes I will attach it to IP but it is important to keep in mind that it might be attached to any maximal projection lower than CP though not in English.)

(18)

Past Counterfactuals contain a perfective verb-stem in both their antecedent and in consequent. Furthermore, the consequent bears the overt future marker *doolee ł* and the overt past marker *nî'ę́ę́*. As in Future Less Vivids the tense variable provided by the functional heads I in antecedent and consequent respectively is bound by the past tense operator *nî'ę́ę́*. This gives rise to one layer of pastness in both clauses that is used for the contrary to fact interpretation. In addition, the perfective in both clauses contributes an extra layer of past. The second layer of past is interpreted as a true past tense.

Finally, let us turn to the *Mixed Counterfactual*. Like Past Counterfactuals these conditionals have a perfective verb-stem in their antecedent. Like Future Less Vivids their consequent contains the past tense marker *nî'ę́ę́* combined with either an

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consequent of a counterfactual, the independent future marker *doolee ʍ* must be realized in order to satisfy the requirement for future marking in counterfactuals.

imperfective verb-stem and the future marker *dooleeł* or a future stem on its own. Again, as in FLVs the tense variables provided by the I-heads in antecedent and consequent are bound by the past tense operator *nî'ę́ę́*. The result is one layer of past in either clause which contributes the counterfactual interpretation. In the antecedent, however, the perfective verb-stem introduces an additional layer of pastness. This layer receives a true past tense interpretation.

Thus, our account for Navajo counterfactuals correctly derives the facts for FLVs, PCFs, and MCFs exemplified in (9) – (11) without having to sacrifice Iatridou's analysis of tense in Indo-European counterfactuals. We will now turn to the consequences of this account for the if-readings observed with Free Adjuncts and reduced relatives.

2.5 Consequences for the Interpretation of Free Adjuncts

How does our account for Navajo counterfactuals relate to the conditional readings observed in Free Adjuncts and reduced relatives in the context of a modal in the superordinate clause? Consider again relevant examples with Free Adjuncts.

(19)   a   Standing on a chair, John can touch the ceiling.
            'If he stands on a chair, John can touch the ceiling.'

       b   Wearing that new outfit, Bill would fool everyone.
            'If he wore that new outfit, Bill would fool everyone.
            (Stump 1985:41)

As the examples in (19) show, in the context of a modal in the superordinate clause Free Adjuncts can receive a *Future Neutral Vivid* (19a), and a *Future Less Vivid* (19b) reading. Why is this possible?

Free Adjuncts do not bear overt (past) tense marking. They are participial clauses just like Navajo conditionals (cf. Stump 1985). In terms of our analysis for Navajo

counterfactuals this means that Free Adjuncts in this context must be reduced clauses.[128] Thus only either the superordinate C or I heads can bind the tense variable introduced by the verb in the Free Adjunct. For the example in (19a) this means that the Free Adjunct can receive a conditional interpretation because the past tense marker on *would* in the consequent of (19a) binds the tense variable on the verb in the Free Adjunct. Only in this way can the Free Adjunct receive the layer of pastness that is necessary for the 'contrary to fact' interpretation.

The question we have to ask now is whether it is possible to construct a Past Counterfactual this way by adding one more layer of pastness to the consequent, i.e., the superordinate clause. As (20) shows, this is not possible.

(20)   ??/*Taking his medicine, Bill would have gotten better.
        'If he had taken his medicine, Bill would have gotten better.

Our analysis of Navajo counterfactuals can provide an explanation for this. Unlike perfective verbs, imperfective verbs, cannot introduce the additional layer of past that the antecedent needs in order to receive a true past tense interpretation. Thus, if the present participle that is used in Free Adjuncts is specified for imperfective aspect we have an explanation as to why the additional layer of pastness in the consequent does not result in a Past Counterfactual interpretation in (20). Is there evidence that the present participle in Free Adjuncts is specified for imperfective aspect? Consider the examples in (21).

(21)   Dancing on a stage, Mary felt like star.
            (i)   While Mary was dancing on a stage she felt like a star.
            (ii)# After she danced on a stage Mary felt like a star.

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[128] There are arguments in favor of the claim that Free Adjuncts are always nominalized clauses. They can occur only with those complementizers that can introduce NPs (1) but not with those that introduce only subordinate, i.e., verbal clauses.

(1)   a   Since having had that accident John is afraid to drive.   a' Since the flood John...
       b   Despite taking vitamins regularly John got the flu.   b' Despite the flood

(2)   a   *If wearing a new outfit John could fool everyone.   a   *If the flood...
       b   *Although taking vitamins regularly John got the flu.   b   *Although the flood...
       c   *When going to the gym John feels good.   c   *When the flood...

The fact that the example in (21) can only be interpreted such that the event described in the Free Adjunct and the event described in the matrix clause co-occur is evidence in favor of the claim that the present participle in Free Adjunct is specified for imperfective aspect. If it were specified for perfective aspect we would expect the reading in (ii) to be available, i.e., we would expect a reading according to which the event described in the Free Adjunct temporarily precedes the event described in the matrix clause.

The fact that the present participles of statives can felicitously occur in Free Adjuncts, on the other hand, contradicts the claim that the present participle in Free Adjuncts bears imperfective aspect.

(22)   Knowing that Mary hates meat, Peter still cooked chicken for dinner.

In English statives are not compatible with imperfective aspect. Thus, the fact that they can occur as present participles in Free Adjuncts argues against the assumption that the present participle in Free Adjuncts is specified for imperfective aspect. Since the evidence is undecisive we will leave the question whether the present participle in Free Adjuncts is specified for imperfective aspect open for future research.

The next question we have to ask is whether we can get a past counterfactual reading if we cast the action described in the Free Adjunct into the past by using the perfective. The answer to this is negative. Instead of being interpreted as the *if*-clause of a past counterfactual the Free Adjunct is interpreted as a *because*-clause, which is incompatible with the consequent of a Past Counterfactual.

(23)   ??/*Having taken his medicine Bill would have gotten better.
        'Because he took his medicine Bill would have gotten better.'

The reason for this seems to be that once the action described in the Free Adjunct is cast into the past it asserts that this action has taken place. Why this is the case in Free Adjuncts but not in Navajo counterfactuals is unclear. We could hypothesize that this is connected to the fact that the verb in a Free Adjunct is a participle whereas in the antecedent of a Navajo counterfactual it is a simple perfective stem (Navajo does not have infinitives or participles in the traditional sense). In any event, once we assert that

Bill took his medicine as we do in the Free Adjunct in (23), we cannot continue with a sequence that likewise asserts that this action did not take place, i.e., we cannot felicitously conjoin this assertion with the consequent of a Past Counterfactual.

So why can the participial clauses that can be reduced relatives also be interpreted as *if*-clauses if their superordinate clause contains a modal? The answer should be clear by now. Like Navajo conditional clauses and Free Adjuncts, these participial clauses lack a CP layer. Hence, any tense variable inside the reduced relative must be bound by the C or I heads of the superordinate clause. In other words, if the superordinate clause contains a modal, the tense operator introduced by the modal binds the tense variable in the participial clause.[129]

This, however, happens only if the participial clause is not inside NP, i.e., if it does not combine with the head noun via predicate modification. If the participial clause is inside an NP it combines with a head noun via predicate modification and yields a reduced relative. In this scenario it seems to receive a default present tense interpretation, i.e., the tense variables within it are bound by a default present tense operator. Why should this be?

Following the line of reasoning suggested in chapter 4, section 5.1 we could assume that a participial clause that does not combine with NP via predicate modification is an adjunct to DP. It has been argued in the literature (cf. among others Chomsky 1998, 1999), that like CPs, DPs are phases. We could now assume that a requirement on tense variables is that they must be bound, i.e., receive a value within their phase. Hence, the tense variables in a reduced relative that is located within NP need to be bound before the DP-phase is completed. An adjunct position to DP, however, is a phase periphery position. Elements in phase periphery positions are not subject to the same constraints as elements located inside a phase. Thus, the tense variables inside a reduced relative that is attached to DP need not be bound by the time the DP-phase is completed. They can be bound by heads that are outside of DP. A careful analysis of this problem, however,

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[129] This raises the question why the *if*-reading with Free Adjuncts and reduced relatives is possible only if the matrix clause contains a modal. In other words, why is the modal necessary, why can't the same effect be achieved with any other verb? The answer to this question becomes obvious once we reconsider regular counterfactuals. Like the past tense another necessary ingredient for counterfactuality is the presence of a modal operator. Hence, it is not surprising that the presence of a modal operator is required to achieve a conditional interpretation for Free Adjuncts as well.

requires a more in depth investigation, which is beyond the scope of the current study. We will hence leave it to future research.

2.6 Remaining Questions
2.6.1 When- and Because Readings

Let us now briefly consider the *when-* and *because-*readings observed with Free Adjuncts and reduced relatives. All things being equal our analysis should be able to explain the presence of these readings as well. In other words, these readings should also be the result of the status of Free Adjunct and reduced relatives as reduced clauses. We will start with the *when-*readings.

To find out why Free Adjuncts receive a *when-*interpretation in the context of an adverb of frequency in the superordinate clause let us first consider their behavior when this adverb is not present. Relevant examples are given in (22). (In the remainder of this section we will only consider Free Adjuncts assuming that reduced relatives, i.e., the participial clauses that can be reduced relatives exhibit the very same behavior and thus the same analysis.)

(24)   a   Lying on the beach John smoked a cigarette.
            While/When he was lying on the beach John smoked a cigarette.

       b   Walking through the park Mary saw John.
            While/When Mary was walking through the park she saw John.

As these examples show, even in the absence of an adverb of frequency Free Adjuncts with a stage level predicate can receive a *when-*reading. In particular, these examples are interpreted such that time of the event described in the Free Adjunct includes the time of the event described in the matrix clause. In other words, the events in the Free Adjunct and the superordinate clause co-occurred. The account we developed for Navajo conditionals provides a straightforward explanation for this. The tense variables in both the Free Adjunct and the superordinate clause are bound by the same tense operator. Hence the events described in the two clauses are interpreted as co-occurring events.

Therefore, the adverb of frequency in the matrix clause does not contribute to the *when*-readings observed in Free Adjunct. All this adverb does is taking the Free Adjunct as its restrictor and the matrix clause in its nuclear scope and its truth conditions are that frequently/ usually/always the event described in the Free Adjunct also has the properties of the event described in the matrix clause.

Our discussion of the *when-* and *if*-readings observed with Free Adjuncts and reduced relatives raises one further question. For both interpretations we have argued that they result from the binding of the tense variable of the Free Adjunct by either the matrix C or I head. In other words, both readings are the result of the dependency of the Free Adjunct on the matrix clause for the interpretation of its tense variables. The difference between the two is that in the *when*-reading cases the past tense supplied by the matrix clause is interpreted as real tense (topic time excludes time of utterance). In the *if*-reading scenario, on the other hand, the past tense supplied by the matrix clause is interpreted as Fake Tense (the set of topic worlds excludes the set of speaker worlds). Hence we might ask whether the two interpretations could be used interchangeably, i.e., whether we could for example interpret the past tense supplied by the matrix clause as a real past tense in the Free Adjunct and thus get a *when*-reading.

Consider the examples in (25).

(25) a Standing on a chair John can touch on the ceiling.
         (i) If he is standing on a chair John can touch the ceiling.   prominent
         (ii) When he is standing on a chair John can touch the ceiling.   less prominent

      b Dancing on a stage, Mary feels like a star.
         (i) When she is dancing on a stage Mary feels like a star.   prominent
         (ii) If she is dancing on a stage Mary feels like a star.   less prominent

      c Wearing the new outfit John could fool everyone.
         (i) If John wore the new outfit he could fool everyone.   prominent
         (ii) When John wore the new outfit he could fool everyone.   less prominent

As these examples show, the *if* and *when*-readings can indeed be used interchangeably.[130] In the context of a modal, however, the *if*-reading is by far the more prominent reading. This is not unexpected given that a modal operator is one of the necessary prerequisites for counterfactuality. For the same reason the *if*-reading is less prominent in the absence of a modal in (25b), i.e., when the verb in the matrix clause is in the present tense and completely unavailable in (26) when the matrix clause contains a verb in the past tense but no modal.

(26) a Wearing the new outfit John fooled everyone.
   (i) When he wore the new outfit John fooled everyone.
   (ii)#If he wore the new outfit John fooled everyone.

   b Standing on a chair John touched the ceiling.
   (i) When he stood on a chair John touched the ceiling.
   (ii)# *If he stood on a chair John touched the ceiling.

Finally let us turn to the because-readings. Recall that these readings arise whenever the Free Adjunct contains an individual level predicate whereas *if*- and *when*-readings arise whenever the Free Adjunct contains a stage level predicate. What difference between stage and individual level predicates could cause this difference in interpretation?

For Stump (1985) stage level predicates create weak adjuncts and only weak adjuncts can serve as the restrictor of a modal to yield an *if*-reading and as the restrictor of an adverb of frequency to yield a when-reading. Strong adjuncts, i.e., adjuncts with individual level predicates, however, cannot perform this function. According to Stump they are outside the scope of the modal/adverb because they are added to the clause only after the modal/adverb has already been added. While this analysis captures the fact that the *if*- and *when*-readings are not available for Free Adjuncts with individual level predicates it remains mysterious what forces adjuncts with individual level predicates to be inserted later in the derivation than adjuncts with stage level predicates. It also remains unexplained why this results in a *because*-reading.

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[130] Note, however, that the *when*-readings in (25a/b) are indeed not that different from the *if*-readings. In other words, the examples in (25a/b) are interpreted as 'always when x then y'. It is not clear how this is different from 'always if x then y'. The example in (25c), however, does have a *when*-reading that does not have this conditional flavor.

Kratzer (1995) argues that stage level predicates differ from individual level predicates in that the former but not the latter have an extra argument position for events or spatio-temporal locations. In terms of our analysis this would mean that stage level but not individual level predicates (can) come with an extra (tense) variable.

Another way to explain the *because*-readings of Free Adjuncts with individual level predicates is thus, to assume that they do not introduce a tense variable that can be bound by the matrix C or I heads at all. In other words, in Free Adjuncts only stage level predicates introduce a tense variable that can be bound by C or I in the matrix clause. This is the extra event or spatio-temporal variable Kratzer identified. Individual level predicates, however, cannot introduce this variable. They receive a context-dependent default present or past tense interpretation. If, however they do not rely on the matrix clause for their temporal interpretation it follows that they cannot receive readings that rely on this dependency, i.e., *if*- and *when*-readings.

But why do they get *because*-readings? One prominent feature of Free Adjuncts with *because*-readings is that they assert that the event described is true. We could then assume that in the absence of other elements that are relevant to the interpretation of a Free Adjunct a causal relation is the most salient way to obtain a logical connection between a Free Adjunct that asserts that the event described is true and the matrix clause.

Evidence for the potential default status of the *because*-reading comes from the fact that in the absence of an overt element in the matrix clause that can override this reading, it is always available independent of whether the *if*- and *when*- reading can or cannot occur as well.

(27) a   Wearing the new outfit John fooled everyone.
          (i) #If he wore the new outfit John fooled everyone.
          (ii) When he wore the new outfit John fooled everyone.
          (iii) Because he wore the new outfit John fooled everyone.

      b   *Had he taken his medicine, he had gotten better.
          (i)#If he had taken his medicine he would have gotten better.
          (ii) #When he had taken his medicine he had gotten better.
          (iii)#Because he took his medicine he would has gotten better.

To give an example of an element whose presence in the matrix clause can change the *because*-reading of the Free Adjunct consider the following data.

(28)   a   Being the worst student in his class Jon managed to pass the final.
           = Because he is the worst student in his class Jon managed to pass the final.

         b   Being the worst student in his class Jon nevertheless passed the final.
         =   Even though he is the worst student in his class Jon nevertheless
           passed the final.

As we can see in (28) adding *nevertheless* to the matrix clause changes the *because*-reading of the Free Adjunct into an *even-though*-reading. This provides at least preliminary support for our hypothesis. Whether this way to view things is indeed on the right track, however, is a question for future investigation.

Before we conclude this section we need to answer one further question that our account for Free Adjuncts raises. We argued above that the *if-*, and *when*-readings arise because Free Adjuncts are reduced clauses and are thus dependent in their temporal interpretation from the superordinate clause. We furthermore proposed that in the absence of elements in the superordinate clauses that dictate otherwise the *because*-reading is aways available as a default interpretation. As we have discussed above, the antecedent of a Navajo conditional is a reduced clause as well. It receives an interpretation as an *if-*clause in the same manner Free Adjuncts do. Given our account for the *when-* and *because*-readings obeserved with Free Adjuncts we hence predict that these readings should also be available for the reduced clauses in Navajo. In other words, the antecedent of a Navajo counterfactual should be able to be alternatively be interpreted as either a *when-* or a *because*-clause. Consider the following example.

(29)   Shiye'   azee'   yąąh   íílééh-go   ch'í'doołdįįł.
        My son medicine on it make-Imp-if survive-Fut
        (i)   If my son put medicine on it (his wound), he will survive.
        (ii) When my son will put medicine on it (his wound), he will survive.
        (iii) Because my son will put medicine on it (his wound), he will survive.

As the example in (29) conveys, our prediction is indeed correct. This provides further support in favor of our analysis.

2.6.2 Full Clauses

Finally, we have to address the question whether full adjunct clauses can receive a default *because*-interpretation. There are two possibilities to form full adjuct clauses. First, there are full adjunct clauses with a lexical complementizer. The presence of such a complementizer as, for example, *although*, *when*, or *nevertheless*, however, overrides any possible default interpretation with respect to the superordinate clause. In other words, the presence of overt complementizers makes a default *because*-interpretation impossible.

The second possibility to form a full adjunct clause is to invert the verb into the first position, i.e., into the C-position. Consider the following example.

(30) Had he taken his medicine, he would have gotten better.
    (i)   If he had taken his medicine he would have gotten better.
    (ii) # Because he took his medicine he would have gotten better.

Despite the lack of an overt complementizer in full adjunct clauses where the auxiliary occupies the first position, i.e., in tensed inversion sentences, only the *if*-reading is available (cf. Iatridou & Embick 1994). This contrasts with Free Adjuncts for which the *because*-reading is always available and can co-occur with both the *if*- and the *when*-readings.

(31) Wearing the new outfit John could fool everyone.
    (i)   If John wore the new outfit he could fool everyone.   prominent
    (ii) When John wore the new outfit he could fool everyone.   less prominent
    (iii) Because John wore the new outfit he could fool everyone. less prominent

Inverted conditionals differ from Free Adjuncts in yet another respect. If the superordinate clause of a Free Adjunct does not contain a modal, the *if*-reading is unavailable. The clause will instead be interpreted as either a *when*- or a *because*-clause.

(32) Wearing the new outfit John fooled everyone.
    (i) #If he wore the new outfit John fooled everyone.
    (ii) When he wore the new outfit John fooled everyone.
    (iii) Because he wore the new outfit John fooled everyone.

Once we take away the modal in the superordinate clause of an inverted conditional, however, the whole structure becomes ungrammatical. A default because-reading of the inverted clause is impossible.

(33) *Had he taken his medicine, he had gotten better.
(i) # If he had taken his medicine he would have gotten better.
(ii) # When he had taken his medicine he had gotten better.
(iii)# Because he took his medicine he would has gotten better.

The following picture regarding the behavior of Free Adjuncts and inverted adjunct clauses emerges.

(34)

	Full Clause (inverted)	**Reduced Clause (FA)**
with modal in consequent	conditional	conditional when because
w/out modal in consequent	*	when because

There are various questions that are raised by full inverted adjunct clauses. Let us start with the easiest one. Why is the *when*-reading not available to these clauses? The reasons for this should be clear by now. Because they are full clauses the tense variable provided by their verb is bound by the C-head of the adjunct clause itself. Hence, no temporal dependency to the matrix clause can be established. From this it follows that full clauses, inverted or not, cannot get *if*- or *when*-readings in dependency from the matrix clause.

Let us turn to the second question. Why is the *if*-reading enforced in conditional inversion environments? It has been argued in the literature (cf. among others Lewis 1975) that unlike all other complementizers *if* does not have lexical content. If the verb of an adjunct clause inverts into C, i.e., takes the place of the complementizer it cannot

recover meaning of complementizers with lexical content. Because, however, *if* does not have any lexical content to be recovered in the first place therefore inversion constructions are always interpreted as *if*-clauses.

While this explains why in inverted structures the *if*-reading should always be one of the possible readings (given that there is a modal in the superordinate clause which is a necessary ingredient to form conditionals) it still leaves us woth one more question. Neither Free Adjuncts nor inverted clauses have a lexical complementizer that could override the default *because*-reading. Why is this default reading available to Free Adjuncts, i.e., reduced clauses but not to inverted adjuncts, i.e., full clauses? As it stands there is no good answer to this question yet. We will refrain from speculations here and leave this question for future investigation.

3 More Puzzles

Let us return once more now to reduced relatives with genitive subjects. In this thesis we have addressed the question of what their place in the typology of relative clauses is. We have argued that they are reduced relatives. We have shown that they can be prenominal, postnominal, and head-internal relatives. We argued further that they are non-finite relatives and that as such they cannot be headless relatives. And finally, we have argued that because they are reduced relatives they cannot be appositives.

There are, however, many questions that relative clauses with genitive subjects raise that were either outside the scope of this investigation or are a result of this investigation. Let us name just a few of them here. First, in the sample of languages that we studied in this thesis relative clauses with genitive subjects occurred only in either consistently head-initial (Toba Batak) or consistently head-final languages (Turkish). Future research will have to determine whether this is universally true and, if yes, what the correlation between being consistently head initial or head-final and employing reduced relatives with genitive subjects is.

This relates, second, to the fact that in all languages that use reduced relatives with genitive subjects structural genitive case must be licensed within NP. Hence, if there is a correlation between being consistently head-initial or head-final and employing reduced relatives with genitive subjects then we must also raise the question for the relation between the setting of the head-paramater and the availability of structural case within NP.

Third, the languages that we studied here that use relative clauses with genitive subjects do not exhibit definite determiner like English *'the'*. Further research will have to determine whether this is true for all languages with relative clauses with genitive subjects crosslinguistically and whether this is a mere accident or stands in relation to the choice of emloying reduced relatives with genitive subjects.

Finally, as has been noted in the literature (cf. Cole 1987, Kayne 1994)., prerelatives are connected in an interesting way to head-internal relatives. Head-internal relatives can only be found in languages where one would expect to find prerelatives, i.e., in consistently head-final languages

A satisfactory explanation for these problems has yet to be developed. To attempt such an explanation here would, however, exceed the scope of the current study. We will leave the investigation of these topics and the connections they might bear to each other open for future research.

4 Summary

One of the questions the discussion in the previous chapter left open was why Free Adjuncts can be interpreted as if-clauses in the context of a modal in the matrix clause and why reduced relatives can exhibit the same behavior. This chapter aimed to answer this question by a comparison of Free Adjuncts and Navajo conditionals and conditional counterfactuals.

Navajo counterfactuals differ from the Indo-European ones studied by Iatridou in their tense marking. In Navajo only the consequent of the conditional counterfactual

contains past tense morphology whereas in Germanic and Romance languages for example past tense morphology is present in both antecedent and consequent of the counterfactual. We attributed this feature of Navajo counterfactuals to their syntactic properties. Navajo *if-clauses* are smaller than CP. The tense variable introduced by the verb in the antecedent can therefore not be bound by a tense operator in its own clause, it must be bound by the past tense operator in the consequent. Under this analysis past tense is present in both antecedent and consequent also in Navajo conditional counterfactuals. As in the counterfactuals investigated by Iatridou (2000) one layer of past tense in these constructions is always fake, i.e., is used to set up topic worlds that exclude the world of the speaker.

Free Adjuncts behave like the antecedent of a Navajo counterfactual, i.e., in the relevant environments these clauses are smaller than CP. The same is, naturally, true for reduced relatives. Hence both types of clauses depend on the matrix C and I heads for the binding of their tense variables. This process can result in either an *if-* or a *when*-reading of the Free Adjunct or reduced relative. The *if*-reading is the preferred reading in the presence of a modal because of the function modal operators typically perform in conditionals and counterfactuals: they are a necessary ingredient for counterfactuality. For the same reason the *if*-reading is absent if the matrix clause contains only a verb in the past tense but no modal operator.

In the remainder of the chapter we established a variety of questions that are relevant for future research on reduced relatives including relative clauses with genitive subjects. Among others these questions are the following. Why is it that most languages that permit reduced relatives with genitive subjects are either consistently head-initial or consistently head-final languages? Is there a connection between being consistently head-initial or consistently head-final and the licensing f structural case within NP? What is the connection between head-internal relatives and prenominal reduced relatives with genitive subjects?

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