Derived Coordination

A Minimalist Perspective on Clause Chains, Converbs and Asymmetric Coordination

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Contents

Contents

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Abbreviations:

1/2/3	1st, 2nd, 3rd person	CVB	Converb
ABS	Absolutive	DAT	Dative
ACC	Accusative	DECL	Declarative
ADD	Additive Focus	DEM	Demonstrative
ADESS	Adessive	DO	Direct Object
ANT	Anterior	DS	Different Subject
AOR	Aorist	DUR	Durative
APASS	Antipassive	ELAT	Elative
ASP	Aspect	ERG	Ergative
ATTR	Attributive	EVID	Evidential
AUX	Auxiliary	FACT	Factual
BQN	Brusqueness	FEM	Feminine
CIRC	Circumstantial	FIN	Finite
CL	Noun Class	FOC	Focus
COM	Comitative	FUT	Future Tense
COMP	Complement	GEN	Genitive
CONF	Confirmative	HORT	Hortative
CONJ	not given by MacDonald (1990)	HYP.FUT	Hypothetical Future
COP	Copula	ILL	Illative

IMP	Imperative	PROG	Progressive
INCON	Inconsequential	PROX	Proximative
IND	Indicative	PRS	Present Tense
INDEF	Indefinite	PRT	Particle
INF	Infinitive	PTCP	Participle
INS	Instrumental	PURP	Purpose
INTR	Intransitive	Q	Question Particle
IPFV	Imperfective	REDUP	Reduplication Morpheme
IRR	Irrealis	REFL	Reflexive
LOC	Locative	REL	Relative Marker
MASC	Masculine	REM.PAST	Remnant Past
MED	Medial	REP	Reportative
NAR	Narrative	SEQ	Sequential
NEG	Negation	SG	Singular
NEUT	Neuter	SIM	Simultaneous
NMLZ	Nominalizer	SS	Same Subject
NOM	Nominative	STAT	Stative
NON.PROX	Non-proximative	SUBJ	Subject
OBL	Oblique	SUP	Superessive
PASS	Passive	TERM	Terminative
PAST	Past Tense	TOD.PAST	Today's Past
PFV	Perfective	TOP	Topic
PL	Plural	TR	Transitive
POSS	Possessive	UNSP.TIME	Unspecified Time
POST	Posterior	VERBLZ	Verbalizer
POT	Potentialis	WIT.PAST	Witnessed Past
PRED	Predicate Marker		

Abstract

This thesis explores the different types of clausal relations in the world's languages. Traditionally, the assumption is that there are only two ways how clauses can be combined. Either one clause is predominant and contains the other, or none of the clauses is predominant and both are merged with equal properties. The former is called *a subordinate relation*, the latter *a coordinate relation*. In the course of the discussion about this dichotomy of clausal relations, certain characteristics have been identified to distinguish the two. However, as more and more languages have been studied in this respect, the assumption of the strict subordination-coordination dichotomy did not remain unchallenged. A number of different constructions in the world's languages were claimed to resist this classification. According to the established tests, these constructions are neither fully subordinate nor fully coordinate.

In this dissertation, I will examine some of these constructions in detail, review the evidence for these claims, and discuss whether the assumption of the strict subordination-coordination dichotomy can be maintained. The main discussion in this work is divided into two parts: The first part is concerned with the phenomenon of clause chaining. Clause chaining constructions are long sequences of incompletely inflected verbs and verb phrases followed by one fully specified verb. These constructions are found in a wide range of different languages in almost all parts of the world; the sole exception maybe being major parts of Europe. A typical example is given in (1). It consists of eight different clauses. Only the final verb, however, is marked for indicative mood.

(1) mai-pa   ʔufei-mene-pa yene nen-ou-pa   nen-ou-pa   tefe-pa mene-a-te
     come.up-SS watch-STAT-SS bird 3PL-shoot-SS 3PL-shoot-SS put-SS stay-3SG-DS
     wai ʔoʔaisa-a-te   wai ʔai pau-a-ʔa.
     again afternoon-3SG-DS again rustle erupt-3SG-IND
     'He came up and watched and he shot birds and put them and he stayed. Again

     it was afternoon, and again there was a rustling sound.'

                                              Tauya: MacDonald (1990, p.367)

This construction has gained increased attention in the recent discussion about clausal
relations because the different syntactic tests established in the literature yield contra-
dictory results for this construction. According to some tests, clauses in a clause chain
seem to be in a coordinate relation and according to others, they seem to be in a subor-
dinate one. For example, we find that clauses in a clause chain are morphosyntactically
dependent on the final clause of the chain. In (1), only the final verb of the chain is
specified for indicative mood. Nevertheless, the other verbs are interpreted as if they
were marked for indicative as well. They depend on the indicative marker of the final
verb in the chain. Also, as we will see, clause chaining constructions allow for asym-
metric extraction. Both of these properties are usually taken to be characteristics of
subordinate constructions. On the other hand, however, clause chaining constructions
cannot undergo center embedding, extraposition or backward pronominalization. These
properties suggest a coordinate relation between the clauses in a chain.

Following the standard assumptions of many theoretical frameworks, this is a prob-
lematic finding. Generally, it is assumed that the relation between two clauses is either
a subordinate one or a coordinate one. These categories are thought to be discrete and
exhaustive. In other words, constructions that seem to be in between subordinate and
coordinate ones are unexpected and cannot be derived.

The main claim of this thesis is this: There are indeed constructions that violate the
widely assumed dichotomy of clausal relations. However, this does not necessarily mean

that the complete theory of clausal relations must be rejected. In this thesis, I show that recent findings about the syntactic structure of coordination make it possible to derive cases of clausal relations that look like coordinate relations on the surface but exhibit certain syntactic properties of subordinate ones.

Recent analyses in the syntactic framework of the Minimalist Program have suggested that coordination structures are syntactically represented by a coordination head selecting the two conjuncts as arguments. One major advantage of this assumption is that coordination structures are no longer represented by odd syntactic structures. Coordination heads are regular syntactic heads with regular syntactic properties. This means, however, that, in principle, we might expect regular syntactic movement to the specifier of a coordination phrase. I argue that it is exactly this kind of movement step that derives the mixed properties of clause chaining constructions. More concretely, I propose a structure like (2).

(2)   Movement to Spec&P:
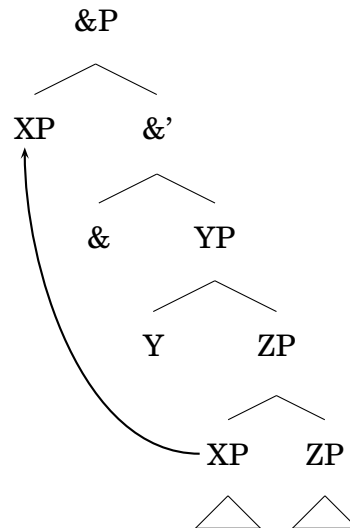
Some syntactic category XP may be base-generated as an adjunct to another category but in the course of the derivation, XP can be moved to the specifier of a coordination

phrase. The result is a structure that looks like a coordinate structure on the surface but which has certain syntactic properties of a subordinate construction because there was some stage of the derivation where the two clauses were in a subordinate relation. The mixed properties of clause chaining constructions sketched above can be shown to follow immediately from this derivation. Syntactic operations that are responsible for morphological dependency and for asymmetric extraction (i.e. agreement and movement) can apply *before* the crucial movement step in (2). Hence, these operations lead to the impression that the relation between these two clauses is a subordinate one. Other processes or operations such as linearization apply at a later stage in the derivation. These operations thus indicate a coordinate relation.

Further evidence for the derivation in (2) comes from a number of different observations. Most importantly, I show that the adjoined base position in (2) in which the first conjunct is generated is not just a mere stipulation to derive the observed facts. In many languages, medial clauses can surface in that position. Then, however, they are not called medial clauses but converb clauses. Converb clauses share most morphosyntactic properties with medial clauses. However, when the clausal relation tests are applied, one finds that converbs are uncontroversially subordinate as predicted by their syntactic context.

Also, I show that as soon as more complex cases of clause chaining are taken into account, we find that the complex dependency relations between all clauses in a chain can only be accounted for if these clauses are treated as subordinate *and* coordinate at the same time. I identify two strategies of clause chaining in the world's languages: Recursive clause chaining and iterative clause chaining. Alternative approaches, especially those that treat clause chaining as an instance of regular coordination cannot derive both strategies at the same time.

Furthermore, the derivation in (2) is supported by two case studies where the account

that I propose is applied to two unrelated languages: Korean and Tsakhur. In both languages, we find medial and converb constructions and what we see is that these constructions are morphologically identical. Looking at the data from Tsakhur or Korean, it becomes evident that an approach which just assumes different base positions for these two types of clauses misses an important generalization.

Since clause chaining constructions are found in virtually all major linguistic areas, it is not surprising that we find an incredibly great amount of crosslinguistic variation with respect to this construction. I argue that the derivation in (2) is flexible enough to account for the vast majority of the attested variation. I illustrate how the approach can be parametrized and adapted to specific properties of certain languages. While the categories that are conjoined and the syntactic features of the heads in question may vary, the abstract underlying derivation remains the same: Medial constructions are derived by movement to the specifier of a coordination phrase.

Finally, I take a look at switch-reference marking, which is found in many clause chaining languages as well. I argue that switch-reference marking can occur in coordinate contexts and subordinate ones. However, we find that switch-reference marking has different properties depending on its syntactic context. Switch-reference marking in subordinate constructions has different properties than switch-reference in coordinate constructions. And since switch-reference marking in clause chaining constructions varies with respect to its properties, we need a derivation for clause chains that involves both a subordinate relation and a coordinate one.

The second part of this work shows that similar constructions are also found in more familiar languages such as English. I argue that so-called asymmetric coordination constructions are also derived by means of movement to the specifier of a coordination phrase. In the second part of this thesis, I investigate three different types of asymmet-

ric coordination constructions in English. First, scene-setting coordination as in (3-a). Second, consecutive coordination as in (3-b). And third, conditional coordination as in (3-c).

(3)   a.   *Scene-Setting Coordination:*

        Here's the whiskey that he went to the store and bought.

                                                                    Ross (1967, p.168)

        b.   *Consecutive Coordination:*

        How much can you drink and still stay sober?

                                                                    Lakoff (1986, p.152)

        c.   *Conditional Coordination:*

        You drink another can of beer and I'm leaving.

                                                        (Culicover and Jackendoff, 1997, p.197)

All three constructions look like cases of regular coordination on the surface. Also, the order of conjuncts is fixed, which is another indicator of a coordinate structure. However, these three constructions also show some properties of subordinate constructions. Most notably, they all allow for asymmetric extraction out of only one of the conjuncts. Other tests show the same thing. Cases of conditional conjunction, for example, also allow for an element in the second conjunct to bind a variable in the first one. This is usually taken as a robust criterion for a c-command relation and, hence, for subordination.

The argumentation that cases of asymmetric coordination should be derived in basically the same way as clause chains is based on an old observation in the literature about the semantics of these constructions. A number of people have argued that what distinguishes asymmetric from symmetric coordination is that, in case of the former, the two conjuncts are semantically unbalanced. One of the conjuncts expresses back-

ground information in basically the same way as a clausal adjunct would. In the case of scene-setting coordination, the first conjunct gives additional temporal or locational background information. In other words, it sets the scene for the second conjunct. In the case of consecutive coordination, the event described in the second conjunct is a consequence of the event described in first conjunct. In the case of conditional coordination, the first conjunct expresses the same meaning as a regular conditional adjunct clause. I take this semantic asymmetry as an indicator for the fact that the semantically foregrounded conjunct is base-generated as the matrix clause to which the backgrounded conjunct is adjoined. The coordinate surface structure is then derived by movement of the adjunct to the specifier of a coordination phrase.

I show that this derives all the properties of the asymmetric coordination constructions, the coordinate ones as well as the subordinate ones. Also, the differences between the different types of asymmetric coordination constructions are accounted for. I show that scene-setting coordination and consecutive coordination are syntactically completely identical. They are distinguished only in terms of their semantics as well as their linearization properties. In the case of scene-setting coordination, the backgrounded conjunct is linearized to the left of the foregrounded one and in the case of consecutive coordination, the order is reversed. But since linearization is usually taken to be a postsyntactical process, we can state that ultimately, scene-setting coordination and consecutive coordination are syntactically identical. Thus, we also find complex cases of more than two conjuncts in which both types of coordination are combined. These cases can be derived elegantly under the account I argue for. Also, the approach allows to account for maximally complex cases where extraction applies to a proper subset of the conjuncts as in (4).

(4)   What did he go to the store, buy, load in his car, drive home and unload?

                                                                    Lakoff (1986, p.153)

In (4), we have extraction from the second, third and fifth of five conjuncts. Complex examples like this one have not been addressed by any kind of generative theory that I know of. Moreover, these examples have even been claimed to be underivable in a syntactic framework (see Lakoff (1986, p.157f)). I show that under the assumption of nested &Ps, examples like this one nicely follow from the analysis that I propose in this thesis.

Conditional coordination, however, differs from the two other types of asymmetric coordination. As we can see, for example, from the fact that the two conjuncts in conditional conjunction constructions have their own subjects, this construction is derived by conjoining a different category. I argue that while scene-setting coordination and consecutive coordination are conjoined vPs, conditional coordination is coordination of TPs. I show that, under this assumption, the approach that conditional conjunction is also derived by means of movement to Spec&P can be combined with the semantic analysis of conditional conjunction put forward in Keshet (2013). The combination of these two approaches can derive the puzzling semantic properties of this construction and, in addition, accounts for the syntactic asymmetries between the conjuncts.

Finally, in the third part of this thesis, I discuss a number of theoretically relevant questions. I revisit the crucial assumption of this thesis, namely that if one assumes the coordination head to be a regular syntactic head, then we in fact expect movement of elements to the specifier of coordination heads. I show that, syntactically, there is nothing special about this movement step. It is a simple case of movement of an adjunct to a specifier higher up in the tree.

I also discuss another assumption that I (more or less) implicitly adopt throughout this thesis, namely that the Coordinate Structure Constraint is to be understood as a derivational principle. Cases of asymmetric extraction from Scene-Setting Coordina-

tion, for example, are uncontroversially violations of a representational version of the Coordinate Structure Constraint. But under a derivational version, they can be explained elegantly.

Furthermore, I sketch how a version of Müller's (2010,2011) theory of locality can be applied to derive why certain nonfinite adjuncts are transparent for extraction whereas others are not. Also, I show how the approach I put forward in this thesis can be constrained in order to avoid overgeneration. Finally, I argue that the approach that I pursue should be taken as direct syntactic evidence for an asymmetric structure of coordination phrases.

Part I.

Clause Chains, Medials, and Converbs

1. Introducing Clause Chains

Clause chaining constructions are long sequences of a potentially infinite number of clauses within the same sentence. These constructions are attested in languages all over the world but they are especially widespread in East and Southeast Asia, Papua New Guinea and Australia.

The individual clauses in clause chaining constructions are usually quite small consisting of a verb and its arguments. Since the arguments (especially subjects) are usually dropped if they can be inferred from discourse, many clauses consist of nothing but a verb. Morphologically, the major characteristic of clauses within a clause chain is that all verbs but the final one bear incomplete marking. That is, they are not inflected for categories usually associated with finiteness such as tense or mood. This is illustrated in (1).

(1) [ra fisi-pie   ] [fahare-râ   ] [yâpeʔ-yopa-pie   ]
     [go arrive-SEQ.3PL.DS] [rise-SEQ.SS] [chase.away-3PL.DO-SEQ.3PL.DS]
     [mafa-yeŋiʔ   behe-râ   ] [wise-pie   ] [fiuʔ
     [stuff-3PL.POSS throw.away-SEQ.SS] [flee-SEQ.3PL.DS] [illicitly
     ro=fâre-mbiŋ   ].
     take=all-3PL.REM.PAST]

     'When they$_i$ (the foreigners) arrived, they$_j$ (the villagers) got up and chased them away. They$_i$ threw away their stuff and fleed. Then, they$_j$ stole their stuff.'

                         Kâte (Trans-New-Guinea); Pilhofer (1933) as cited in Bickel (2011)

Example (1) consists of six distinct clauses, but only the verb of the final clause is marked for absolute tense. In the case above, it is marked for REMNANT PAST, indicating that the action described took place a while ago. The first five verbs can be marked for other categories such as relative tense but, crucially, they do not bear the full specification. Interestingly, however, even though these verbs are not marked for REMNANT PAST as well, they are obligatorily interpreted as if they were. The events they describe happened at the same time as the events described in the final clause.

Clauses within a clause chain are juxtaposed asyndetically, without coordinating or subordinating conjunctions. Instead, the verbs within a clause chain are marked for switch-reference, which is often taken to be a characteristic for these constructions.

There are two different types of clauses usually contained in a clause chaining construction: Medial clauses and converb clauses. They can be distinguished on the basis of the function they fulfill. The main function of converb clauses is to mark adverbial subordination.[1] This contrasts medial clauses whose main function is to provide additional foreground information. In other words, medial clauses "provide mainline information to move the discourse forward".[2] These kinds of definitions are, of course, very vague, and often a definite decision of individual cases seems problematic. Hence, in this work, the definitions above are not taken to be the final criteria to decide whether a clause is a converb or a medial clause. Rather, these statements serve as a rough point of orientation. The decisive criteria, however, will be given in the following chapters. As the first part of this work will show, medial clauses differ from converb clauses with respect to certain syntactic tests. Accordingly, both *medial clause* and *converb clause* can be defined on the basis of their syntactic behavior rather than on the basis of their function.

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[1] See Haspelmath (1995) for this definition.

[2] See Dooley (2010*a*) for a definition of the term *medial clause*. Note however, that Dooley uses the term *clause chaining construction* to refer to medial clause constructions without considering converb clauses at all. This, of course, contributes to the terminological confusion discussed below.

A converb clause is syntactically subordinate to another clause, whereas a medial clause is, according to various syntactic tests, in between subordination and coordination.

These definitions are clear and discrete and thus, the terms are much more concrete. However, one should be careful to transfer these terms to other works. In the literature about clause chains, medial constructions and converbs, these terms are often used in completely different ways. To a certain extent, these terms are also used interchangeably. The same construction often has different names in different languages. The major reasons for this confusion are different terminological traditions in different language families. The term *converb* was originally used for verb forms in Turkic and Mongolic languages, whereas the term *medial* comes from Papuan linguistics.

The term *clause chaining* refers to the whole construction which can include medial clauses and/or converb clauses. Thus, the term is neutral with respect to the question of clausal relations.

In the course of the following chapters, I discuss the phenomenon of clause chaining constructions in detail. I give an overview of the morphosyntactic properties of this construction from a typological, theory-neutral perspective. Then, I discuss the implications of the previous findings for generative theories and propose a novel syntactic theory couched in the framework of the Minimalist Program.

More concretely, the discussion of clause chaining constructions will proceed as follows: In the next chapter, I will illustrate the syntactic behavior of medial clauses with respect to the standard tests of clausal relations. As was hinted at in the introduction above, the results will be inconclusive. Medial clauses are neither fully subordinate nor fully coordinate. Hence, they pose a challenge for generative theories. In Chapter 3, I will discuss how this challenge was tackled by previous analyses and why these analyses are problematic. In Chapter 4, I present my own analysis and show how it can

derive the inconclusive syntactic properties of medial clauses. Chapter 5 shows how the analysis can handle long sequences of medial clauses. The empirical facts about the dependency relations in these long sequences will serve as further strong arguments for my theory. In Chapter 6, I discuss the syntactic properties of converb clauses and how the theory of Chapter 4 can account for their behavior as well. Chapter 7 is concerned with two case studies of clause chains in Tsakhur and Korean. In Chapter 8, I show how the present approach can be parametrized to account for the attested empirical variation we find with clause chaining constructions. Finally, Chapter 9 will briefly discuss what the present theory predicts for another topic that is closely related to the topic of clause chaining constructions, namely switch-reference marking.

2. Properties of Medial Constructions

In this chapter, I introduce the general morphosyntactic properties of medial constructions. Then, I will focus on the question whether these constructions are structurally coordinate or subordinate. For this purpose, I will apply the standard tests which distinguish coordinate and subordinate structures to medial constructions in different languages. These tests yield, as we will see, contradictory results and hence support the claim that clause chaining constructions are neither canonically subordinate nor canonically coordinate.

2.1. The Morphological Form of Medial Clauses

We have seen a prototypical example of a medial clause chain from Kâte above. A similar example from Tauya, another clause chaining language, is given below. The following sentence consists of nine distinct clauses and, again, only the final verb is fully specified (for indicative mood). In Tauya, all non-final verbs bear nothing but a marker glossed as *medial*, which also encodes the category of switch-reference. Again, the first eight verbs cannot be inflected for tense or mood but nevertheless they are all interpreted as if they bore the indicative mood marker located at the final verb.

2. Properties of Medial Constructions

(1)   [Nono imai-te-pa   ] [mai   mena-a-te   ] [pai aʔ-ate-pa]
          [child 3.SG.carry-get-MED.SS] [come.up stay-3.SG.-MED.DS] [pig hit-MED.SS]
          [nono wi   nen-fe-pa   ] [yene   wawi wi   nen-fe-pa   ]
          [child show 3.PL-TR-MED.SS] [sacred flute show 3.PL-TR-MED.SS]
          [mene-pa   ] [pai aʔate-ti tefe-pa   ] [ʔeʔeri-pa   ] [toto-iʔ-a   ]
          [stay-MED.SS] [pig hit-CONJ put-MED.SS] [dance-MED.SS] [cut-3.PL-IND]
          'She carried the child and came up and stayed; and they killed the pigs and
          showed them to the children and they showed them the sacred flutes and stayed
          and they killed the pigs and put them and they danced and cut (the pigs).'

Tauya: MacDonald (1990, p.361)

The previous examples showed that medial clauses are (usually) inflected. Often, they are inflected for relative tense as in the Kâte example above (1). These markers encode whether the event described by the medial clause and the event in the following medial clause (or the final, finite verb) happen simultaneously or successively. In many languages, medial verbs are also inflected for person and number features of their respective subjects. In both examples above, the medial verbs are also marked for switch-reference, another category frequently found on verbs within a clause chain. According to the standard definition of switch-reference, these markers indicate whether the subject of a clause is identical to the subject of the immediately following clause. In case of identical subjects, the verb bears a same subject marker (glossed as SS), whereas in case of non-identical subjects, a different subject marker appears (glossed as DS). As one can see in the example from Tauya (in (1)), the non-final verbs in clause chaining constructions can also bear a so-called medial marker, which only indicates that the marked verb is a medial verb, i.e. that it is dependent on the last verb of the chain.

There are a number of other categories which occasionally appear on medial verbs. Usually, medial verbs can be marked for voice/diathesis such as passives, causatives, etc. Not all (but some) languages allow for medial verbs to be negated independently. The same holds for aspectual categories. Some languages allow medial verbs to bear an

aspect different from the aspect of the final verb, some languages do not. An example from Mian, a Papuan language, is given in (2).

(2)   ngaan-b-e=a   naka=i   wente-n-ib=a   ...
        call.IPFV-DS.SIM-3SG=MED man=PL hear.PFV-SS.SEQ-3PL=MED ...
        'When he was calling, the mean hear him, and then they....'

<div align="right">*Mian:* Fedden (2007, p.390)</div>

In Mian, aspect is expressed by the choice of stem and medial verbs are built on the basis of these stems as well. Hence, they are sensitive to the perfective/imperfective distinction as well.

A more detailed investigation of which categories appear in medial clauses and which do not will follow in Chapter 4.2.1. For now, it is sufficient to note that medial clauses are nonfinite and that they depend on features of the finite verb (which is usually the final one). In the next section, the syntactic properties of medial clauses are discussed. As we will see, the standard tests to determine the clausal relations in complex constructions do not yield conclusive results when they are applied to medial clauses.

2.2. The Syntactic Properties of Medial Clauses

In this section, we will apply the standard tests to clause chaining constructions established in the literature to determine whether medial clauses behave like coordinate or like subordinate clauses.[1] First, we apply what is known as the deranking criterion (cf. Stassen (1985); Diessel (2001); Yuasa and Sadock (2002); Yuasa (2005)[2]). It formalizes the intuition that if medial clauses are nonfinite and morphosyntactically dependent on the values of the finite verb, then this suggests that they are subordinate to it. Ac-

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[1] For a discussion of these tests and their validity see Haspelmath (2007).

[2] In Zwicky (1985) and Kazenin and Testelets (2004), a similar criterion called *the morphosyntactic locus test* is applied

cording to Diessel (2001), deranking is restricted to subordinate structures and thus provides a feasible testing ground for clausal relations.[3]

In the previous section, we already saw that only one verb (usually the final one) in a clause chain is fully specified for all relevant morphosyntactic features. In example (1), this was shown for mood. However, this also applies to a whole range of categories such as other modal categories (hypothetical future in (3)), clause type (imperative in (4)), tense (past tense in (5)) or polarity (negation in (6)).

(3)   kôt   [Hwajitxi=ra hwĩsôsôk to   nhy=nhy] [Ajuwelu=ra hrõn=ne mbra]
         HYP.FUT H=NOM   paper   with sit.DS   A=NOM   run.SS stay
         'H. could be writing and then A. could be running.'

<div align="right">

Kĩsêdjê: Nonato (2013, p.9)

</div>

(4)   tekekeʔe:k   šʔa:pa-ta ke-yaše-w
         in.that.bush hide-SS   1SG.O-watch-IMP
         'Hide in that bush and watch me'

<div align="right">

Tonkawa: Hoijer (1949) as cited in Foley (2010, p.28)

</div>

(5)   gwa gihali sufwa-∅-a-mbo, stroperi   imbu hihiri-∅a-mbo,   ser-iha-hwa
         but hunger feel-SS-1SG-MED strawberry two   steal-SS-1SG-MED eat-1SG-PAST
         'But then I was hungry and I stole two strawberries and I ate them.'

<div align="right">

Menggwa Dla: de Sousa (2013, p.3)

</div>

(6)   é   ayam bi-ø-e=a   bib   óló
         3SG good stay.IPFV-SIM-3SG=MED place DEM
         haa+biaan-e=ta   ya-temaa-m-e-ba   kesoa...
         roam+AUX.IPFV.SS.SIM-3SG=MED PL.DO-see.PFV-3SG-NEG so
         'He wasn't well and he couldn't walk around this place and see them, so...'

<div align="right">

Mian: Fedden (2007, p.432)

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[3]Interestingly, the only exception to Diessel's rule that deranking affects subordinate structures concerns medial clauses. Diessel takes medial clauses to be coordinate and as evidence he cites some of the other tests that we take a look at below. However, since medial clauses do not yield conclusive results with respect to these other tests anyway, I see no reason not to apply the deranking test to medial clauses as well.

In (6), for example, we see that only the final verb *temaa* ('see') is marked for negation. Nevertheless, all other verbs are also interpreted as if they were negated. This suggests that the negation of the final verb has scope over all medial verbs preceding it. And since such scopal dependency is only found with subordinate but not with coordinate structures, the deranking test supports the view that we are dealing with a subordinate relation between the medial clauses and the finite clause.

The second test concerns the extractability of elements from out of these clauses. It is well-known that elements can be extracted from subordinate structures while extraction from coordinate structures is problematic (giving rise to e.g. the Coordinate Structure Constraint (CSC) in Ross (1967)). Hence, extraction is a viable test to distinguish coordinate from subordinate structures. If it is possible to extract elements asymmetrically from one clause in a chain, then this suggests a subordinate relation. And indeed data from different clause chaining languages suggest that elements can be extracted asymmetrically from clause chains:[4]

(7)   Mba'e=pa ava o-u   ramo ja-j-apo   'rã?
       what=Q   man 3-come DS   1+2-3-make FUT
       What, when the man comes, will we do?

<div align="right">

Mbyá Guarani: Dooley (2010*b*, p.106)

</div>

(8)   wâtâ=n   ka ø-khajtu=nhy   Canarana mã thẽ=n a-mã   khu-py?
       what=FACT 2 3.ABS-order=DS C.   LOC go=SS 2.ACC-to 3.ACC-get
       'What$_i$ is such that you ordered him, he went to C. and bought it$_i$ for you?'

<div align="right">

Kĩsêdjê: Nonato (2013, p.8)

</div>

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[4]Since many clause chaining languages usually keep their questioned elements in situ, you actually do not find too many examples of this type in the literature. There are, however, much more examples which show that medial clauses can contain wh-words for example. (i) is an example from Tauya.

(i)   fofe-i-te   wame nen-tu-a-e
       come-3.PL-DS what 3.PL-give-3 see-3.SG=Q
       'They came and what did he give them?'   *Tauya:* MacDonald (1990)

Under the assumption that wh-elements remaining in-situ are extracted covertly, much more examples of extraction from medial clauses can be found.

(9)   Katah-oosh$_i$ John-at   taloowa-nah t$_i$ hilhah?
        who-FOC.NOM John-NOM sing-DS   t   dance
        'Who$_i$ did John$_j$ sing and t$_i$ dance?' (=Who danced while John was singing?')

Choctaw: Broadwell (1997, p.11)

In these examples, elements from a non-initial medial clause occur in the leftmost position of the clause. As these elements are interpreted as the objects of only one verb in the chain, these examples are instances of asymmetric extraction. Extraction of this type is impossible with regular symmetric coordination as ruled out by the Coordinate Structure Constraint (CSC). Compare the minimal pair in (9) and (10).

(10)   *Katah-oosh$_i$ John-at   taloowa-tok anoti t$_i$ hilhah-tok?
          who-FOC.NOM John-NOM sing-PAST   and   t dance-PAST
          'Who$_i$ did John$_j$ sing and t$_i$ dance?'

Choctaw: Broadwell (1997, p.11)

(10) is, according to Broadwell (1997, 2006), an example of standard clausal coordination in Choctaw. As we see, this construction obeys the Coordinate Structure Constraint. In contrast to the medial construction in (9) above, extraction from a single conjunct of regular clausal coordination is ungrammatical.

Since the Coordinate Structure Constraint is generally assumed to be a quite robust test for our purposes, the examples above strongly suggest that clause chains are not a coordination structure, at least not a prototypical one.

The third test involves extraposition and center embedding. It is a well-known fact that subordinate clauses are more flexible in their positioning with respect to their matrix clauses than coordinate clauses. There is usually only one order possible with conjoined clauses, namely the order in which the events occur. Thus a clause like (11) means that the *'going to the bookstore'*-event occured before the *'buying the new bestseller'*-event and not vice versa.

(11)   Peter went to the bookstore and bought the new bestseller.

Also, clauses in a coordinate relation cannot undergo movement such as extraposition. The Coordinate Structure Constraint not only restricts movement out of one of the conjuncts but also movement of one conjunct as a whole. Constructions like (12) are completely ungrammatical.

(12)   a. *And bought a new bestseller, Peter went to the bookstore.

         b. *Bought a new bestseller, Peter went to the bookstore and.

With subordinate clauses, the order is more flexible. Subordinate clauses may either precede or follow their matrix clauses, irrespective of the order of events. Furthermore subordinate clauses may also appear embedded into the matrix clause.

(13)   a. After Peter went to the bookstore, he bought the new bestseller.

         b. Peter bought the new bestseller after he went to the bookstore.

         c. Peter, after he went to the bookstore, bought the new bestseller.

Hence, we must test whether a medial clause can appear before and after the finite clause it depends on and whether it can even be embedded into the finite clause. If it can, then this again suggests a subordinate relation. If not, this hints at a coordination structure.

As can be seen below, medial clauses are fixed in their position. They can neither appear after the finite clause (14-a) nor embedded in it (14-b). Both examples are ungrammatical. If the medial clause precedes the main clause, the example is grammatical (14-c).

(14)   Clause Chaining Constructions:

    a. *Dana age qo-ig-a   [ho busale-ce-b   ]
       man   3SG hit-3PL-TOD.PAST [pig run.out-DS-3SG]
       'The man killed it and the pig ran out.'

    b. *Dana age [ho busale-ce-b   ] qo-ig-a
       man   3PL [pig run.out-DS-3SG] hit-3PL-TOD.PAST
       'The pig ran out and the men killed it'

    c. [Ho busale-ce-b   ] dana age qo-ig-a
       [pig run.out-DS-3SG] man   3SG hit-3PL-TOD.PAST
       'The man killed it and the pig ran out.'

Amele: Roberts (1988*a*, p.55f)

Kazenin and Testelets (2004) have argued that this test might yield misleading results if the rigidity of the word order of a certain language is not taken into account. However, as can be shown for Amele, this test distinguishes subordinate from coordinate clauses. Parallel to English, subordinate clauses in Amele can appear before (15-a), after (15-b) or within (15-c) their main clause, while coordinate clauses can only appear in the temporal order of the events they describe.

(15)   Adverbial Subordinate Clause:

    a. [Ija ja hud-ig-en   fi] uqa sab man-igi-an
       [1SG fire open-1SG-FUT if] 3SG food roast-3SG-FUT
       'If I light the fire, she will cook the food.'

    b. Uqa sab man-igi-an   [ija ja hud-ig-en   fi]
       3SG food roast-3SG-FUT [1SG fire open-1SG-FUT if]
       'She will cook the food if I light the fire.'

    c. Dana age [ho qo-qag-an   nu   ] ho-ig-a.
       man   3PL [pig hit-3PL-FUT PURP] come-3PL-TOD.PAST
       'The men came to kill the pig'

Amele: Roberts (1988*a*, p.54f)

(16)   Coordinate Clauses:

    a. *[Uqa sab mane-i-a   ] ija ja hud-ig-a   qa.
        [3SG food roast-3SG-TOD.PAST] 1SG fire open-1SG-TOD.PAST but
        'She cooked the food but I lit the fire.'

    b. *Dana age [ho busale-i-a   ] qa   qo-ig-a
        man 3.PL [pig run.out-3SG-TOD.PAST] and hit-3PL-TOD.PAST
        'The pig ran out and the men killed it'

<div align="right">

Amele: Roberts (1988*a*, p.54f)

</div>

The same ordering restrictions can be observed in Choctaw. Medial clauses in Choctaw can neither be center-embedded (cf. (17-a)) nor extraposed to the right (cf. (17-b)).

(17)   a. *Bill-at   [John-at   hiilha-nah] taloowa-tok
        Bill-NOM John-NOM dance:L-DS sing-PAST
        'Bill sang while John danced.'

    b. *Bill-at   taloowa-tok [John-at   hiilha-nah]
        Bill-NOM sing-PAST   John-NOM dance:L-DS
        'Bill sang while John danced.'

<div align="right">

Choctaw: Broadwell (1997, p.13)

</div>

Similar evidence can be drawn from other clause chaining languages like Korean in (18) or Tsakhur, a Daghestan language, in (19). In both languages, embedding a medial clause into its finite host is ungrammatical.[5]

(18)   *Mary-ka   [John-i   yakwu-lul   cohaha-ko] nongkwu-lul
      Mary-NOM [John-NOM baseball-ACC like-MED   ] basketball-ACC
      silheha-ess-ta
      dislike-PAST-DECL
      'John liked baseball and Mary disliked basketball'

<div align="right">

Korean: Kwon and Polinsky (2008, p.5)

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[5]The cases of Korean and Tsakhur will be investigated more closely in Chapter 7. There it is shown that even though center embedding of medial clauses seems to be grammatical in some cases, this is only apparent counterevidence against the argumentation here. I will show that cases in which center embedding is allowed can be uniformly analyzed as converbs instead of medial clauses. Since converbs are unambiguously subordinate, the possibility of center embedding is expected.

(19) *zɨ [še-na   solulqa ark'ɨn   ] ǯiga-j-lj   aX-u.
      1SG [he-ATTR.MASC to.the.left leave.PFV.MASC] place.OBL-SUP stay-PFV
      'He having gone to the left, I stayed.'

<div align="right">*Tsakhur:* Kazenin and Testelets (2004, p.235)</div>

The last test we will apply here concerns the reference of pronouns. Only subordinate clauses allow for cataphoric pronouns/backwards pronominalization, i.e. for pronouns which precede their host (cf. (20-b)). Coordinate clauses do not (cf. (20-b)).

(20)   a.   After he$_i$ went to the bookstore, Peter$_i$ bought the new bestseller.

       b.   *He$_i$ went to the bookstore and Peter$_i$ bought the new bestseller.

This test is, of course, only applicable in languages with overt pronouns. One of the clause chaining languages with pronouns is Amele, which has the overt third person singular pronoun *uqa*. Here, this test is applicable and, as we can see in (21) below, it distinguishes coordinate from subordinate clauses:

(21)   Possibility of backward pronominalization in Amele

        a.   (Uqa$_i$) sab j-igi$_i$-an   nu Fred$_i$ ho-i$_i$-a.
             3SG   food eat-3SG-FUT for Fred come-3SG-TOD.PAST
             'Fred came to eat food'   *Subordination*

        b.   *Uqa$_i$ ho-i$_i$-a   qa Fred$_i$ sab qee je-l-ø.
             3SG   come-3SG-TOD.PAST but Fred food not eat-3SG-NEG.P-3SG
             *'He$_i$ came but Fred$_i$ did not eat the food'   *Coordination*

<div align="right">*Amele:* Roberts (1988*a*, p.57)</div>

In (21-a) the pronoun is optional. This is not surprising since Amele is a pro-drop language. However, in (21-b), using an overt pronoun is ungrammatical if the subjects in both clauses are identical. If such a pronoun is licit in medial clauses, the construction behaves like subordinate clauses. However, we find that an overt pronoun referring to

the subject of the finite clause is ungrammatical in medial clauses:

(22)   *Uqa$_i$ bil-i-me-i   Fred$_i$ je-i-a.
         3SG sit-PRED-3SG-SS Fred eat-3SG-TOD.PAST
         *'He$_i$ sat and Fred$_i$ ate'   *Amele:* Roberts (1988*a*, p.57)

The same observation can be made in Korean. Here, the anaphor *caki-ka* is not licensed in the first clause of a clause chain even though its host *Tom-i* immediately follows in the finite clause:

(23)   *caki$_i$-ka Sue-lul cohaha-ko Tom$_i$-i   John-ul   silhehay-ss-ta.
         self-NOM Sue-ACC like-MED   Tom-NOM John-ACC dislike-PAST-DECL
         'He$_i$ likes Sue and Tom$_i$ disliked John.'

                              Korean: Kwon and Polinsky (2008, p.5)

We can thus conclude that, according to the backwards pronominalization test, clause chaining constructions behave like coordinate clauses.

2.3. Summary

The following table gives a summary of how clause chaining constructions behave with respect to each test:

(24)   Summary of syntactic properties of clause-chaining constructions:

	Subord	Coord
Deranking Test	✓	
Extraction Test	✓	
Backwards Pronominalization Test		✓
Center Embedding and Extraposition		✓

With respect to the first two tests, namely the deranking test and the extraction test, medial constructions behave like subordinate ones: Medial clauses are morphologically dependent on the finite verb at the end of the chain. Furthermore, we have seen that one can extract out of any clause within a clause chain without violating the Coordinate Structure Constraint. These two tests, which are generally assumed to be quite reliable, strongly suggest a subordinate relation between a medial clauses and the finite clause. However, the backwards pronominalization test, as well as the data on center embedding and extraposition, indicate a coordinate relation. Coordinate structures do not allow for backward pronominalization and the same holds for medial constructions. Center embedding and extraposition is only possible with subordinate clauses. It is ungrammatical with coordinate clauses and medial clauses.

In the literature on medial constructions, there is disagreement whether these constructions should be treated as instances of coordination or subordination. Most of the researchers working on languages in South East Asia, Papua New Guinea and Australia hold the opinion that these are essentially coordinate (see e.g. Haiman (1980, 1983); Comrie (1983); Franklin (1983); Reesink (1983); Roberts (1988*a,b*)). Similar statements about other languages from South America can be found in Dooley (2010*a*); Nonato (2013). However, others such as Finer (1985); Broadwell (1997) analyze clause chaining constructions as cases of subordination. Finally, several survey articles on clause chaining argue that these constructions are neither subordinate nor coordinate or, as Longacre (1983) puts it, with clause chaining *"the notions of coordination and subordination are suspended."* (for this view see Olson (1981); Longacre (1983); Foley and van Valin (1985); van Valin (1993); Haspelmath (2007)).

This disagreement in the literature with respect to the clausal dependencies in clause chaining constructions is not surprising given the results of the tests we have seen

in the previous section: The extraction test based on the Coordinate Structure Constraint and the deranking test hint at a subordinate relation while the center embedding/extraposition test as well as the backwards pronominalization test hint at a coordinate relation.

At first sight, these results may be interpreted in favor of the analyses which treat medials as instances of subordination because the deranking test as well as the test based on the Coordinate Structure Constraint are generally both taken to be very robust. On the other hand, the backwards pronominalization test as well as the center embedding/extraposition test have both been criticized in the literature. Tests of clausal dependencies based on binding relations are potentially misleading if the clause structure and the exact nature of these anaphors and pronouns within a given language are not sufficiently explored. Similarly, Kazenin and Testelets (2004) argued that extraposition and center embedding are not always reliable indicators of clausal dependencies, especially in languages with free word order and parenthetical intonation patterns.

However, the mere number of proponents in the listing above indicates that most researchers would vote in favor of the coordination analysis. The reason is that, irrespective of syntactic tests, the use of clause chaining constructions resembles much more the use of coordinate clauses. We have seen that medial clauses do not only provide presupposed background information for their host clause but that they are part of the "mainline of discourse" (Longacre 2007) themselves. Hence, it is implausible to say that the coordinate behavior with respect to the last two tests is just due to inconclusive tests. We may thus conclude that clause chaining constructions can indeed not be subsumed under one category. They seem to be both instances of coordination and subordination at the same time.

The question that immediately arises from this conclusion is of course how this pattern may be derived within generative frameworks. Most of the popular frameworks do

not allow for clause junctures which are neither coordinate nor subordinate (or which are both). The *Role and Reference Grammar* framework introduced a new label for these kinds of clause junctures, namely *cosubordination*, and analyzed them as [+dependent, –embedded] which captures the intuition but is nevertheless a mere restatement of the facts observed (cf. discussions in Foley and van Valin (1985) or van Valin (1993)).

Even worse, frameworks such as *Government and Binding Theory* or *Minimalism* do not even allow for such a trivial solution. In these frameworks, two connected clauses must either be coordinate or one clause must be subordinate to the other. Hence, a behavior in between these two categories is very hard to account for and thus poses a serious challenge for these kinds of theories. We will see in the next section that existing Minimalist theories indeed have a hard time accounting for all of the syntactic properties of medial constructions.

3. Previous Analyses

There are a number of previous approaches which try to analyze medial constructions within the frameworks of Government and Binding Theory or the Minimalist Program. However, in most of these works, the topic of medial clauses or clause chaining only plays a minor role and appears to be a mere by-product of an analysis which deals with the more prominent topic of switch-reference marking. Perhaps this is the reason why none of these approaches can do justice to both, the subordinate and the coordinate properties of medial constructions.

3.1. Subordination Approaches

The first generative approach to clause chaining is found in Finer (1984). Since the topic of this work is a theoretical account of switch-reference marking, Finer must necessarily give a structure on the basis of which his switch-reference mechanism can apply. The data from Hua which Finer discusses are prototypical medial clause examples. Only the final verb can be marked for finiteness, negation and mood. Medial verbs can only be inflected for person and number of their respective subjects and aspectual features but they depend on the finite verb for the higher categories.

(1) ri   fi'a-ro   bro-ro-'da   igari' fera na   ko-e
     firewood rack-LOC   put-PFV-1SG   spider big thing see-1SG.FIN
   'I put some firewood on the rack and I saw a big spider'

Hua: Haiman (1980)

3. Previous Analyses

In lack of other conclusive arguments Finer takes this morphological dependence as an indicator for a subordinate relation even though he seems to be aware this is not the whole story of these constructions as he states in a footnote to section IV:

> Although it may be an oversimplification, I am assuming that the medial clause is not coordinate with the main clause at any level and is simply adjoined to S with no intervening NP node.　　　　(Finer, 1984, p.157)

Hence, he makes the assumption that the basic structure of switch-reference marking in subordinate clauses he proposes can be transferred to the case of medial clauses. In this structure, the medial clause (S_1) is adjoined to the matrix clause (S_2), and since the complementizer of the subordinate clause varies with respect to whether the subjects of both clauses are the same or not, the result is a switch-reference marker. Technically, this variation is derived by means of binding theory. The complementizer in between these two clauses can either be a bound anaphor in the case of a same-subject relation or an unbound pronominal in the case of a different-subject relation.

(2)
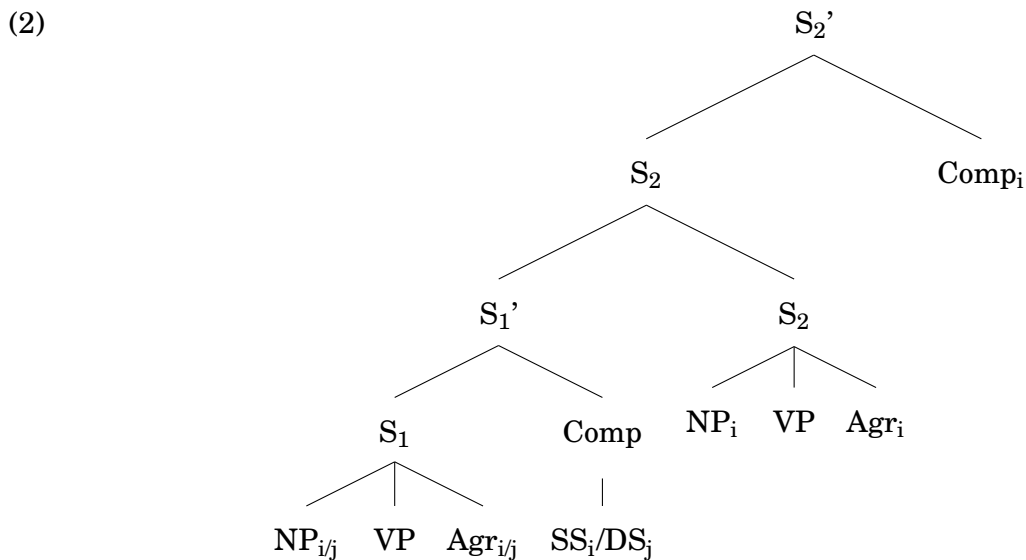
It is clear that this structure cannot do justice to the complex behavior of the clause chaining constructions we have seen in Chapter 2. It is, of course, compatible with the

subordinate properties of the construction, but the coordinate ones are totally unexpected.

However, it was because of this proposal that typologists working on relevant languages started to investigate the syntactic properties of medial clauses. Most prominently, Roberts (1988*a*,*b*) argued on the basis of the data from Amele that clause chaining constructions are not subordinate in nature and that they rather resemble coordinate constructions. As we have seen in the preceding section, the data which Roberts gives show that clause chaining constructions are in a fixed order and medial clauses cannot contain cataphoric pronouns.

Partly in response to the argumentation by Roberts, Broadwell (1997) argues on the basis of data from Choctaw and Chichewa that medial clauses are not in a coordinate relation either, which can be seen from the fact that extraction from a medial clause does not violate the Coordinate Structure Constraint. Thus, Broadwell proposes a modified analysis which tries to incorporate the new findings but still allows for Finer's switch-reference mechanism to apply. According to Broadwell, a medial clause is merged as a specifier of a TenseP which is part of the clausal spine of the matrix clause:

(3)

TenseP

     CP   Tense'

  AgrP   Comp$_j$ AgrP   Tense+Agr$_i$

NP$_j$ Agr'   NP$_i$ Agr'

  ...VP...   ...VP...
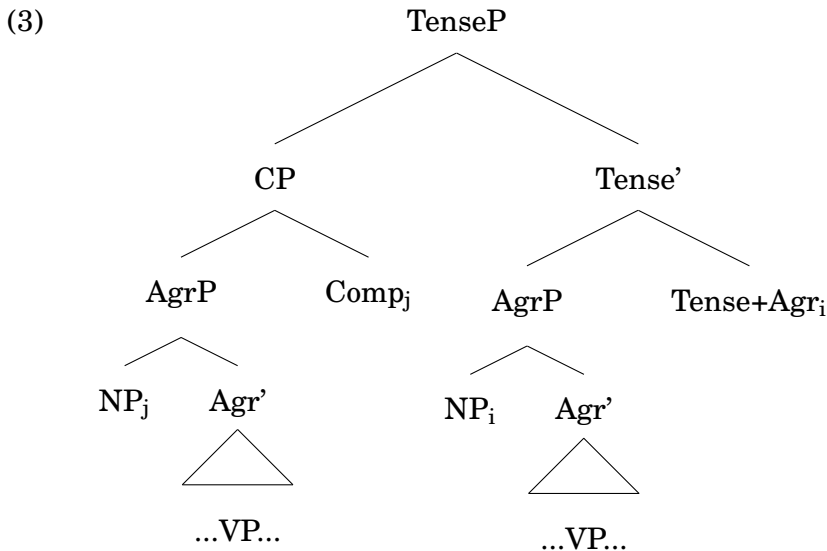
3. Previous Analyses

The morphosyntactic dependence of the medial clause in the specifier of TenseP is de-
rived because it is m-commanded by the Tense-head as well as higher categories such
as C of the matrix clause. The fixed order of clauses follows from the fact that medial
clauses are, in this approach, specifiers and no longer adjuncts. Thus, it is expected that
they are linearized to the left of the matrix clause.

However, there are a number of problems: First, it is unclear how the other coor-
dinate properties are derived. There is no coordinate structure present. The medial
clause is an argument of a Tense-head, a position comparable to the one of a clausal
subject. And since clausal subjects allow for backward pronominalization (as in (4)), the
ungrammaticality of medial clauses containing a cataphoric pronoun is unexpected.

(4)   That he wasn't able to solve the puzzle bothered Alan the whole day.

Second, the same problem arises with extraction. Broadwell's argumentation that me-
dial clauses are not in a coordinate relation with the matrix clause was based on the
fact that one can extract out of them. However, he does not address the question how
this kind of extraction can be derived. I do not have data on extraction from subject
clauses in Choctaw but usually, subject clauses are not transparent for extraction (see
the English example in (5)).[1] If that is the case for subject clauses in Choctaw as well,
this is another inconsistence that needs an explanation.

(5)   *What$_i$ that Alan wasn't able to solve t$_i$ bothered him the whole day.

Third, this approach faces immediate problems when more than one medial clause is
involved. We have seen that clause chains can be very long, consisting of twenty clauses
and more. Broadwell does not address the issue of multiple medial clauses but as far

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[1]This observation has been formalized in what is called the (Sentential) Subject Condition (see Ross
    (1967); Chomsky (1973); Huang (1982); Chomsky (1986); Freidin (1992)).

as I can tell, there is only one possible solution.[2] The TenseP would have to allow for multiple specifiers. However, this raises immediate problems for the binding approach to switch-reference because, in that case, we would expect all medial clauses to compare their respective subjects with the one of the matrix clause. This prediction, however, is definitely not borne out. In the vast majority of switch-reference constructions, the subject of each medial clause is compared with the subject of the immediately following clause to determine whether to use a same-subject or a different-subject marker.

(6) [ra fisi-pie   ] [fahare-râ   ] [yâpeʔ-yopa-pie   ]
     [go arrive-SEQ.3PL.DS] [rise-SEQ.SS] [chase.away-3PL.DO-SEQ.3PL.DS]
     [mafa-yeŋiʔ   behe-râ   ] [wise-pie   ] [fiuʔ
     [stuff-3PL.POSS throw.away-SEQ.SS] [flee-SEQ.3PL.DS] [illicitly
     ro=fâre-mbiŋ   ].
     take=all-3PL.REM.PAST]

     'When they$_i$ (the foreigners) arrived, they$_j$ (the villagers) got up and chased them away. They$_i$ threw away their stuff and fleed. Then, they$_j$ stole their stuff.'

         Kâte (Trans-New-Guinea): Pilhofer (1933) (as cited in Bickel (2011))

In (6), we see that each verb compares its own subject to the subject of the immediately following clause. The verb *yâpeʔ* (chase) has the same subject as the final verb but it still bears a different-subject marker. The reason is that it compares its subject to the subject of the immediately following verb *behe*.

To sum up, both Finer's (1984) approach as well as Broadwell's (1997) refinement are not empirically adequate to derive the syntactic properties of clause chaining constructions. Finer's approach derives the subordinate properties of clause chaining constructions but neglects the coordinate properties, and Broadwell's approach tries to incorporate some of the coordinate properties (such as the fixed order of clauses) but provides

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[2]Another possibility would be that any medial clauses can contain its own Tense projection. This would give rise to the possibility of recursive embedding of medial clauses. However, Broadwell explicitly assumes that medial clauses do not contain a Tense projection to derive the one-event interpretation of clause chains.

no answers to the questions why backward pronominalization is disallowed in medial clauses and why extraction out of medial clauses is grammatical.
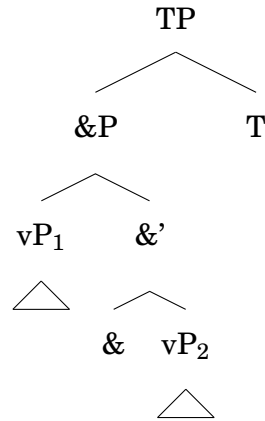
3.2. Coordination Approaches

Since the subordination approaches to clause chaining suffer from a number of theoretical problems, Keine (2013) and Nonato (2013) tried to turn the table and explain the syntactic properties of medial clauses on the basis of a coordinate analysis.[3] Such an approach naturally accounts for the coordinate properties of medial constructions but creates the problem of how to explain the subordinate properties. Thus, the most interesting questions are how the coordination analyses deal with the facts that medial clauses are morphosyntactically dependent on the final verb within a chain and that one can extract out of a medial clause without violating the Coordinate Structure Constraint.

As for the first question, Keine (2013) and Nonato (2013) both pursue the same strategy. In both analyses, medial clauses are relatively small categories. In Keine's work, same-subject clauses are VPs, whereas different-subject clauses are vPs. In Nonato (2013), both types of clauses are vPs. Hence, the coordination of these clauses is c-commanded by only one higher head (T or Infl) which gives rise to the interpretational effect that each medial clause is interpreted as if it were inflected for the same tense/mood value as the final verb. This is illustrated in (7).[4]

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[3]Note, however, that Nonato (2014) rejects the coordination approach for various reasons and develops an analysis along the lines of Finer (1984). Since, however, I got access to Nonato (2014) only immediately before the submission of this thesis, I cannot discuss all implications here at length.

[4]The tree in (i) is an abstract version of tree (5) in Keine (2013). Nonato (2013) is not explicit about the structure of the phrase heading the chain but it seems that what he has in mind is quite similar.

(7)

```
                          TP
                         /  \
                      &P      T
                     /  \
                  vP₁    &'
                   △    /  \
                       &    vP₂
                             △
```

T scopes over each medial clause and hence, it is not surprising that every clause is interpreted as having the same tense. Another important property of T is that it is right-headed in most clause chaining languages and that it postsyntactically cliticizes onto the final verb phrase in a chain. Since most clause chaining languages are also SOV, the host of the T-clitic is the final verb of the final verb phrase, thus giving rise to the illusion that the final verb is specially marked.

(8)   The tree above in (7) is linearized as:

vP$_1$ » & » vP$_2$+T

We have seen that medial clauses often do not show the full feature specification. Hence, it is plausible to assume that they are in some sense featurally defective. Since this kind of analysis intuitively associates this featural defectiveness and the morphosyntactic dependency, this is a nice explanation for the latter.

The second subordinate property that needs an explanation is the question of extraction. Extraction from one medial clause is unexpected if all medial clauses are in a coordinate relationship. In order to find an explanation for these facts, both Keine and Nonato allude to cases of asymmetric coordination in English which also allow for extraction. However, the analogy between these two phenomena is incomplete. Extraction

out of medial clauses is possible out of each conjunct but extraction out of asymmetric coordination constructions may only apply out of the final conjunct:

(9)   a.   What$_i$ did John go to New York and buy _$_i$?   (Keine, 2012, p.152)

        b.   *What$_i$ did John buy _$_i$ and go to New York ?

In order to derive this difference, Nonato (2013), following Postal (1998), assumes a language-specific constraint which determines whether conjuncts are strong islands or not. In clause chaining languages, none of the conjuncts are strong islands, in English only the non-final conjuncts are strong islands and in languages like French or German all conjuncts are strong islands. Obviously, this kind of generalization only restates the observed facts in more theoretical terms and does not contribute to a better understanding of the phenomenon.

Keine's explanation for the extraction data remains sketchy as well. He cites de Vos (2005) and Harris (2011) for an argument which says that the Coordinate Structure Constraint may be violated if the coordination applies very low (i.e. at the VP level or even with bare V coordination). However, this explanation only covers Keine's cases of serial verb constructions and maybe a number of same-subject clauses which involve VP-coordination in Keine's work. But it does not serve as an explanation for most of the cases we have seen in Chapter 2. In example (9) from Chapter 2 (repeated in (10)), both clauses have different grammatical subjects. Hence, the conjuncts must be at least vPs and, thus, extraction should be impossible.

(10)   Katah-oosh$_i$ John-at   taloowa-na t$_i$ hilhah?
        who-FOC.NOM John-NOM sing-DS   t dance
        'Who$_i$ did John$_j$ sing and t$_i$ dance?' (=Who danced while John was singing?')

                                                        Choctaw: Broadwell (1997, p.11)

We see that neither Keine (2013) nor Nonato (2013) provides a satisfying answer why

extraction out of medial clauses is possible. A second point of criticism concerns cases of asymmetries between verbs within a chain. Both Keine (2013) and Nonato (2013) predict that there should be no asymmetries between verbs within a chain unless these asymmetries can be deduced from the linear order (i.e. from the adjacency/non-adjacency of T/Infl). However, upon closer inspection, we find such cases:

First, one such asymmetry concerns the category of relative tense. We have seen that in many of the clause chaining examples, all non-final verbs are marked for whether they encode simultaneous or successive events. Apart from the question which functional head this category is located on,[5] we may ask the question why the final verb is not inflected for relative tense. Since, in the coordination approach, all verbs within a chain are ranked equally, there is no straightforward explanation why non-final verbs are inflected for this kind of temporal relation but the final verb is not. To solve this problem, one would have to assume that postsyntactic cliticization of T/Infl suppresses the realization of relative tense on the final verb but that would be a very unusual process.

Second, such asymmetries can also occasionally be found with other functional categories such as negation or illocutionary force (clause type). In (11), we see that negation can either take scope over the whole clause chain (as in (11-a)) or over the final verb within a chain (as in (11-b)). It is not possible, however, to negate the non-final verb in a chain without negating the final one (as shown in (11-c)).

(11) a. Ho qee busale-ce-b   dana age qo-l-oin.
          pig not run.out-DS-3SG man 3PL hit-NEG.PAST-3PL
          'The pig did not run out and the men did not kill it.'

      b. Ho busale-ce-b   dana age qee qo-l-oin.
          pig run.out-DS-3SG man 3PL not hit-NEG.PAST-3PL
          'The pig ran out and the men did not kill it.'

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[5]This question turns out not to be so trivial. A straightforward solution would be to assume a functional projection above vP (similar to an aspectual projection) but this solution is not compatible with the approach in Keine (2013) where the size of the medial clauses plays an important role.

    c. *Ho qee busale-ce-b   dana age qo-ig-a.
         pig not run.out-DS-3SG man 3PL hit-3PL-TOD.PAST
         'The pig did not run out and the men killed it.'

<div align="right">

Amele: Roberts (1988*a*, p.52)

</div>

If all verbs in a chain are equal in a structural sense (as one expects under a coordination analysis), then these kinds of asymmetries cannot be derived. Scope effects are generally not affected by linearization processes such as cliticization. Hence, an asymmetry with respect to the scope of negation as in the example above cannot be reduced to lowering and cliticization of T/Infl.

A similar argument can be made with respect to the semantic scope of illocutionary force markers such as question particles or imperative particles. In (12), the hortative marker takes scope only over the final verb. The non-final verb is a regular declarative.

(12)   su?   kpeue-me   natsa-ndzepieŋ
       banana ripen-3SG.SEQ.DS 1PL.OBJ.tell-2PL.FUT.HORT

       'Let us know when the bananas are ripe'

       literally: The bananas will ripen and you tell us!

<div align="right">

Kâte: Suter (1992) as cited in Foley (2010, p.46)

</div>

The example from Tauya below indicates that a simple sentence can have a number of different readings depending on whether the question particle *nae* takes scope over the whole clause chain, over the first clause or over the second clause.

(13)   tepau-fe-pa yate fitau-a-nae?

       break-TRANS-SS go throw-2-Q

       'Did you break it and go away?' *or*

       'You broke it and did you go away?' *or*

       'Did you break it before going away?'   *Tauya:* MacDonald (1990, p.226)

It it pretty evident that these kinds of asymmetries are very hard to deal with in any theory, but it seems that they are especially problematic for a coordination approach. Under both coordination approaches, all conjuncts are of the same size and occur in the same position in the tree. Hence, we expect that an element which takes scope over one of the clauses also takes scope over all the other clauses.

Nevertheless, the coordination approaches seem to be more in line with the data than the subordination approaches discussed above. They successfully derive most of the major morphosyntactic properties of clause chaining constructions (except for the extractability) and side with the semantic and pragmatic intuitions of most of the people documenting clause chaining languages. Furthermore they seem to have substantially less problems when it comes to the question of how multiple medial clauses are implemented. In the next section, I will outline my own analysis and show that it can derive both the coordinate properties and the subordinate properties of medial clauses.

4. A Derived Coordination Approach to Medial Clauses

4.1. Theoretical Background

4.1.1. The Dichotomy of Coordination and Subordination

What we have seen so far is that medial constructions seem to violate the often assumed dichotomy of clausal relations. They are neither in a prototypically coordinate nor in a prototypically subordinate relation. This conclusion was drawn on the basis of a number of syntactic tests such as the deranking test, extractability, the backwards pronominalization test, or whether or not the order of clauses could be changed.

This finding is problematic for all frameworks which assume a strict dichotomy between subordinate and coordinate relations. Amongst these frameworks are those of the Chomskyan tradition such as Transformational Grammar, Government and Binding Theory, the Minimalist Program, etc. In all these frameworks the general assumption is that there are exactly two types of clausal relations, subordinate ones and coordinate ones.[1] These types are thought to be exhaustive and discrete since they derive from the basic principles of syntactic structure building: The relation between two clauses may be such that one clause is contained in the other or that both are juxtaposed on the

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[1] For an overview about the treatment of coordination structures in the early days of generative grammar see Dik (1968).

same hierarchical level:

(1)   Subordination: (2)   Coordination:
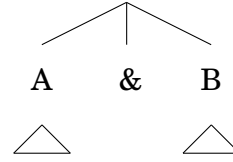
```
        A                                        ╱│╲
       ╱‾╲                                       ╱ │ ╲
      B    A                                    A  &  B
     ╱△╲  ╱△╲                                   △     △
```
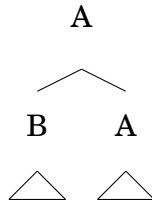
It is generally assumed that the syntactic properties of these clauses A and B follow directly from the structural relations between these clauses. Take the deranking test for example: An element within clause A is inflected for a certain feature F but we find that, even though clause B is not inflected for F, it is interpreted as if it was inflected for F as well. These kinds of feature inheritance are generally modeled by means of syntactic agreement which applies under c-command (or m-command). If we take the structure in (1) as a basis, elements within A (may) c-command elements within B. Thus, in (1), a morphosyntactic dependency relation is expected. However, in (2), elements contained in A can never c-command elements within B. These kinds of relations are unexpected in coordinate constructions.

Basically the same holds for the extraction test. Extraction is generally assumed to be subject to the Coordinate Structure Constraint (Ross 1967) which prohibits extraction from a coordinate structure. Thus, if we find that, in a complex structure, extraction took place from one clause, the structure we are dealing with must be a subordinate one.

So we must conclude that a construction which exhibits some syntactic properties of a subordinate clause and some other properties of a coordinate clause is not provided for in current syntactic theories. Hence, we find that clause chaining constructions pose a serious challenge for these theories.

However, recent work on clausal relations has brought to light that the structure in (2), which we assumed to represent coordinate structures, is probably not correct. Starting out with Munn (1987), quite a number of people have argued that coordination structures are asymmetric in a certain sense as well (see also Munn (1993); Kayne (1994); Johannessen (1998); Munn (1999a); Harbert and Bahloul (2002); Citko (2004); van Koppen (2006) and many others). The arguments put forward in this view were conceptual and empirical in nature. The conceptual arguments basically say that the structure in (2) is not compatible with syntactic structure building because (i) it is not binary branching and (ii) it is either non-headed or multiply headed (depending on one's definition).

Empirically, most of the arguments for an asymmetric structure of coordination are based on the topics of binding and partial conjunct agreement. As for the former, Munn (1993) discusses examples which clearly show that the first conjunct of a case of noun phrase coordination can bind elements within the second conjunct but not vice versa:

(3)   a.   Every man$_i$ and his$_i$ dog went to mow a meadow.
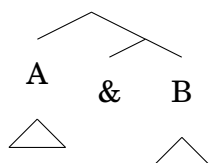
       b.   *His$_i$ dog and every man$_i$ went to mow a meadow.
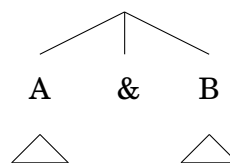
<div align="right">Munn (1993, p.16)</div>

Examples like (3) suggest that there is an asymmetric c-command relation between both conjuncts – something which falls out nicely from the structure in (4) but cannot be accounted for under the assumption that coordination is a flat structure as in (5).

(4) Asymmetric Structure: (5) Flat structure:

As for the second empirical argument, it is reported that in quite a number of languages coordination structures sometimes behave unexpectedly with respect to agreement. In Palestinian Arabic, a conjoined subject in preverbal position shows plural agreement because the features of the whole conjunction are taken into account (cf. (6-a)). In postverbal position however, the verb agrees only with the features of the first conjunct.

(6) a. ʔel-walad we-l-banaat gatal   ʔel-bisse
         the-boy   and-the-girls killed.3PL.MASC the-cat

     b. Gatal   ʔel-walad we-l-banaat ʔel-bisse
         killed.3SG.MASC the-boy   and-the-girls the-cat
         'The boy and the girls killed the cat.'

Palestinian Arabic: Johannessen (1998, p.31)

Again, this asymmetry can be derived a lot easier if one assumes a structural asymmetry between the two conjuncts. For some reason the process that resolves the number features of the whole conjunct seems to be suspended with postverbal subjects and hence the agreeing head probes for some other number features. Due to this asymmetry between the first and the second conjunct, the number features of the first one are closer to the probe. The second conjunct cannot participate in this agreement relation because it is embedded too deeply.

In the light of these data, the asymmetric approaches seem much more attractive.[2]

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[2]Though see Chapter 6 in Part III for a critical discussion of these arguments and some counterexamples involving Last Conjunct Agreement and more complex binding relations.

Thus, a number of theories of asymmetric coordination were developed which can roughly be grouped into two major classes: Adjunction approaches as in Munn (1993); Kayne (1994) and coordination phrase approaches (cf. Munn (1987); Zoerner (1995); Johannessen (1998)).[3]

In the adjunction approach, the second conjunct is selected by a coordination head forming an &P. The first conjunct, however, is integrated into the structure via adjunction. Either the first conjunct is adjoined to the &P as in Kayne (1994), or the &P is adjoined to the first conjunct as in Munn (1993), illustrated in (7) below.

The coordination phrase approach also assumes an &-head. In contrast to the adjunction approach, this &-head takes both conjuncts as arguments, one as a complement, one as a specifier.

(7) Adjunction Structure (as in Munn (1993)):
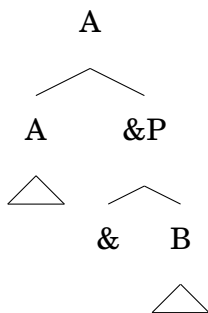
(8) Coordination Phrase Structure (as in Munn (1987)):
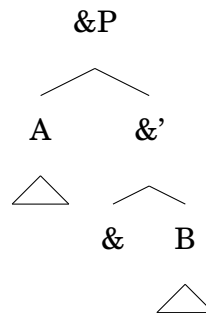
However, subsequently most people have argued in favor of the latter (see e.g. Zoerner (1995); Johannessen (1998); Progovac (1998*b*) for a number of arguments). Especially the variety with respect to asymmetric conjunct agreement seems to be problematic for the adjunction approach. At first sight, the adjunction approach seems to be designed to derive first conjunct agreement cases. However, then it is unclear how one can account

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[3]See Progovac (1998*a*,*b*) for a detailed overview of all advantages and disadvantages of the respective theories.

for the full conjunct agreement cases in which the number features of both conjuncts are taken into account. Other respects in which the coordination phrase account appears to be theoretically superior are case mismatches in coordination (discussed in Johannessen (1998)) and predictions about the prosody of coordination of more than two conjuncts (cf. Progovac (1998*b*)).

To sum up, as far as I can see, the standardly assumed coordination structure is the asymmetric coordination phrase approach in (8). This is also the structure that I will adopt throughout this work. In the next section we will see that the complex topic of clause chains provides evidence for both assumptions we have worked out in this section: the asymmetry of coordinate structures and the coordination phrase account.

4.1.2. The Derived Coordination Account

In this section, I will sketch a derivation of the mixed properties of medial clauses that we have seen in Chapter 2. The point of departure of this proposal is the coordination phrase structure we discussed at the end of the last section. According to this structure, the coordination head which is realized as *and* takes the two conjuncts as arguments – one as a complement and one as a specifier. One of the major advantages of this kind of analysis is that it is adheres to the basic principles of Minimalist structure building: The structure is endocentric and binary and thus behaves like all other syntactic heads. However, the previous literature on coordination implicitly or explicitly notes one exception to that rule. Virtually all syntactic heads allow for movement to their specifier positions but, as far as I can see, movement to the specifier of an &P has not been proposed. On the contrary, te Velde (2005) explicitly claims that movement to the specifier of a coordination head is impossible. However, in the light of the discussion in the last section, this is an undesirable stipulation. Much of the progress in coordination structures has been driven by the idea that a syntactic head is a coherent notion and that

the &-head should basically have the same properties as other heads. In this sense, it would be conceptually inferior to stipulate that all syntactic heads allow for movement to their specifiers but the coordinate head does not.

In this section, I will propose that there is no need for such an unwanted stipulation because there are cases in which an element moves to the specifier of a coordination head. In fact, it is this very movement step that creates the impression that medial clauses have subordinate and coordinate properties at the same time. More concretely, I propose that clauses within a clause chain are base-generated as adjuncts and then, at a later stage of the derivation, move to the specifier of a coordination phrase. The resulting structure is practically indistinguishable from ordinary cases of coordination. The derivation is illustrated in (9):

(9)

&P
XP   &'
      &   YP
          Y   ZP
              XP   ZP
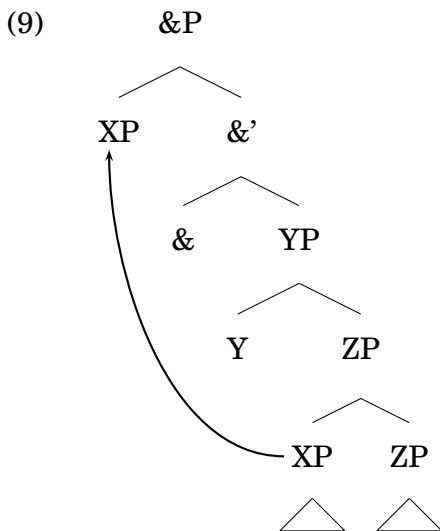
Syntactically, there is nothing problematic about this kind of movement. An adjunct is moved to a specifier position above it. In its landing site, the moved element easily c-commands its base-position. Hence, the movement step should be well-formed from a syntactic perspective.

One might raise the question what the formal trigger for this movement step is. The

easiest possible answer to this question is that, as with the usual cases of movement in an attraction based movement theory, it is the head whose specifier the moved phrase targets which triggers the movement step. Does that mean that we need different &-heads? In Chapter 1 in Part III, I argue that we do not. It is an inherent property of &-heads that they select for two arguments and as with other syntactic heads, they do not care whether their selection inducing feature is deleted by means of movement or (external) merge. Thus, every &-head in a language *can* trigger movement but does not need to.

In the next section, I will discuss what the categorial status of clauses within a clause chain is. To this end, I will review the empirical evidence which syntactic categories can appear within these clauses and which cannot. This way, we can make the structure in (9) more concrete and evaluate whether the derivation I propose really solves the theoretical challenge that the syntactic properties of medial constructions pose.

4.2. A Derived Coordination Account of Medial Constructions

4.2.1. The Category of Medial Clauses

In this section, we will identify what syntactic category clause chains belong to. To this end, I adopt a simple C-T-v-V architecture of Minimalist syntax (see Chomsky (1995) et seq.). The highest head C is related to clausal categories such as illocutionary force, mood, evidentiality etc. The head T is the locus of subject agreement and tense features. Little v is associated with object agreement, voice or diathesis and V is the lexical verb.[4]

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[4]For each of these heads, it has been argued that it should subdivided into a more fine-grained structure. There are cartographic approaches to the C-domain that have argued for quite a number of different features/heads all of which have their own projection (see e.g. Rizzi (1997) et seq.). The same holds for the T domain and the v domain. The present approach is fully compatible with each of these clausal hierarchies and it would be interesting to see whether a more fine-grained analysis of the actual size

In Chapter 2, we have seen quite a number of examples which indicate that medial clauses do not have their own tense projection. In all languages which express tense morphologically, we always find that clauses within a clause chain are dependent on the tense projection of the matrix clause. This is illustrated by the example below from the Papuan language Kobon:

(10)   Nɨpe hainö kaj pak-ö   hon ram   ud   ar-nab-un.
         he   later pig kill-DS.3SG we house take go-FUT-1PL
         'Later he will kill a pig and we will take it to the house.'

                                            Kobon: Comrie and Davis (2013, p.7)

The future marker *nab* is present only on the finite verb but nevertheless the nonfinite verb is interpreted as if it was inflected for the category future as well.

The same holds for categories located on C. They are only overt on the finite verb and all other verbs within the chain obtain the respective value. Below, in (11), the declarative marker is overt on the final verb, but the first verb is understood as declarative as well. The same holds for imperative mood in (12):

(11)   An nöbö hogw-a hön-a   pal-ön, nɨ rag   ram-a   du-m-a.
         we man two-FOC pig-FOC kill-SS I carry house-FOC go-PAST(1SG)-DECL
         'We two killed the pig and I took it to the house.'

                                            Haruai: (Comrie and Davis, 2013, p.7)

(12)   tekekeʔeːk   šʔaːpa-ta ke-yaše-w
         in.that.bush hide-SS   1SG.O-watch-IMP
         'Hide in that bush and watch me'

                                            Tonkawa: Hoijer (1949) as cited in Foley (2010, p.28)

This already is a first indicator that we are not dealing with complete clauses such as CPs or even TPs. Otherwise, we would expect that it would be possible to express tense

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of medial clauses can be successful.

or mood information independent of the features of the matrix verb.[5]

On the other hand, we do not find examples in which the voice features, for example, are required to match. That is, clauses within a clause chain can be passive even though the finite verb is active or vice versa.

(13) ʔp-po-aːʔ-kašni   ta-X   ʔp-si-oːʔa   ʔa=ʔa
      1SG.S-IRR-PASS-bite DS-UNSP.TIME 1SG.S-IRR-cry AUX=DECL
      'If I am bitten, I will cry.'

<div align="right">*Seri:* Farrell et al. (1991, p.434)</div>

Similarly, in some languages, clauses within a clause chain can be independently marked for aspectual features.

(14) peima   fitau-fe-e-te   wate tepau-a-ʔa.
      carefully throw-PFV-1/2-DS NEG break-3SG-IND
      'I threw it very carefully so it didn't break.'

<div align="right">*Tauya:* MacDonald (1990, p.219)</div>

(15) Hömlö römal rag   ur   nɨm-mɨd-mɨn, kiö   pɨl-öŋ-a.
      banana cut   carry cook eat-IPFV-DS   hunger shoot-PAST(3SG)-DECL
      '(He) cut, brought, cooked and ate some bananas and felt hungry.'

Literally: '(He) cut, brought, cooked and ate some bananas and hunger shot him.'

<div align="right">*Haruai:* Comrie and Davis (2013, p.4)</div>

It seems that in the vast majority of the languages which exhibit clause chaining, the size of each clause must allow for independent voice marking as well as independent

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[5]The discussion in this section cannot do justice to the incredible amount of language variation with respect to the categories they allow or do not allow to occur within clause chaining constructions. Hence, what I am trying to do in this section is to capture what is often called prototypical clause chaining (cf. the discussion in Dooley (2010*b*)). In Chapter 8, I will give a much more detailed discussion of the attested variation and how one can parametrize the present proposal to capture as many languages as possible.

aspect marking but higher features such as tense, mood and illocutionary force need not be contained in each single clause. In other, more technical terms, clauses within a clause chain must at least contain a voice (or v-) projection and sometimes an aspect projection. However, a tense and a complementizer projection should probably not be contained.

There is, however, the category of the relative tense. In many clause chaining languages, we find that medial verbs can be marked for relative tense, which expresses, for example, whether an action happens before or parallel to the action described in the matrix clause. The action described in the matrix clause serves as a temporal anchoring point relative to which all other actions are aligned temporally. This is shown in the example in (16). The final verb is inflected for remnant past which is an absolute tense form. All other verbs are marked for whether the actions they describe happen sequentially or simultaneously.

(16)   [ra fisi-pie   ] [fahare-râ   ] [yâpeʔ-yopa-pie   ]
        [go arrive-SEQ.3PL.DS] [rise-SEQ.SS] [chase.away-3PL.DO-SEQ.3PL.DS]
        [mafa-yeŋiʔ   behe-râ   ] [wise-pie   ] [fiuʔ
        [stuff-3PL.POSS throw.away-SEQ.SS] [flee-SEQ.3PL.DS] [illicitly
        ro=fâre-mbiŋ   ].
        take=all-3PL.REM.PAST]
        'When they$_i$ (the foreigners) arrived, they$_j$ (the villagers) got up and chased them away. They$_i$ threw away their stuff and fleed. Then, they$_j$ stole their stuff.'

                                          Kâte: Pilhofer (1933) (as cited in Bickel (2011))

In the following, I will assume that medial clauses are TPs headed by a defective, unvalued T.[6] This defectivity is the reason for the fact that clause chains do not exhibit their

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[6]For a similar idea see the zero-tense approach in Kratzer (1998), the TMA-copying approach in Wiklund (2007), the feature sharing approach in Szucsich (2009) and the distinction between valued and unvalued tense in Assmann (2012). For the sake of concreteness, I will assume the latter approach here.

own absolute tense features. Rather they are dependent on the matrix clause assigning tense features to them. Accordingly, the assumed structure of a medial clause looks as the following:

(17)

```
                    TP
                   /  \
                  /    \
              T_def    (AspP)
            {tense:_}   /  \
                       /    \
                    (Asp)   vP
                            /\
                           /  \
                          /____\
                           ...
```
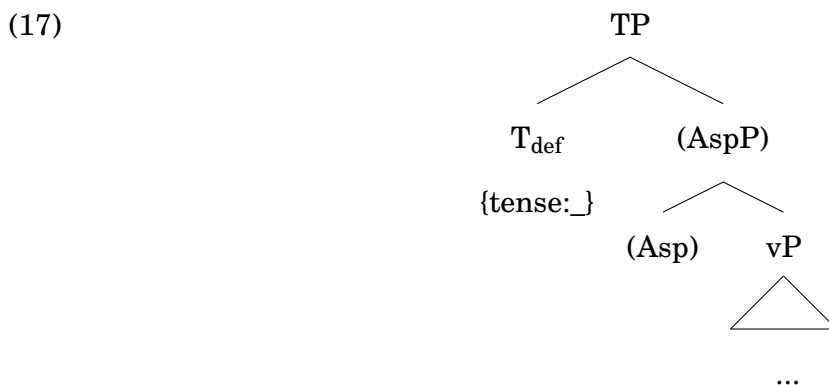
Note, however, that the theory that I will sketch in the next section is not at all dependent on the categorial status of clauses within a chain. The actual mechanism is still applicable if it turned out that there are good reasons to think that these clauses are not TPs. As we have seen in Section 3, Keine (2013) and Nonato (2013) argue that these clauses are really vPs (or in Keine's case sometimes even VPs).[7] Importantly, Keine and Nonato must necessarily assume that a single medial clause is smaller than a TP because each clause must be in the scope of matrix T. My analysis, however, is not limited in that respect. In my analysis, medial clauses could in principle be VPs, vPs, TPs or even CPs. In fact, as I will show in Chapter 8, there are reasons to believe that in some languages, medial clauses are smaller or even bigger than a TP. Nevertheless, for now, I will take medial clauses to be TPs headed by a defective T, because I think that that will capture the vast majority of clause chaining languages.

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[7]As far as I can see, this assumption is probably incompatible with the examples above which show that medial clauses can, in fact, be inflected for aspectual features. Since aspectual information is usually taken to be present above v, the examples are rather problematic, especially for Keine's theory.

4.2.2. Applying the Theory

Since we now know the categorial status of medial clauses, we can take a look at the underlying structure I propose for medial constructions.

(18)

```
              &P
            /     \
      TP_def       &'
                 /    \
                &      TP_matrix
                       /      \
                      T        vP
                             /    \
                        TP_def     vP
                         △          △
```
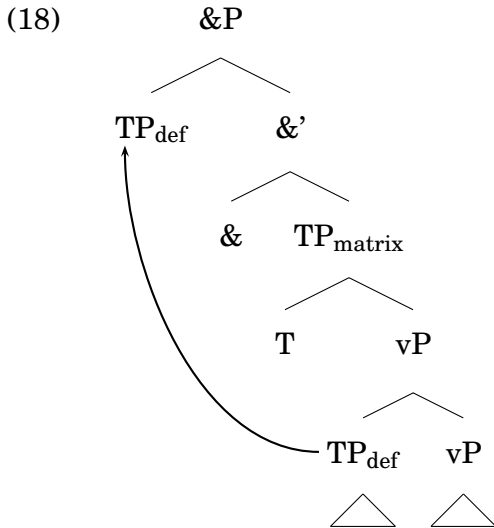
The medial clause headed by T_{def} is base-generated as an adjunct to vP in the exact same position as a normal temporal adjunct would be. This reflects the fact that there are a number of cases in which medial clauses provide background information or even function as prototypical subordinate clauses such as conditionals.

(19) a. yâr-âb   eng ye-nipat   ʔur   big-âr.
          come-SS TOP 1SG.P-step.over.SS money put-IMP
          'If you come, step over me and put the money (in the basket).'

Usan: Reesink (1987)

Then, the matrix TP is built and merged as a complement of the &P. Only then the adjunct is moved to the specifier of the coordinate phrase, yielding a coordinate structure. This coordinate structure behaves, of course, like any TP would. Hence, it can be embedded under a C-head just like a regular case of ordinary TP-coordination.

We are now in a position to explain why medial clauses seem to have some properties of subordinate clauses and some of coordinate clauses. They *are* subordinate and coordinate, but at different stages of the derivation. Clauses within a clause chain are base-generated as adjuncts and promoted to proper conjuncts in the course of the derivation. Hence, the subordinate properties of clause chains follow from rules or processes early on in the derivation (i.e. prior to the crucial movement step in (18)). The coordinate properties on the other hand follow from rules and processes at a later stage of the derivation or as a result of its output.

In the next section, I will show in detail how each of the properties of clause chains we discussed in Section 2 follows from the simple analysis above.

4.3. Deriving the Properties of Medial Constructions

4.3.1. Morphological Dependence

In Section 2, we have seen that one of the defining criteria of clause chaining constructions is their morphological dependence relation. There is only one verb per chain which is fully inflected for all relevant features. Nevertheless, all other verbs inside are interpreted as if they were finite as well. That is, they obtain these features from the finite verb by establishing some kind of agreement relation.

In standard Minimalist theory, these kinds of agreement relations are modeled by means of the syntactic operation Agree. What this operation does is establish a relation between two syntactic heads which may then exchange, value or check morphosyntactic features. Crucially, however, Agree applies under c-command which is why this kind of morphological dependence is usually taken to be a property of subordinate constructions.

The present analysis can capture this property. The Agree operation requires c-

command only at a certain point in the derivation. Once the agreement relation is established and the morphosyntactic features are valued, it does not matter whether the initial c-command configuration is destroyed by other processes in the course of the derivation. Hence, matrix T can value the features on medial T as long as the latter is still subordinate. This is illustrated in (20).

(20)

```
                          TP_matrix
                         /        \
                       vP          T{tense:past}
                      /  \              ┊
                TP_medial  vP           ┊
                   /\      /\           ┊
                  /  \    /  \          ┊
                 /____\  /____\         ┊
              T{tense:_}                ┊
                    ↑                   ┊
                    ┊_____┊
```
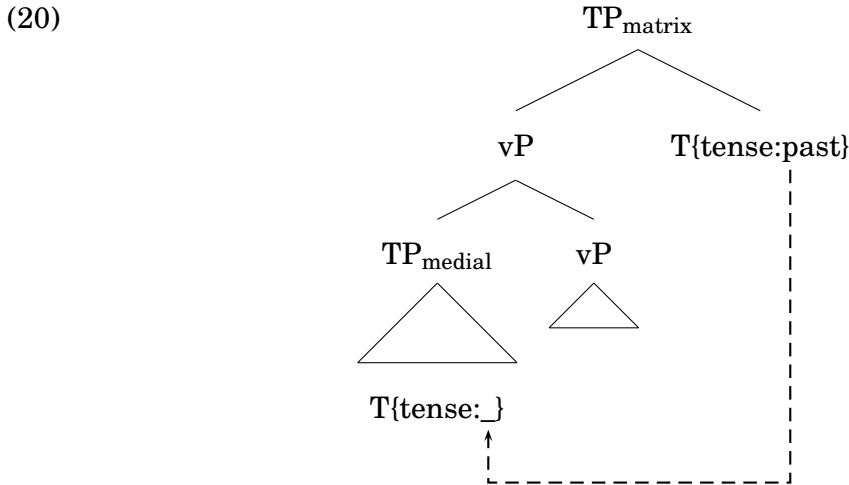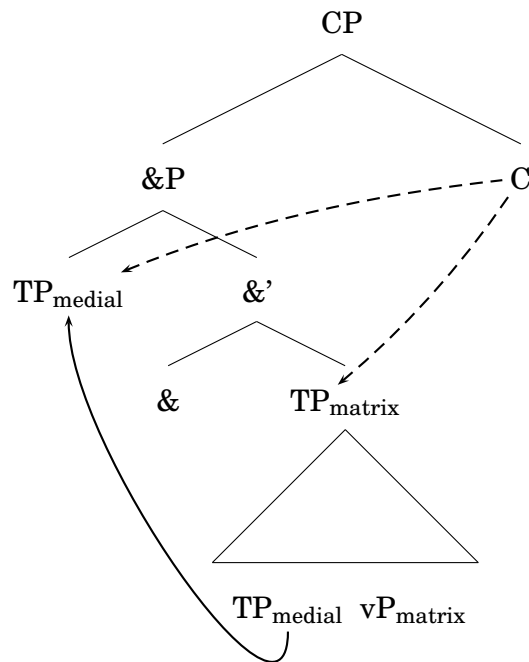
The result of this Agree relation is that the defective T has valued tense features. The relative tense features which it has in addition can now be aligned with respect to the features it just received.

The fact that, in a later step, TP_medial will move out of the c-command domain of T_matrix does not affect the Agree relation. Once Agree was successful, features are exchanged and the derivation may proceed in any way.

In (20) above, we have seen how matrix T assigns its features to the defective medial T. The situation, however, is different with matrix C. I assume that the features of matrix C are not assigned to the medial clause since the medial clause does not even have its own C-head and thus there is not even a proper goal for this assignment relation. Rather I assume that since the medial clause never moves out of the scope of matrix C, the interpretation comes about as usual. Each clause which is in the scope of matrix C when the structure is sent off to LF is interpreted equally. This is shown in (21) below.

(21)   Scope relations of C

```
                              CP
                     ⟋                ⟍
                  &P  ------------- ⌐ C
               ⟋     ⟍         ⟍      |
           TPmedial ⟵      &'          |
                        ⟋    ⟍         |
                      &      TPmatrix ⟵
                                ⟋  ⟍
                               ⟋     ⟍
                          TPmedial  vPmatrix
```

This is the structure that is sent off to LF. TP_{medial} has moved to the specifier of &P turning itself from an adjunct into a conjunct. The resulting &P is merged as a complement of right-headed C. Thus, C takes scope over both TPs, the medial and the matrix TP, and in doing so, it ensures that all TPs are interpreted the same with respect to its features such as mood or illocutionary force.

It should be noted that there is an interesting theoretical distinction between tense features on the one hand and mood or force features on the other hand. Tense features are inherited by the medial clause by means of Agree but features higher up in the tree are not. These features are not present on T_{medial}, the reason for the fact that they are interpreted as if they were is that TP_{medial} is in the scope domain of these features. This distinction sets the theory apart from those in Keine (2013) and Nonato (2013) where no features are actually assigned to the medial clause and all kinds of morphological dependencies are derived by means of scopal relations. And even though the proposal in this work might seem a bit more complicated, it will prove useful in Chapter 8 where
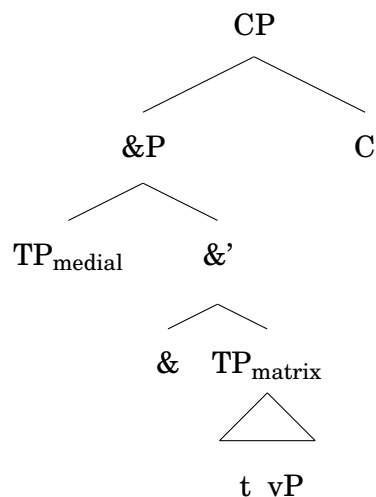
more complex cases of scopal relations are discussed.

4.3.2. Extraposition and Center Embedding

Another property of clause chains we have observed in Chapter 2 is that the order of clauses cannot be changed. The order of all medial clauses is fixed and so is the position of the matrix clause. In this respect, clause chaining constructions behave like coordinate constructions in which the order of conjuncts cannot be changed either.

Against the background of the theory I propose, it is evident why we expect clause chains to behave the way they do. The order of constituents is a matter of linearization which is standardly taken to be a matter of the phonological form (PF). And since the phonological form refers only to the output of the syntax and not to underlying stages of the derivation, the fixed order of clauses is derived. The following tree represents the syntactic structure that is sent off to PF:

(22)   Output of the syntax:

```
                      CP
                   /      \
                &P          C
              /    \
      TP_medial     &'
                  /    \
                 &    TP_matrix
                       /  \
                      t   vP
```

This structure is linearized as the following:

4. A Derived Coordination Approach to Medial Clauses

(23)   Linearization of (22):

$\text{TP}_{\text{medial}} > \& > \text{TP}_{\text{matrix}} > \text{C}$

Under the assumption that C is expressed as a clitic attached to the final verb within a chain, the linearization in (23) represents the word order we find in clause chaining constructions in the vast majority of the languages.

Nevertheless, two questions arise at this point. The first one is whether the specifier of &P which is the final landing site of the medial TP must obligatorily be to the left of the &-head, or whether one might also think of a rightward specifier.[8] The answer is that the specifier must be on the left. There are two reasons for that. First, theory internally, it is pretty common to assume that specifiers are standardly on the left of their heads (cf. Kayne (1994)). Second and probably more importantly, it is well-known that there is some kind of meta-constraint on the order of conjuncts in a coordination structure. This meta-constraint which might be called *Temporal Iconicity Principle* states that the linear order of the conjuncts in a sentential coordination structure must reflect the linear order of the events they describe.[9] Hence, something like *Peter bought a book and went to the bookstore* is only felicitous under the odd reading where *buying a book*-event really preceded the *going to the bookstore*-event. And since the events described in the medial clauses always precede the events in the matrix clause, the Temporal Iconicity Principle also predicts that order.

The second question one might raise is whether C must obligatorily be right-headed.

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[8]In fact, in Johannessen (1998), it is argued on the basis of a crosslinguistic study of asymmetric conjunct agreement that OV languages have a coordination structure in which the right conjunct is the structurally higher one. Note, however, that Johannessen's results concerned NP/DP coordination, not clausal coordination. Note also that these results have also been called into question by investigations in Benmamoun et al. (2009); Benmamoun and Bhatia (2010); Marušič et al. (to appear).

[9]see Dik (1968); Jakobson (1971) for discussion of temporal iconicity as a meta-principle and Bjorkman (2010) for a very nice derivation of this principle from more abstract semantic properties of coordinate structures.

70

The answer to that question is no. As quite a number of people have noticed (e.g. Haiman and Munro (1983); Haiman (1983); Dooley (2010*b*); Keine (2013); Nonato (2013)), virtually all clause chaining languages are OV and probably right-headed in general. However there are exceptions to the rule. One is found in Kĩsêdjê. Here, the C-head expressing mood features, precedes every clause within the chain.[10]

(24)   kôt   [Hwajitxi=ra hwĩsôsôk to   nhy=nhy] [Ajuwelu=ra hrõn=ne mbra]
       HYP.FUT H=NOM   paper with sit=DS A=NOM   run=SS stay
       'H. could be writing and then A. could be running.'

Kĩsêdjê: Nonato (2013, p.9)

So, we see that the theory at hand predicts the correct order of the conjuncts. Adjuncts may be attached to the left and to the right but specifiers and, more concretely, specifiers of &Ps may not be. And since, in the present theory, medial clauses are specifiers at the point when the structure is sent off to PF, the right word order is predicted. Center embedding of the medial clause is not an option because the proposed structure predicts that the specifier of the &-head conjoining two TPs must be left-peripheral. The only possible exception to that generalization is that it may be preceded by a C-element which is, as shown in (24), attested in the data from Kĩsêdjê. Extraposition of the first conjunct to the right is also not an option because that would violate the Coordinate Structure Constraint (Ross 1967) which, among other things, prohibits movement of a single conjunct.

4.3.3. Backward Pronominalization

Another property according to which a clause chaining construction behaves like a coordinate structure is the ban on cataphoric pronouns/backward pronominalization.

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[10]Nonato (2013) actually claims that the clause initial particles are actually realizations of T in Kĩsêdjê. However, I find none of his arguments really convincing enough to depart from the default assumption that mood is located on C in Kĩsêdjê as well.

4. A Derived Coordination Approach to Medial Clauses

Medial clauses must not contain pronouns whose reference is determined by an R-expression (i.e. a full DP) in the finite matrix clause. This was shown in Section 2.3; one of the relevant examples is repeated in (25). It shows that the pronoun in the medial clause must be dropped if there is a coreferential proper name in the final clause.

(25)   (*Uqa$_i$) bil-i-me-i   Fred$_i$ je-i-a.
        3SG   sit-pred-3SG-SS Fred eat-3SG-TOD.PAST
        *'He$_i$ sat and Fred$_i$ ate'

Amele: Roberts (1988*a*, p.57)

With respect to this property, medial constructions behave just like regular cases of coordination in more familiar languages. The construction above constitutes exactly the one case which is predicted to be ungrammatical by the General Pattern of Anaphoric Dependence (GPAD) introduced by Williams (1997).

(26)   *General Pattern of Anaphoric Dependence*

        a. [...pro...]$_{subord}$ [...antec...]$_{matrix}$

        b.*[...pro...]$_{matrix}$ [...antec...]$_{matrix}$

        c. [...antec...]$_{matrix}$ [...pro...]$_{subord}$

        d. [...antec...]$_{matrix}$ [...pro...]$_{matrix}$

Williams (1997, p.588)

When the clausal relation involved is a subordinate one, the pronoun may precede or follow its host. If two matrix clauses are involved, the pronoun must follow its host. In other words, it seems that an antecedent can bind a pronoun either by means of c-command or by means of linear precedence. If a pronoun is c-commanded or preceded by a suitable host, the structure is grammatical. If it is neither preceded nor c-commanded, its appearance is ungrammatical as in (26-b). This leads to the Hybrid Binding Theory as proposed in Williams (1994, 1997). According to this theory, the ref-

erence of a pronoun can be determined either by c-command or precedence. The former relation between the host and the pronoun is called *coreference* and the latter *dependence*. *Coreference* is defined in terms of c-command.[11] Dependence is defined in terms of precedence. To derive the GPAD, one can thus say that the relation in (26-a) is one of *coreference*, the one in (26-d) is one of *dependence*. In (26-c), both *coreference* and *dependence* would be possible but Williams (1997) convincingly shows that in such cases the *dependence* relation is blocked by the *coreference*. Crucially, in (26-b), the pronoun is technically neither *dependent* nor *coreferent*. Hence, the configuration is ungrammatical.

So to come back to the case of backward pronominalization in medial clauses, we can state that according to the standard assumptions, the creation of anaphoric dependencies is usually taken to apply postsyntactically at LF. At this point, crucially, the medial clause has already moved to Spec&P. Thus, the input to the respective rules is a coordinate structure. Hence, just as with regular TP coordination, both clauses are matrix clauses in the sense of the GPAD above and backward pronominalization examples are ungrammatical.

One final note is in order before we proceed. Whether or not one believes in Williams' (1994) Hybrid Binding Theory is secondary for deriving the ban on backward pronominalization in medial clauses. The General Pattern of Anaphoric Dependence is an empirical observation, not a primitive of his theory. Hence, any theory will have to derive the GPAD in one way or the other. As far as I can see, most theories of the binding of pronouns should be compatible with my approach as long as binding theory is a matter of LF.[12]

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[11]To be fully precise, *coreference* is defined in terms of *th-command*, a notion introduced by Williams (1994). However, for our purposes, the rather complex deduction of th-command would lead too far, especially since, for the cases we are looking at, th-command and c-command make the same prediction.

[12]In some cases, certain types of syntactic movement steps are reconstructed on LF in order to establish anaphoric dependencies. In the case at hand, the movement step of the medial TP targeting Spec&P must not be reconstructed, at least not for the purposes of Principle B.

4.3.4. Extraction

The last property of medial clauses we have to derive is extraction. Clause chains allow for asymmetric extraction from out of one of these clauses. Under the assumption that medial clauses are cases of coordination as in Keine (2013); Nonato (2013), this is a highly unexpected result because extraction would then violate the Coordinate Structure Constraint, one of the few principles of language which seems to be relatively robust from a crosslinguistic perspective. The Coordinate Structure Constraint is given below in its original form:

(27)   Coordinate Structure Constraint (CSC):

In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

Ross (1967, p.161)

In order to be able to formally evaluate whether or not the CSC is actually violated, we need a technical reformulation of (27) that precisely defines what a coordinate structure is. Hence, I propose the following reformulation:

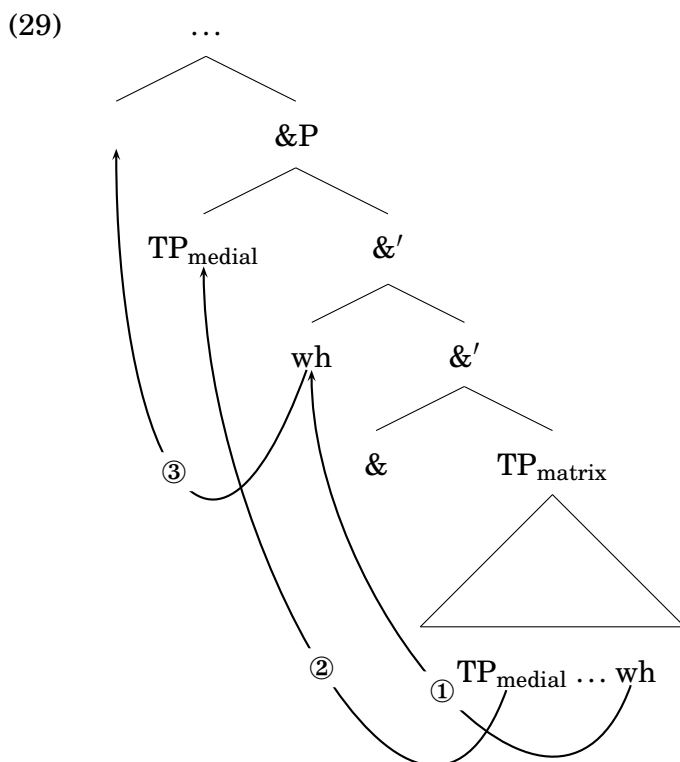(28)   Coordinate Structure Constraint (updated):

In a structure $[_{\&P}$ A $[_{\&'}$ & B $]]$, movement (out) of either A or B is prohibited.

The theory presented in the preceding section allows us to envisage a derivation of asymmetric extraction patterns which does not violate the CSC but still adheres to Minimalist principles. Just as with the other subordinate properties of clause chains, the underlying assumption is that the crucial step of the derivation takes place *before* the medial TP moves to Spec&P and establishes a coordinate structure in the first place. Hence, a violation of the Coordinate Structure Constraint is trivially avoided. The tree below illustrates the individual steps of the derivation. For the sake of exposition, the

extracted element is abbreviated as *wh*.

We begin with an adjunction structure. TP$_{\text{medial}}$ is still adjoined to its matrix clause. Then, the coordination head is merged. At that point of the derivation, in principle, we have two different ways to proceed because we have two distinct elements which need to be moved: TP$_{\text{medial}}$ and *wh*.[13] If the adjunct TP is moved, then a coordinate structure is established and further extraction is blocked due to the CSC. In that case, the derivation will crash. However, if *wh* is moved to an intermediate specifier first, then the derivation may proceed. This is the step labeled as ① below. Extraction of the *wh*-element precedes movement of the adjunct TP and may thus circumvent a violation of the CSC. Note also that the step in ① does not establish a coordination structure. The coordination head still has a feature to attract the first conjunct. Since the step in ① was triggered by an edge-feature (as any instance of intermediate movement to phase edges), this movement step cannot delete the &-head's selectional feature.

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[13]I assume that the wh-phrase must move cyclically through the specifier of the coordination phrase. This is basically equivalent to saying that &P is a phase (cf. Reich 2007 for the same assumption).

(29)

```
                        ...
                  ╱──────────╲
                            &P
                      ╱──────────╲
        TP_medial              &′
                           ╱──────────╲
              wh                   &′
                              ╱──────────╲
                  ③      &           TP_matrix
                                   ╱──────────╲
                                  ╱            ╲
                      ②          ╱_____╲
                         ①  TP_medial ... wh
```

After the *wh*-element has moved to an intermediate specifier, the medial TP moves to

the specifier of &, finally establishing a coordinate structure (step ②). At that point of

the derivation, elements within both conjuncts are frozen for asymmetric extraction due

to the CSC. However, the *wh*-element is no longer part of one of the conjuncts, hence it

may move further (step ③). This movement step does not violate the Coordinate Struc-

ture Constraint because (i) the *wh*-element is no longer part of one of the conjuncts and

(ii) it is not a conjunct itself because it has been merged by means of an edge-feature.

None of the three steps in (29) violates the CSC. Nevertheless, on the surface, we have

extracted asymmetrically from only one conjunct.[14] What looks like asymmetric extrac-

tion on the surface is the result of earlier movement processes that applied as long as

the structure was a subordinate one.

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[14]At this point, it becomes clear that the CSC is taken to be a derivational principle that prohibits certain
movement processes throughout the derivation. If it were a representational principle prohibiting
certain output structures, the derivation in (29) would be ungrammatical. See Chapter 2 in Part III
for a more detailed discussion.

A note on the derivation in (29) is in order, though. In (29), we successfully circumvented a violation of the CSC but still managed to extract out of only one conjunct. The immediate question that comes to mind is why this kind of derivation is not possible with regular clausal coordination. If this derivation was possible with all kinds of clausal coordination, it would always be possible to circumvent the CSC. This would be equivalent to saying that one could always move out of the second conjunct of a coordination. Hence, we have to distinguish normal coordination and coordination in case of clause chaining constructions. With normal coordination, circumventing the CSC is impossible, with clause chains it is possible. I argue that the difference lies in the fact that the first conjunct of a clause chain comes about via Movement. With normal coordination, the first conjunct is the result of (External) Merge. To be more concrete, I assume a well-known principle that regulates the order of operations and distinguishes these two syntactic operations: The Merge-over-Move Principle (Chomsky 1995, 2000).[15]

(30)   Merge over Move (MOM):

        If, at some point of the derivation, Merge and Move can both apply, then Merge always applies first.

The exact point of the derivation which is of interest here is when the &-head and TP_{matrix} have been merged. As I illustrated above, with clause chains, we do have two possibilities. Either we first move TP_{medial} and then the wh-phrase (which leads to a violation of the CSC) or we move the wh-phrase first and then TP_{medial} (which leads to a circumvention of the CSC). Here, the two operations in competition are two instances of Movement. Hence, MOM does not regulate their relative order, both orders are possible.

So let us imagine a similar situation with regular, clausal coordination. We have merged the &-head with the second conjunct. If the second conjunct contains a wh-

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[15]For a critical discussion of the MOM see Chapter 3 in Part III.

phrase, we also have two possibilities of how to proceed. Either we first move the wh-phrase and then merge the first conjunct (which would circumvent the CSC) or we first merge the first conjunct and only then move the wh-phrase out of the second conjunct (which violates the CSC). Here, the two operations in competition are one instance of Merge and one instance of Move. Hence, MOM forces Merge to apply first. However, if Merge applies first, we encounter a CSC violation in the second step. So, asymmetric extraction out of the second conjunct of normal coordinate clauses either violates the CSC or MOM, and is hence prohibited. The situation is illustrated in (31). Merge-over-Move requires step ① to apply before step ②. However, once step ① has applied, the coordinate structure is established and the CSC applies, prohibiting subsequent movement of the wh-element (step ②, the dotted line indicates the ungrammaticality of this specific movement step).

(31)
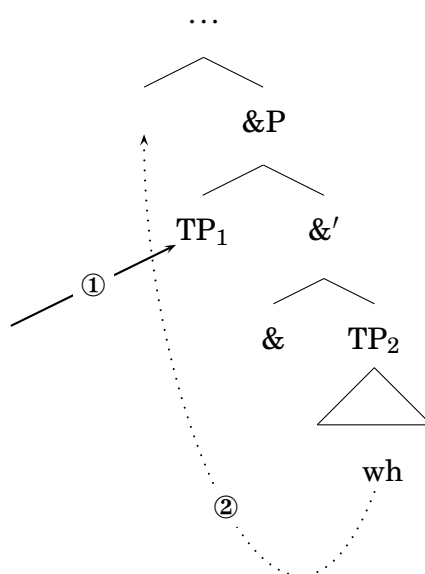
Before we go on to discuss how we can account for examples with a greater number of medial clauses, we have to take a look at another extraction configuration. So far, we have derived examples with extraction from what one might call the matrix conjunct of a medial construction. And indeed all the examples we saw in Chapter 2 involved extrac-

tion from the final conjunct of a chain. The question is whether one can also extract from the nonfinal conjunct of a chain. The theory I presented in this Chapter, as it stands, should in principle, rule out these configurations. Extraction from the nonfinal conjunct of a chain should be excluded in both configurations: *After* the crucial movement step of the medial clause, it is trapped by the Coordinate Structure Constraint. *Before* the movement step, it is trapped because it is contained in an adjunct. Theory-internally, extraction from an adjunct is prohibited due to the Condition on Extraction Domains (CED, Huang (1982)). Thus, in principle, we expect medial clauses to be islands either way. However, it is known that unlike the CSC, which is said to be relatively exceptionless,[16] the CED is subject to a wide range of crosslinguistic variation (for discussion of possible exceptions to the CED, see e.g. Lasnik and Saito (1991); Takahashi (1994); Rackowski and Richards (2007); Stepanov (2007)). Especially nonfinite adjuncts seem to be transparent in some languages (see e.g. Truswell (2007) on English and Bickel (2010) on what Bickel (1998) calls the *Asian converb type*). Thus, it is not implausible that we find occasional extraction from medial clauses as well. And indeed, sometimes it has been claimed that extraction from nonfinal clauses in a chain is possible in some languages as well.

(32)   wâtâ=n   ka   ∅-pyry   kêt=ne tẽ?
       what=FACT 2.NOM 3.ABS-take not=SS go
       'What is such that you didn't get it and went (away)?'

Kĩsêdjê: Nonato (2013, p.18)

(33)   Katah-oosh   taloowa-na John-at   hilhah?
       who-FOC.NOM sing-DS   John-NOM dance?
       'Who sang and then John danced?'

*Choctaw:* Keine (2013, p.40)[17]

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[16]Apart from the configurations that are reanalyzed in this thesis, of course.

[17]In this example from Choctaw, it is not clear whether the focussed nominative wh-element has moved string-vacuously or not. Focus marking in Choctaw usually entails movement to the first position but since the base position of the wh-phrase is clause-initial anyway one cannot be sure.

4. A Derived Coordination Approach to Medial Clauses

Here, extraction applies to the first conjunct of a chain. It should be noted that we can be sure that this is a real case of extraction in Kĩsêdjê because the modal particle (in this case /=n/) is not part of the clause chain itself but precedes it. Modal particles like this one can only be preceded by moved elements such as wh-elements (see Nonato (2013, 2014)).

Under the assumption that non-finite adjunct clauses in Kĩsêdjê are an exception to the CED, this piece of evidence can be derived in basically the same way as the ones above.[18] Extraction takes place before the medial clause moves to Spec&P. This way, we do not run the risk of violating the CSC since, at this point, no coordinate structure is present. The following tree illustrates the first step in the derivation of extraction from a medial clause. As long as the medial clause is in its base position, the extracted element (here: *wh* for ease of exposition) is moved to an intermediate landing site in the matrix clause.

(34)

TP_{matrix}
- T
- vP
  - wh
  - vP
    - TP_{medial}
      - wh
    - vP
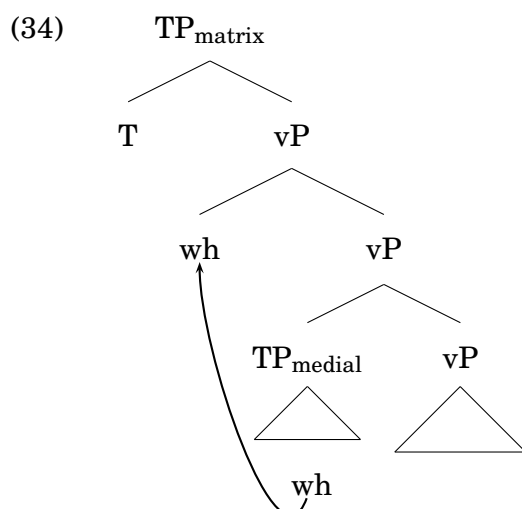
Since the landing site of this movement step is contained in the matrix conjunct, subsequent extraction may proceed in the same way as in (29) above. As long as the medial

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[18]At this point, it would lead too far to speculate what the reason for the exceptions to the CED is and how it can be modeled in a theoretical framework. See Chapter 4 in Part III, however, for a tentative solution how the difference between transparent adjuncts and opaque ones can be derived.

clause stays in its base position, the wh-element may extract asymmetrically from the matrix conjunct. Thus, we see that extraction from medial clauses is also occasionally possible in some languages if they allow for certain violations of the CED. However, it is to be emphasized that, as far as I can tell, extraction from medial clauses is attested much less often than extraction from the matrix clause of a clause chain. Nearly all convincing examples of asymmetric extraction from a clause chain involve extraction from the final conjunct.

Interestingly, there are, however, many examples of wh-phrases that remained in situ inside medial clauses. This can be taken as support for the assumption that the extraction restriction we find with medial constructions is actually a CED effect because, as Huang (1982) has shown, the CED only constrains overt movement.

(35)   marcha   khakki cham   mu-so   ta-a=ku?
        girl.NOM which   song.NOM   do-SIM.CVB   3SG.come-PAST=NMLZ
        'The girl came, singing which song?'

                                                        Puma: (Schackow et al., 2012, p.110)

(36)   Šamil   se   qaλe-n   idudo ∅-iλ'i-yo
        Shamil(I)   what   sing-CVB   home   I-go-PRS
        'Shamil is going home singing what?'

                                                        Hinuq: (Forker, 2013, p.25)

(37)   Mava'e=tu [nha-vaẽ   ramo] nhane-mo-ngaru 'rã?
        who=BQN   1+2-arrive DS   1+2-CAUS-eat   FUT
        'Who will feed us when we arrive?'

                                                        Mbyá Guarani: (Dooley, 2010*b*, p.106)

4.4. Summary

The main goal of this chapter was to present an analysis of clause chaining construc-
tions that does justice to the subordinate and coordinate properties of clause chains

in equal measure. In Section 4.1, I sketched why the previous analyses discussed in Chapter 3 fail to do so. The reason for this is mainly that subordinate and coordinate structures are taken to be derivationally incompatible throughout the whole generative literature on clausal relations. I showed, however, that this is not necessarily the case. Recent developments in the representation of coordinate structures make it possible to map a subordinate structure onto a coordinate one by means of regular transformational rules. The key assumption of the analysis (and hence of the complete thesis) is that a clause may be base-generated as an adjunct but moved to the specifier of a coordination phrase. This way, the clause in question is indeed both, a subordinate and a coordinate clause but at different stages of the derivation.

In Section 4.2, I showed how this simple analysis could be adapted to the empirical phenomenon of clause chaining constructions. I discussed which syntactic categories occur within a medial clause and which do not and drew the conclusion that medial clauses are TPs headed by a defective T-head.

The final section was devoted to showing how the syntactic properties of clause chains, as laid out in Section 2, follow from the present analysis. The recurring slogan throughout this discussion was *"subordinate properties follow from processes early on in the derivation and coordinate properties follow from the output structure of the derivation"*. The morphological dependence of clause chains was derived by means of a regular Agree relation that was established *before* the medial clause is promoted to be a conjunct. Similarly, the fact that we find asymmetric extraction from the matrix conjunct and, in a few cases, also from the medial clause can be derived under the assumption that extraction takes place as long as the nonfinal conjuncts are in their base positions. The coordinate properties, on the other hand, were derived by referring to the coordinate output structure of the derivation. Accordingly, the semantics of clause chains is derived from the coordinate output structure sent to LF and hence, the distribution of pronouns which is

determined on LF as well is expected to be identical with a regular coordination struc-
ture. That was confirmed by the backward pronominalization test. Similarly, the fixed
order of clauses could be accounted for, as the output structure which is sent to PF is
uncontroversially coordinate.

   In the next chapter, I will discuss how the different patterns of clause chains involv-
ing more than one medial clause are derived. As we have seen in Chapter 2, clause
chains usually consist of a great number of clauses, and two-clause-chains are rather
an exception. What we have not seen so far is that clause chaining languages exhibit
two different strategies when it comes to the question how chains with multiple clauses
are built. However, the discussion in the next chapter will show that these two strate-
gies practically fall out from the theory presented in this section. Thus, we will see that
the implementation of multiple clause chains provides another strong argument for the
present theory of clause chains and against the other approaches sketched in Chapter
3.

5. Multiple Medial Clauses

This chapter will show how the analysis sketched in the previous chapter can be applied to cases of multiple medial clauses. As extensively shown in the examples in Chapter 2, clause chains can comprise a great number of clauses. Most grammars of clause chaining languages state that there is no upper limit to the number of clauses. Others speak of chains up to twenty clauses. Below, just to give an impression, I give an example from Tauya which consists of ten distinct clauses but is actually only about a third of the whole chain as transcribed in MacDonald (1990):
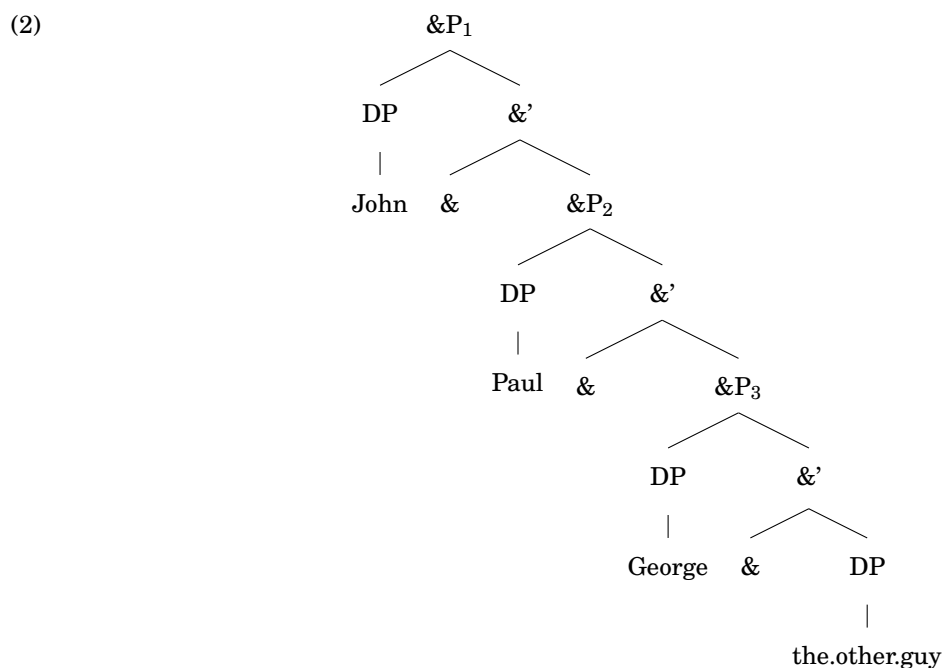
(1) [tawane amu-amufo arei amu-amufo emane amu-amufo poru-pa]
      Tawane big-REDUP Arei big-REDUP Emane big-REDUP pill-SS
      [fitau-a-na   nofona mene-a-te   ʔe-ʔaisami ∅-yai   topu-pa]
      throw-3SG-COMP only   stay-3SG-DS DEM-ABL   3SG-footprint follow-SS
      [yate-i-na-ra   ʔe-sa-ate   mene-a-na-ʔai   ʔamo
      go-3PL-INCON-TOP DEM-ADESS-old.woman stay-3SG-COMP-ADESS bamboo
      wasu   ne-pi-ʔai   yate ʔatou-ti-pa]   [yate ʔatou-i-na-ra
      garden 3SG-GEN-ADESS go   arrive-PFV-SS go   arrive-3PL-INCON-TOP
      ate-ra   fu-ʔafe-a-te]   [ʔe-sami yate-pa] [yate soʔorane-te-pa]
      old.woman-TOP burn-PROG-3SG-DS DEM-ABL go-SS   go   remove-get-SS
      [∅-sotou-fe-pa]   [fofe-pa] [fofe-pa] [ʔʷatifo-sou fofe   ounaʔe-i-ʔa]
      3SG-bury-PFV-SS come-SS come-SS friend-COM come fight-3PL-IND
      'There was only a big tawane tree, a big arei tree, a big emane tree that he had pulled out and thrown and from there they followed his footprints and went. They arrived at where the old woman was, at her bamboo garde, they went and arrived there and the old woman was burning, then they went and removed her (from the fire) and buried her, and they came and fought with the friend.'

      Tauya: MacDonald (1990, p.374f)

5. Multiple Medial Clauses

In the light of examples like (1), it becomes evident that what we have derived in the preceding chapter is only a small subset of the actual clause chains we find in the world's languages. It is of equal importance to be able to derive these long sequences of clauses. In this chapter, I will show that my analysis is able to derive the specific dependency relations found with clause chains while other analyses are not. This will provide another strong piece of evidence that my analysis is empirically more adequate than the competing ones.

In order to do that, we will have to take a look at how the standard theory of coordination we adopted accounts for cases of more than two conjuncts as in, for example, *John, Paul, George and the other guy*. Different proposals have been made to capture these structures (see Progovac (1998*b*) for a detailed overview). However, as far as I can see, most papers discussing these facts assume an analysis of nested &Ps with recursive specifiers (e.g. Johannessen (1998); Munn (1987); Zoerner (1995)). This is illustrated in (2) for the simple example above:

(2)

&P$_1$
├── DP
│   └── John
└── &'
    ├── &
    └── &P$_2$
        ├── DP
        │   └── Paul
        └── &'
            ├── &
            └── &P$_3$
                ├── DP
                │   └── George
                └── &'
                    ├── &
                    └── DP
   └── the.other.guy

The rightmost conjunct is merged in the complement of an &P, and every other con-junct is merged as a specifier of an additional coordination phrase. Hence, in this struc-ture, we always have one &P less than there are conjuncts. This kind of structure with nested &Ps will be useful for the derivation of multiple medial clauses as we will see below.

However, since our cases of coordination are not base-generated as the ones above, there are, in principle, two different strategies how clause chains can be formed. They are illustrated most easily by means of their base positions. Let us look at the trees be-low. One possibility is that each clause of the whole clause chain starts out as an adjunct to the matrix vP. I call this the iterative strategy, illustrated in (3). The other possibility would be to assume that each clause is base-generated as an adjunct to its immedi-ately following clause, regardless of whether it is another nonfinite medial clause or the matrix clause. This, I call the recursive strategy. It is illustrated in (4).
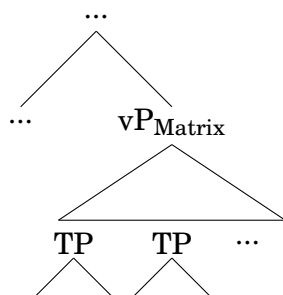
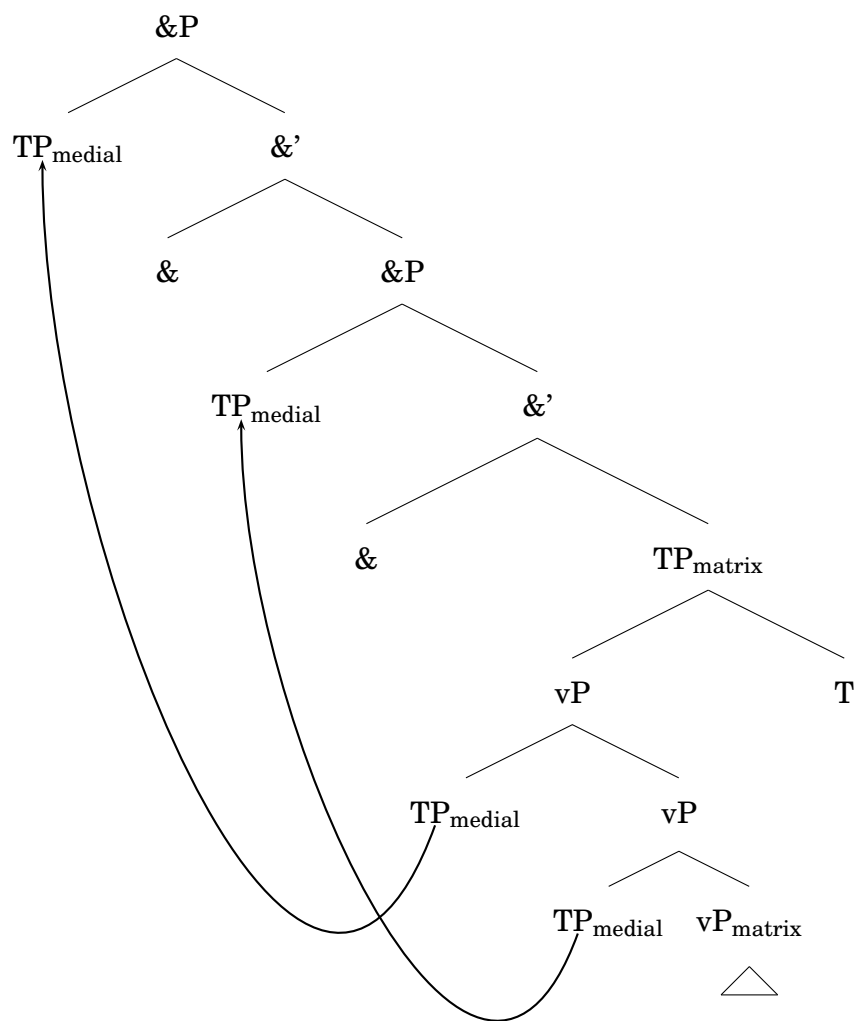(3)   *Iterative Strategy:*   (4)   *Recursive Strategy:*
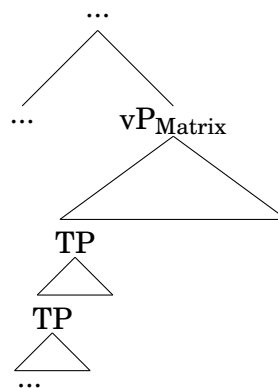
Both strategies differ crucially in how the derivation proceeds. As for the iterative strategy, each clause moves up to a specifier of its own &P-shell. The resulting structure looks pretty much as the case in (2). The matrix clause is merged as a complement of the lowest &-head and every medial clause is located in the specifier of an &P.

As for the recursive strategy, the picture is a bit more complicated, at least at first sight. Since most of the medial clauses are base-generated as adjuncts to other medial clauses, the derivation begins to conjoin medial clauses under exclusion of the matrix clause. In the simplest case of two medial clauses, the first medial clause starts out as an adjunct of the second medial clause. It then moves to the specifier of a coordination head conjoining both medial clauses. That coordination head itself is adjoined to the matrix clause and, in the final step of the (relevant) derivation, it moves to the specifier of another &P.
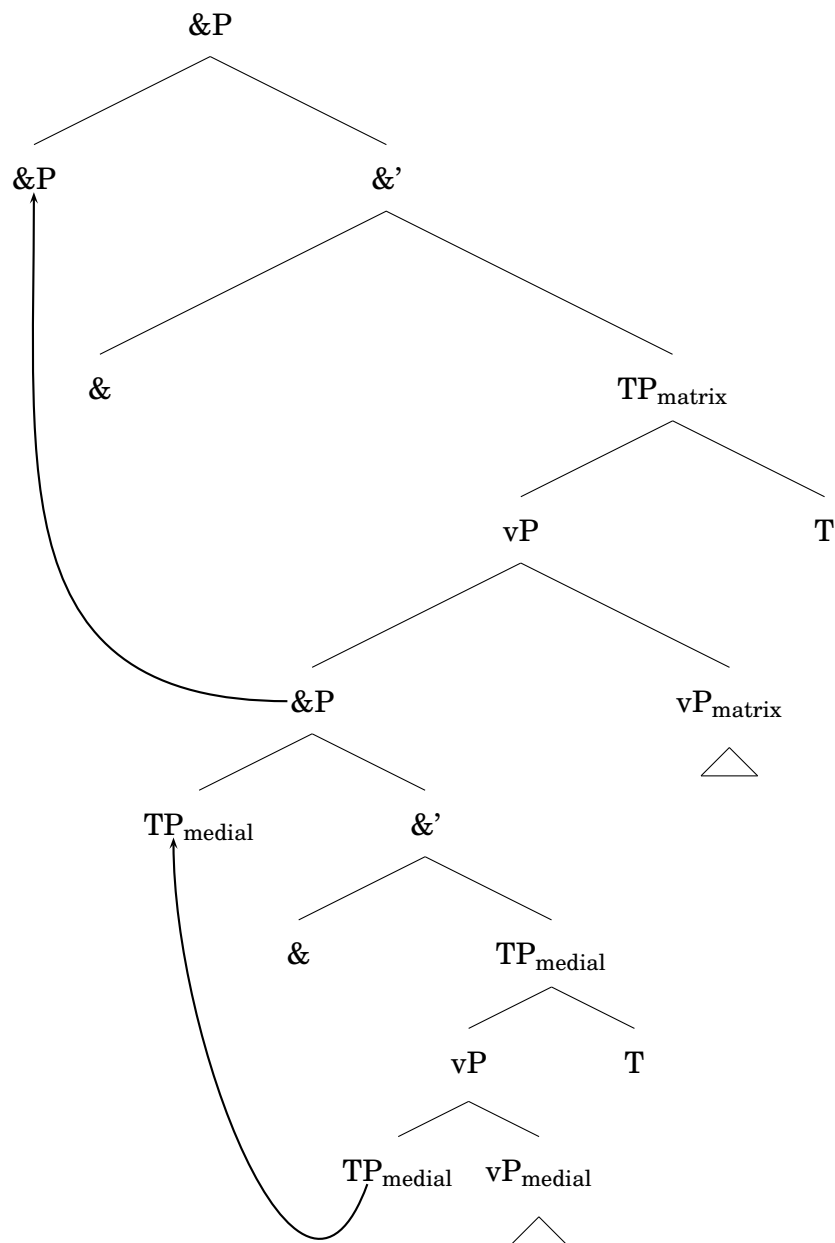
These derivations are illustrated in (5) and (6) for three-clause chains. One can imagine that the representations can become very complex with more than three conjuncts, especially with the recursive strategy.

(5)   *Iterative Strategy:*

```
                        &P
                      /    \
            TP_medial        &'
                            /    \
                          &        &P
                                 /    \
                          TP_medial     &'
                                       /    \
                                     &        TP_matrix
                                              /        \
                                           vP            T
                                         /    \
                                  TP_medial     vP
                                               /    \
                                        TP_medial   vP_matrix
                                                       △
```

89

(6)   *Recursive Strategy:*

```
                              &P
                    ┌─────────┴─────────┐
                   &P                    &'
                    │         ┌──────────┴──────────┐
                    │         &                   TP_matrix
                    │                        ┌──────┴──────┐
                    │                       vP             T
                    │                  ┌─────┴─────┐
                    └──────────────── &P        vP_matrix
                               ┌──────┴──────┐      △
                          TP_medial        &'
                               │      ┌──────┴──────┐
                               │      &          TP_medial
                               │              ┌──────┴──────┐
                               │             vP             T
                               │        ┌─────┴─────┐
                               └─── TP_medial    vP_medial
                                                    △
```

In (5) and (6), we have established two structures our theory predicts as possible derivations of chains with multiple clauses. The question is whether both strategies are empirically attested and, if they are, how we can distinguish these two strategies empirically. In the remainder of this section, I will show that in fact both of these

strategies are attested and we can distinguish them if we take a look at switch-reference morphology.

Up to this point, switch-reference morphology has largely been ignored in this work even though the topics of switch-reference and clause chaining are, of course, related (or at least relevant for each other) to a certain degree. Switch-reference is a morphosyntactic category which is mostly but not exclusively found in clause chaining constructions. Its prototypical definition was coined by (Jacobsen, 1967, p.240) and states that switch-reference "consists in the fact that a switch in subject or agent [...] is *obligatorily* indicated in certain situations by a morpheme, usually suffixed, which may or may not carry other meanings in addition."[1]

A typical example comes from the Papuan language Kobon:

(7)   a.   Yad kaj pak-em,   ram ud ar-nab-in.
           I   pig kill-SS.1SG house take go-FUT-1SG
          'I will kill a pig and take it to the house.'

    b.   Yad kaj pak-nö,   ne ram ud ar-nab-ön.
           I   pig kill-DS.1SG you house take go-FUT-2SG
          'I will kill a pig and you will take it to the house.'

Kobon: Comrie and Davis (2013, p.1)

The marker in (7-a) indicates that its subject is first person singular and that the subject of the following clause is the same. The marker suffixed to the first verb in (7-b) indicates that its subject is first person singular **and** that the subject of the following clause is a different one.

Importantly, it is a widely accepted generalization about switch-reference that, if two clauses are in a dependency relation, the dependent clause marks whether its subject is

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[1]Needless to say, this is not an uncontroversial definition of switch-reference. There is an enormous amount of data which do not fall under the given definition or which seem to contradict it. A more detailed discussion of the relation between clause chaining and switch-reference will follow in Chapter 9. However, for the sake of the discussion in this chapter, Jacobsen's definition is sufficient.

coreferent with the subject of the clause it is dependent on. This generalization provides us with the key to identifying the dependency relations in clause chain. Take a look at the following example:

(8)   mai-pa   mai   ʔufei-mene-pa yene nen-ou-pa   nen-ou-pa   tefe-pa
      come.up-SS come.up watch-STAT-SS bird 3PL-shoot-SS 3PL-shoot-SS put-SS
      mene-a-te   wai ʔoʔaisa-a-te   wai ʔai pau-a-ʔa.
      stay-3SG-DS again afternoon-3SG-DS again rustle erupt-3SG-IND
      'He came up and watched and he shot birds and put them and he stayed. Again it was afternoon, and again there was a rustling sound.'

<div align="right">*Tauya:* MacDonald (1990, p.367)</div>

The question we must ask to determine whether Tauya makes use of the iterative or the recursive strategy is whether the verbs marked for switch-reference compare their subjects with the subject of the matrix clause or with the subject of the immediately following clause. The subject of the first verb in the chain is a third person pronoun referring to an animate entity (the man). The first verb is marked for same subject. But since the subject of the final verb is *the rustling sound*, we know that the first clause does not directly depend on the finite clause. Rather, what we find is that the first clause is dependent on the second clause, the second is dependent on the third clause, etc. Abstractly, the example in (8) can be transcribed as in (9).

(9)   come.up-SS watch-SS shoot-SS put-SS stay-DS afternoon-DS erupt-DS

Each verb compares its subject with the subject of the immediately following verb to determine whether it needs a SAME SUBJECT-morpheme or a DIFFERENT SUBJECT-morpheme.[2]

---

[2]To be precise, on the basis of the data in (9), one cannot exclude the possibility that this structure is partly iterative and partly recursive. For example, it could, in principle, be possible that the first and

Hence, we may conclude that Tauya makes use of the recursive strategy for forming clause chains. As the reader may confirm with other examples in the previous chapters, the recursive strategy seems to be the far more widespread strategy in the world's languages.

However, it is of importance that it is not the only one. Several languages have the possibility to choose between the two. Consider the following minimal pair from Maricopa, a Yuman language.

(10)   a.   'ayuu   ny-rav-m ny-wik-m   '-wikpat-k
              something 1-hurt-DS 3>1-help-DS 1-help-again-ASP
              'I helped him because he helped me when I was sick'

       b.   'ayuu   ny-rav-k ny-wik-m   '-wikpat-k
              something 1-hurt-SS 3>1-help-DS 1-help-again-ASP
              'When I was sick, I helped him because he helped me'

Maricopa: Gordon (1983, p.94)

The only difference between both examples is the switch-reference marker of the first verb. In (10-a), the first verb carries a DIFFERENT-SUBJECT marker because it compares its subject with the subject of the second clause, whose subject is third person. This is the recursive strategy. Interestingly however, when the semantics is slightly different, the speakers of Maricopa can also apply the iterative strategy as shown in (10-b). Here, the first verb carries a SAME-SUBJECT marker because it compares its subject with the subject of the final clause, whose subject is also first person. In the literature, this phenomenon is sometimes called *clause-skipping*. Abstractly, we may represent this minimal pair as follows:

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the second verb are base-generated as adjuncts to the third one. Since the subjects of all three verbs are identical, that could not be distinguished on purely morphosyntactical grounds. Since I will show below that languages may indeed switch between the recursive and the iterative strategy within one chain, this is a possibility.

(11)   *The recursive and the iterative strategy in Maricopa:*

    a.   1-hurt-DS   3-help-DS   1-help.

    b.   1-hurt-SS   3-help-DS   1-help.

A second, even more intriguing example of different strategies comes from the Panoan language Kashibo-Kakataibo (Zariquiey Biondi (2011)). In contrast to the switch-reference system in Maricopa, which has exactly two markers (*-k* and *-m*), the system of Kashibo-Kakataibo appears to be incredibly complex. Kashibo-Kakataibo makes use of 21 different markers to express switch-reference configurations. In addition to whether or not the subjects of the clauses are identical, the language also encodes relative tense and which grammatical function the (non-)identical noun phrases may bear. The switch-reference marker is *-i* for example if the subject of the reference clause is an S-argument but it is *-kin* if the subject is an A-argument.[3] This system, as enormously complex as it may seem, provides a perfect testing ground for our hypotheses because we can tell which verb depends on which not only from the (non-)identity of their subjects but also from the grammatical functions they assign. Consider the following example:

(12)   'ë=x   kana   pi-tankëxun   xëa-i   'abat-a-n.
            1SG=S NAR.1SG eat-S/A>A.ANT drink-S/A>A.SIM run-PFV-1/2
            'Drinking after eating, I ran.'

                                      Kashibo-Kakataibo: Zariquiey Biondi (2013, p.5)

---

[3]The terminology goes back to Dixon (1972); Comrie (1978). *S-argument* denotes the only argument of an intransitive verb. *A-argument* denotes the subject of a transitive clause while *P-argument* denotes its object.

The switch-reference marker of the first verb *tankëxun* means something like *the S or A argument of this verb is coreferential with the A argument of the target clause*. But since the final verb of the chain is intransitive, it becomes clear that the first verb does not (directly) depend on the third clause. It depends on the second one.

If we replace the morpheme *tankëxun* with *tankëx* as in (13), the situation is different. *tankëx* means *the S or A argument of this verb is coreferential with the S argument of the target clause*. Then, the first clause directly depends on the third one.

(13) ’ë=x   kana   pi-tankëx   xëa-i   ’abat-a-n.
      1SG=S NAR.1SG eat-S/A>S.ANT drink-s/a>a.sim run-PFV-1/2
      ‘Drinking after eating, I ran.’

                                   Kashibo-Kakataibo: Zariquiey Biondi (2013, p.5)

We can abstractly represent this minimal pair as (14).

(14) *The recursive and the iterative strategy in Kashibo-Kakataibo:*

      a. eat-S/A>A   drink-S/A>S   run-PFV-1/2

      b. eat-S/A>S   drink-S/A>S   run-PFV-1/2
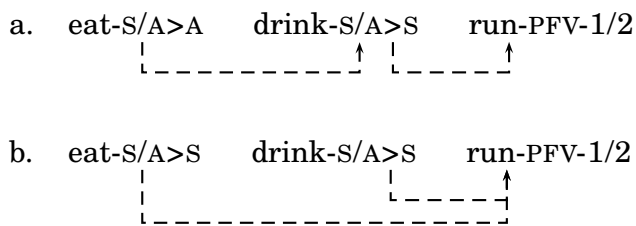
However, the special switch-reference configuration allows us to find much more complex cases which show that the recursive and the iterative strategy can even be mixed in one single example.

(15)   kwan-i   kaisa   ain bënë-n=isa   shërë-nu   tsatsa   'a-ru-i
         go-S/A>S NAR.REP her husband-ERG-REP current-LOC fish.ABS do-up-S/A>S
         kwan-ru-mainun   kaisa   xanu   a-x   kwëxpara man-ru-i
         go-up-DS.SIM.DUR IND-REP woman that-S fish.ABS   touch-up-S/A>S
         kwan-ru-akë-x-a   a-x   ain bënë   kaxu.
         go-up-REM.PAST-3-NON.PROX that-S her husbands behind

         'Going, while her husband was fishing up the current, and catching fishes, she went up behind her husband.'

<div align="right">

Kashibo-Kakataibo: Zariquiey Biondi (2013, p.10)

</div>

The switch-reference marker on the first verb $/-i/$ refers to an intransitive subject. Since the immediately following verb is transitive (as shown by the ergative case on its subject) we know that the first verb does not depend on the second one but on the final one which is indeed intransitive. In contrast to the clauses one, four and five, the subject of the second and the third clause is *her husband*. And since the second clause carries an SAME SUBJECT-marker, we know that the second clause is solely dependent on the third one. This way, we can figure out the dependency relations between the clauses in this example until we finally end up with the following dependency relations:

(16)   go-S/A>S   do-S/A>S   go-up-DS   touch-up-S/A>S   go.up-REM.PAST-3

We see that even within one sentence, the iterative and the recursive strategy can both be used. However, this falls out without further ado from the analysis proposed in Chapters 4 and 5. The dependency relations can be mapped directly to the dependency relations in which the medial TPs are base-generated. This is illustrated in (17).
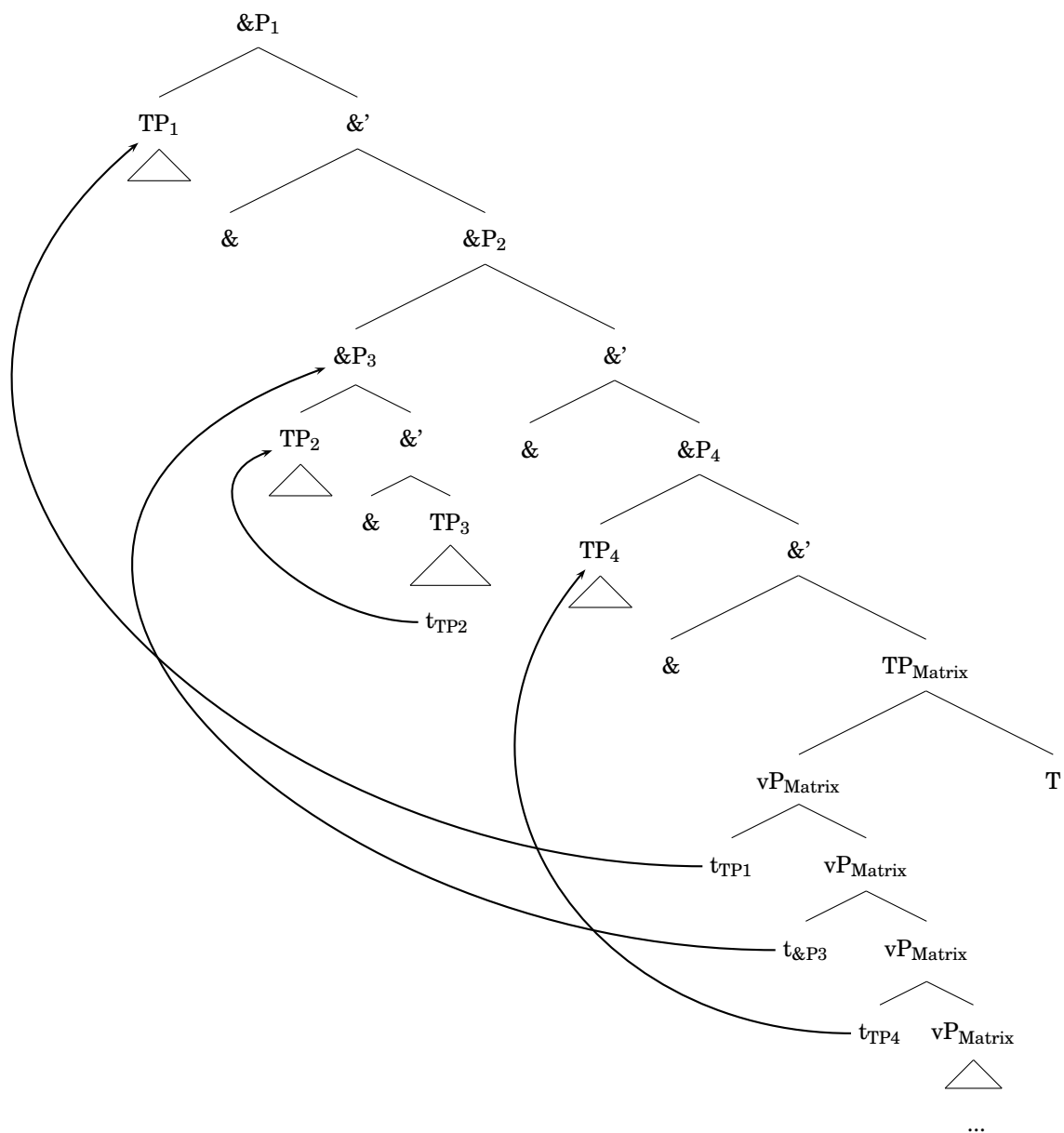
(17)   *Representation of the base-generation of clauses in (15):*
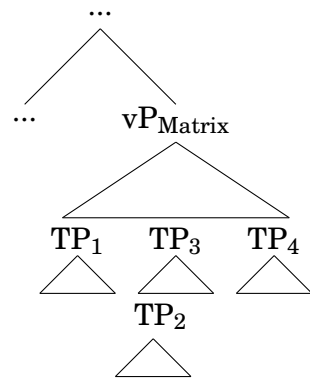
This base-generated structure is then transformed as in (18):

5. Multiple Medial Clauses

(18) Complete Derivation of (15):

&P$_1$

TP$_1$ &'

& &P$_2$

&P$_3$ &'

TP$_2$ &' & &P$_4$

& TP$_3$ TP$_4$ &'

t$_{TP2}$ & TP$_{Matrix}$

vP$_{Matrix}$ T

t$_{TP1}$ vP$_{Matrix}$

t$_{\&P3}$ vP$_{Matrix}$

t$_{TP4}$ vP$_{Matrix}$

...

Three of the four medial clauses are iteratively. They are base-generated as adjuncts to the matrix vP and moved to their respective specifiers of &P$_1$, &P$_2$ and &P$_4$. However, one of these medial clauses is complex itself because another medial clause has been adjoined to it. This is an instance of what we have called the recursive strategy.

98

I want to conclude this section by emphasizing that the possible shift between recursive and iterative strategies provides very strong evidence for the present theory. For the recent coordination approaches sketched in Chapter 3 in Keine (2013) and Nonato (2013), the examples seem very problematic. For Keine and Nonato, switch-reference markers are "just rich coordination morphology" (cf. Nonato (2013)). A switch-reference morpheme is a conjunction head which is sensitive to whether the subjects of the clauses it conjoins are coreferent or not. Hence, clause skipping examples are very hard to derive. Consider (19):

(19)
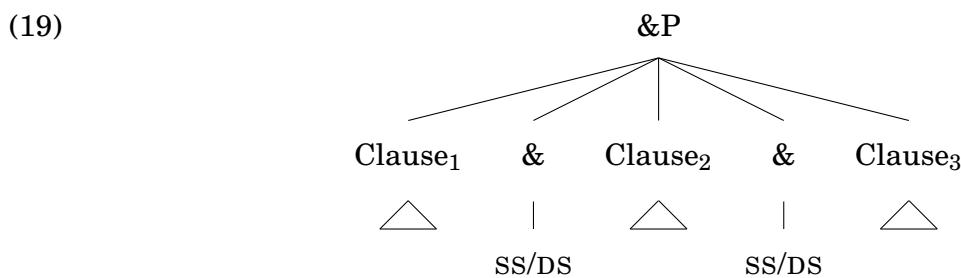
The first &-head compares the two subjects of clause$_1$ and clause$_2$ to decide whether it is realized as a SAME SUBJECT-marker or a DIFFERENT SUBJECT-marker. The second &-head compares the two subjects of clause$_2$ and clause$_3$. But what is very hard to derive is a clause skipping case in which the first &-head compares the subjects of clause$_1$ and clause$_3$.[4]

Let me illustrate that with the example of Keine's approach: In principle, a coordination approach also has the possibility for the distinction between the recursive and iterative strategy if a nested &P structure is used. If, for example, three conjuncts are combined, either the left or the right conjunct of the highest &P can be complex. How-

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[4]Keine actually discusses a few cases of clause skipping and provides convincing explanations for why, in these cases, subjects can be skipped. However, in the cases he discusses the clauses are skipped for lexical (or syntactic) reasons. E.g. he provides an explanation for why weather-verbs or passivized verbs are skipped in some languages (because they don't have a proper subject). However, as indicated by the minimal pairs from Maricopa and Kashibo-Kakataibo in (10), (12) and (13) lexical or syntactic properties of the verb do not suffice as an explanation here.

ever, under Keine's approach, the order in which the conjuncts are merged is restricted by their size. Same-subject clauses are VPs while different-subject clauses are vPs. Thus, cyclicity requires that same-subject clauses are conjoined earlier than different-subject clauses. This entails, that, under Keine's approach, a same-subject clause can never skip a different-subject clause to compare its subject. A sequence like (15) where the first clause is a same-subject clause and compares its subject with the one of the final clause, even though there is an intervening different-subject clause cannot be derived.

At this point, I do not see how the coordination approaches could be modified to account for the clause skipping examples we have seen in this chapter. Especially since all solutions one might envisage must account for the fact that the iterative and the recursive strategy can be combined in a single sentence.

One might say that the different dependency relations between clauses of a clause chain which we have seen in this chapter are also in a sense indicative of a subordinate structure. In a subordinate structure, these different dependency relations can be mapped to the different hierarchical adjunction layers. In a coordinate structure, this is not possible. Here, all we have is the linear order. And if the data seem to overwrite linear order because of internal hierarchical structure, the coordination approaches have a hard time accounting for that.

I hence take the possibility to derive the examples discussed in this chapter as a major advantage of the present analysis, which accommodates subordinate and coordinate properties of clause chaining constructions and combines them in the Derived Coordination Approach.

6. Medials remaining in situ: Converbs

An integral part of the theory presented in Chapter 4 was the idea that medial clauses are base-generated as adjuncts low in the tree. Only in a later step of the derivation are they promoted to be conjuncts. The adjoined base position of medial clauses was argued for because medial clauses exhibit several properties which are usually taken to be characteristic of subordinate clauses. However, one may question this assumption and state that the adjoined base position of medials is not properly motivated because the clauses never appear in that position on the surface. In this chapter, I argue that medial clauses can actually occur in their base position. However, in that case, they go by the name *Converb Clauses*.

The discussion in this chapter proceeds as follows. First, I will show that converb clauses look completely identical to medial clauses. They can include the same categories as medial clauses. Also, they show the same behavior as medial clauses with respect to the higher categories they cannot include and which they must obtain from the matrix clause they depend on.

Then, I will show that even though converb clauses look identical to medial clauses, their behavior with respect to the syntactic tests we applied to medial clauses in Chapter 2 is different. This time, the tests show coherent results as all tests point to a subordinate relation. Converb clauses are uncontroversially adverbially subordinate.

This, I will show, follows straightforwardly under the assumption that converb clauses are medials that have not been promoted to Spec&P. Converb clauses remain adjuncts.

6.1. General Properties of Converb Clauses

Haspelmath (1995) defines converbs as *a nonfinite verb form whose main function is to mark adverbial subordination*. Other definitions are given in Johanson (1995); Nedjalkov (1995) in the same volume.[1] Below I give some examples of prototypical converbs:

(1) Ajwe   ga-tajk-ɛma   kupren jaʔrat tɛ-penʔiwet-gʔek.
     yesterday CVB-make-CVB net   very   1SG-become.tired-1SG.PAST.INTR
     'Yesterday, making the net, I became very tired.'

                    Chukchi: cited in Skorik (1977) taken from Haspelmath (1995, p.2)

(2) ger-ees-ee   gar-aag   deuc-en   jil-iin   daraa ol-d-lao.
     house-ABL-REFL exit-CVB.PFV forty-ATTR year-GEN after   find-PASS-CONF
     'She went away from home and was found forty years later'

                                              Mongolian: Janhunen (2012, p.281)

(3) Saul-ei tak-ant pasiek–m   kryžkelę.
     sun-DAT rise-CVB reach-PAST-1PL crossroads-ACC
     'When the sun rose, we reached the crossroads'

                                           Lithuanian: Haspelmath (1995, p.2)

(4) paa=nu   iam-kar-ipa=tu   fa-ai-n.
     tooth=NOM painful-VERBLZ-CIRC.CVB=FOC eat-POT-NEG
     'Since my teeth hurt, I can't eat.'

                                         Ōgami Ryukyuan: Pellard (2012, p.105)

---

[1] It is my impression that in the recent typological literature, the label *converb* is used for quite a number of different phenomena. I will therefore not claim that any instance of what the literature calls *converb* can be derived under my analysis. Also, I will not enter the discussion whether gerunds or participles as in the English *Having sat down, I fell asleep* should receive the same analysis that I propose here. What I will do in this chapter is illustrate that quite a number of languages exhibit a verb form with specific semantic and syntactic properties that may be called *converb*. Then, I will argue that this verb form should receive the analysis I propose.

Converb clauses often consist of a nothing but a verb stem and a derivational affix which marks that the clause the verb heads functions as an adverbial subordinate clause modifying the main clause event. As we see below, converbs may, however, carry some other affixes expressing voice (cf. (5)) or negation (cf. (6)).

(5) kha-cop-so   puks-a
     APASS-watch-SIM.CVB 3SG.go-PAST
     'He went around looking at the people'

Puma: Schackow et al. (2012, p.3)

(6) kho=a   men-li   ŋa=a   pʌ-sin-nʌŋ
     3SG=ERG NEG.CVB-tell 1SG=ERG NEG-know-1SG.NEG
     'Without him telling me, I will not know.'

Puma: Schackow et al. (2012, p.10)

However, importantly, converbs are never marked for tense. They are always interpreted as having the same tense as the matrix clause. This is nicely shown by the following examples.

(7) Ondi gurt-e   berti-sa mon so-li   ukšo   šot-i-z
     Ondi house-ILL come-CVB 1SG 3SG-DAT money(.ACC) give-PAST-3SG
     'When Ondi came home, I gave him the money'

Udmurt: Winkler (2001, p.59)

(8) ked-i   [idur y-aq'e-yλ'or]   jašik' y-aɣi-me?
     girl(II)-ERG home II-come-POST.CVB box(IV) IV-open-Q.NEG.PAST
     'Did the girl open the box before she came?'

Hinuq: Forker (2013, p.25)

In these cases, only the matrix verb is marked for past tense but nevertheless the converb clauses are interpreted as if they were inflected for past tense as well. Converb clauses never carry their own tense markers. They are always dependent on the tense

expressed in the matrix clause.

However, as (8) also shows, converbs can be marked for relative tense. The converb form in Hinuq expresses posteriority, the converb in Puma above carries a marker indicating simultaneity, both of which are relative tense forms. As with the case of medial clauses, the tense described in the matrix clause functions as a temporal anchor with respect to which the relative tense forms in the converb clauses are aligned. The same thing can be observed in Komi Zyrian. The matrix verb is marked for past tense and the converb is marked for simultaneity, indicating that both actions took place at the same point in time.

(9)   vetl-ig-ɛn   ju   dorty syja adz̦-i-s   dona   iz̦
      walk-CVB.SIM-INS river near this find-PAST-3SG beautiful stone
      'He found a precious stone while walking near the river.'

Komi Zyrian: Sergeeva (2012, p.1)

In some (but not in all) languages, converbs allow for aspectual marking independent of the marking of the matrix clause. In these cases, the converb marker usual expresses aspectual distinctions as well, as shown by the example from Mongolian in (10). However, as exemplified by (11), this is not necessarily the case. Here, the converb expresses simultaneity, but, in addition, it is also marked for imperfective aspect:

(10)   ter uun-iig ul   dzeubsheor-c   gar-iin   useg dzour-xaas
      that this-ACC NEG accept-CVB.IPFV hand-GEN letter draw-POT.FUT.ABL
      tatgeldz-eb.
      abstain-TERM
      'He did not agree with this and so he abstained from signing.'

Mongolian: Janhunen (2012, p.282)[2]

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[2]Janhunen glosses the converbs in Mongolian as perfective and imperfective but states that their function is to describe relative tense (anteriority, simultaneity or posteriority). It should be noted that this seems to be a more general pattern. There are quite a number of languages in which the categories aspect and relative tense are blurred. See also discussion in Krave (2010) on Russian.

(11) ri-yaŋ-so   koseli   pʌ-itd-oŋ
      smile-IPFV-SIM.CVB present.NOM 3SG-give-1SG-PAST
      'Smiling, he gave me a present.'

Puma: Schackow et al. (2012, p.3)

As some of the examples above (see e.g. (3) and (7)) show, converb clauses can contain their own subjects. There are converbs which entail an obligatory same-subject reading such as the Puma example in (11). Schackow et al. (2012) explicitly note that the dropped subject of the first clause must be coreferent with the subject of the second clause. That does not mean that Puma prohibits distinctive subjects in converbs in general. The Puma negative converb *men*, for example, allows for a subject different from the subject of the matrix clause (see (12)). In most languages, we do find converbs that are specified for same subject relations and others specified for different subject relations.

(12) kho=a   men-li   ŋa=a   pʌ-sin-nʌŋ
      3SG=ERG NEG.CVB-tell 1SG=ERG NEG-know-1SG.NEG
      'Without him telling me, I will not know.'

Puma: Schackow et al. (2012, p.10)

What we have seen in this section is that converb clauses look a lot like medial clauses on the surface. They do not express absolute tense. Only relative tense is marked in some languages. Also, distinct aspectual marking seems to be possible in some cases. A converb clause can also have a subject different from the main clause subject. In addition, converb clauses are never marked for C-categories such as mood or evidentiality. In the next section, I will investigate how converb clauses behave with respect to the tests we used in Chapter 2.

6.2. Applying Clausal Relation Tests

In this section, we will investigate the clausal relations we find with converb clauses. To this end, we will apply the same tests we used in Chapter 2 and see whether converb clauses behave like subordinate or like coordinate clauses. To anticipate the results of this section, we will come to the conclusion that all tests indicate that converb clauses are uncontroversially subordinate.

We start with the deranking test. We have already seen the relevant examples in the preceding section from languages like Komi Zyrean or Puma (the former is repeated in (13)). Converb clauses are dependent on the matrix verb because only the matrix verb is fully inflected for the relevant syntacto-semantic features such as absolute tense, mood, etc. Converbs are not inflected for these kinds of features but are nevertheless interpreted as if they were. The deranking test indicates a subordinate relation between a converb clause and its host clause.

(13)   vetl-ig-ɛn   ju   dorty syja adz̦-i-s   dona   iz̦
        walk-CVB.SIM-INS river near this find-PAST-3SG beautiful stone
        'He found a precious stone while walking near the river.'

Komi Zyrian: Sergeeva (2012, p.1)

Next, we take a look at the extraction test and we find that converb clauses allow for a single constituent to be questioned. In (14) and (15), we find extraction out of the fully specified matrix clause across the converb clause. In the example in (14), from Korean, the direct object is topicalized to the left. In (15), an example from Japanese, the object of the matrix clause is clefted to the right of its matrix clause. Both topicalization in Korean and clefting in Japanese are generally analyzed as movement.

(14)   Taycen-ulo-nun John-i   hankwuk-ey ipkwukha-ko Tom-i
        Taycen-to-TOP John-NOM Korea-to   enter-CVB   Tom-NOM
        isaha-ess-ta.
        move-PAST-DECL
        'As for Taycen, after John entered Korea, Tom moved to it.

                                    Korean: Kwon and Polinsky (2008, p.93)

(15)   isya-ga   [kusuri-o   kaihatusi-te] naosita-no-wa yakuza-o   3-nin
        doctor-NOM [medicine-ACC invent-CVB] cured-FIN-TOP gangster-ACC 3-CL
        da.
        COP
        'It is three gangsters that the doctor cured by inventing the medicine.'

                                    Japanese: Hayashi (2012, p.91)

Hence, we can state that, as with medial clauses, the extraction test suggests a subordinate relation between the two clauses in question. Furthermore we also find some rare cases of extraction out of a converb clause. In (16), for example, we have relative clause formation of the direct object of a converb clause.

(16)   sonyen-i t_i namki-ki hakkyo-lo ttena-n   pheynci$_i$
        boy-NOM   leave-CVB school-to   depart-REL letter
        'a letter that the boy left and went to school'

                                    Korean: Kwon and Polinsky (2008, p.95)

(17)   mila   c'a j-all-alc   Ahwmad   irs   d-ol-ush v-a-ra?
        who.NOM home J-come-UNTIL.CVB Ahmed.NOM happy D-be-CVB V-AUX-PAST
        'Ahmed was happy until who came?'

                                    Chechen: Good (2003, p.48)[3]

But again, as with medial clauses, real extraction out of converb clauses is not frequently attested. Usually, questions are formed by using in situ wh-elements.

Thus, with respect to the extraction test, converb clauses also behave subordinate. Since they seem to share a lot of properties with medial clauses which in turn show a

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[3]D, J and V are Good's glosses for gender classes in Chechen.

6. Medials remaining in situ: Converbs

subordinate behavior with respect to the two tests above as well, this is not surprising. More interesting are the results of the tests below. Medial clauses behave like coordinate clauses with respect to the order of the clauses and the backward pronominalization test. Converb clauses, however, do not. They uniformly behave like subordinate clauses. This is shown below for the center embedding and the extraposition tests. In (18), we see that converb clauses can be center embedded in the matrix clause in Lezgian. Since the subject is marked for ergative and the converb clause is intransitive, we know that the subject is not part of the converb clause. Thus, the converb clause is embedded in between the matrix subject and the verb phrase. In (19), the verb phrase consisting of the verb and the object of the converb clause is embedded in between the dative object and the matrix verb.

(18)   Načal'nikdi sehnedi-z eqeč'-na   ča-z   wirida-z čuxsağul   laha-na.
       director.ERG stage-DAT go.out-CVB we-DAT all-DAT   thanks.ABS say-AOR
       'The director came onto the stage and thanked all of us.'

                                          Lezgian: Haspelmath (1993, p.376ff)

(19)   John wa Mary ni   boosi o   nui-de   aisatu si-ta.
       John TOP Mary DAT hat   ACC take.off-CVB greet do-PAST
       'John took off his hat and greeted Mary'

                                          Japanese: Haspelmath (1995, p.12)

(20)   ked-i   [idur y-aq'e-yƛ'or]   jašik' y-aγi-me?
       girl(II)-ERG home II-come-POST.CVB box(IV) IV-open-Q.NEG.PAST
       'Did the girl open the box before she came?'

                                          Hinuq: Forker (2013, p.25)

The Russian example in (21) shows that converb clauses are flexible with respect to whether they precede or follow their matrix clause. In (21-a), the converb clause *vernuvšis' domoj* precedes its matrix clause, in (21-b), it follows it.

108

(21)   a.   Vernuvšis'   domoj, Xèvgun, načal novuju žizn'.
            return.PFV.CVB home   Khevgun began new   life
            'Having returned home, Khevgun began a new life'

        b.   Xèvgun, načal novuju žizn', vernuvšis'   domoj.
            Khevgun began new   life   return.PFV.CVB home
            'Khevgun began a new life (after) returning home.'

Russian: Haspelmath (1995, p.13)

The same thing can be observed in Beztha, a Tsezic language. In (22-a), the converb clause precedes the matrix clause, and in (22-b), it follows it.

(22)   a.   huliʔ-is   ataa=na m-eƛ'e-na hiɬbaxo-yo   xabar-li-ƛ'a
            there-ABL far=and PL-go-CVB stay.PL-PAST story-OBL-LOC
            'Going away from there (we) stayed for a talk.'

        b.   hadbe bat'i-bat'iyaw raq-ma-do   b-iƛ'i-š=eƛ   buƛe
            3PL   different   direction-IN-DIR PL-go-PAST=NARR house
            yoƛu.koka-qo-r=no kur-no
            cindarello-LOC=and throw-CVB
            'They went away into different directions, leaving the house to cindarello.'

Beztha: Forker (2013, p.28)

This test thus also indicates that the converb clauses are subordinate: They can precede as well as follow their host clause. In this respect, converb clauses differ from medial clauses as the latter occupy a obligatory fixed position. They precede its host clause in the vast majority of the languages.

Let us have a look at the final test, namely backward pronominalization. We have seen in Chapter 2 that pronouns referring to a full DP in a related clause can only precede that DP if the relation between these two clauses is a subordinate one. In a coordinate relation, pronouns can never precede a coreferential full DP. The pattern can be illustrated on the basis of a simple English minimal pair:

(23)   a.   After he$_i$ went to the bookstore, Peter$_i$ bought the new bestseller.

      b. *He$_i$ went to the bookstore and Peter$_i$ bought the new bestseller.

In (23-a), a subordinate construction, the pronoun may precede the coreferential full DP. In (23-b), a coordinate relation, this leads to ungrammaticality.

What we have seen in the chapter about their syntactic behavior is that medial constructions pattern with coordinate constructions in this respect. Backward pronominalization is ungrammatical in medial constructions. So, let us have a look at whether backward pronominalization is allowed for in converb clauses.

In (24), another example from Beztha, we see that the pronoun *hogo* in the first clause of the sentence may be coreferential with the full DP *Žamilati* in the second clause.

(24)   hogo$_i$ y-uɣo-s   Žamilati$_i$ äčʼenayig=na iɫna ƛi   ömrö=nä
         3SG.FEM II-die-PRS Zhamilat.ERG ninety=and   six year life(III)=and
         b-oh-na.
         III-do-CVB
         'After Zhamilat had lived for 96 years, she died.'

                                          Bezhta: Forker (2013, p.29)

(25)   Tulys šundy-ly šumpoty-sa, bydes ludvyl serekja.
         spring sun-DAT rejoice-CVB whole field   laugh.PRS.3SG
         'Rejoicing over the spring sun, the whole field is laughing.'

                                          *Udmurt:*Haspelmath (1995, p.15).

We may thus conclude that backward pronominalization is grammatical in converb clauses. In this respect, converb clauses also differ from medial clauses.

The following table lists the results converb constructions yield when the standard clausal relation tests are applied. In the third column, the properties of medial clauses we determined in Chapter 2 are repeated. A comparison between these two types of clauses shows that medial clauses differ from classical converb clauses as they exhibit some coordinate properties. While converb constructions uniformly behave like subordinate clauses, medial clauses are somewhere in between.

(26)

	Converb Clauses	Medial clauses
Deranking Test	SUBORD	SUBORD
Extraction Test	SUBORD	SUBORD
Center Embedding Test	SUBORD	COORD
Extraposition Test	SUBORD	COORD
Backward Pronominalization Test	SUBORD	COORD

The mixed behavior of medial clauses was analyzed in Chapter 4 as the result of an adjunction structure being transformed into a coordination structure by means of movement to Spec&P. Since all tests we applied point to the conclusion that converb clauses are clear cases of subordinate constructions, it is plausible to assume that converb clauses are medials that do not undergo movement to Spec&P but rather stay in situ. In the next section, we will quickly review how this analysis derives the syntactic behavior of converb clauses we have seen so far.

6.3. Deriving the Syntactic Properties of Converb Clauses

In this section, we will show how the specific assumption that converb clauses are medial clauses in situ derive the syntactic properties determined in the preceding two sections. Since this discussion at least partly overlaps with the one about the derivation of medial clauses, it will be kept quite short and the reader will repeatedly be referred to the discussion in Chapter 4.

The underlying assumption concerning the structure of converb clauses is the following:

(27)   Assumption:

Medial clauses are converb clauses that have been moved to Spec&P.

That medial clauses are a special type of converb clause is not an unprecedented proposal. The formal similarity between both of these two categories has been noticed by typologists a couple of times now. For Turkic languages, Johanson (1995) makes a distinction between *modifying converbs* and *propulsive converbs*, the latter being his term for medial verbs. However, as the terminology already indicates, he takes these two categories to be subclasses of the same type. Similarly, Haspelmath (1995) discusses the fact that converbs and medial clauses share a great number of formal properties and raises the question whether these two classes are one and the same thing. Just as we did in this work so far, he arrives at the conclusion that converbs and medials are formally identical; the crucial difference only being the type of clausal relation involved. Converbs are adverbially subordinate and medials are cosubordinate, that is, they are in between subordination and coordination.[4]

It should be emphasized, though, that the present work is the first one to derive this typological observation in a generative framework. Under the standard assumption that subordinate and coordinate relations exclude each other, this obvious relation between the two constructions is completely unexpected. Standardly, these frameworks do not provide for transformational rules that map subordinate structures to coordinate ones or vice versa. Hence, converbs and medials cannot be related derivationally. Obviously, a robust empirical generalization has been missed.

The Derived Coordination approach on the other hand allows to capture this relation between converbs and medials in a remarkably simple way. The relation between medials and converbs is expected since they are basically the same thing. The only dif-

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[4]Earlier remarks that medial clauses and converbs share many (if not all) properties go back to, at least, Brockelmann (1954)

ference is that medials undergo one syntactic movement process that converbs do not: Movement to Spec&P. Accordingly, the assumed syntactic structure for converbs is the following:

(28)

```
                    ...
                  /    \
                vP       T
               /  \
          TP_def    vP
            /\        /\
           /__\      /__\
```
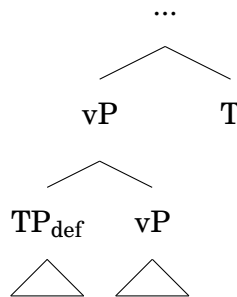
Converb clauses are TPs headed by a defective T-head which still needs tense features from the T-head of the host clause. They are base-generated in the exact same position as medial clauses, namely as an adjunct to SpecvP. In Krave (2010), it has been demonstrated that the way in which converb clauses semantically modify the event of the matrix clause suggests that they are adjoined to SpecvP.[5]

So, having established a structure for converb clauses, we can now take a look at how the syntactic behavior of converbs can be derived. The first two properties are trivial in the sense that the underlying mechanisms are identical with the ones we have seen for medial clauses. As for the morphosyntactic dependence, we can simply assume the same agreement process as with medial clauses. Matrix T c-commands the defective embedded T-head and may thus assign tense features without any problems. The extraction test showed that converb constructions allow for asymmetric extraction from out of the matrix clause and, in some cases, also from out of the converb clause. To derive this property, we can also simply readopt the assumption made in Chapter 4.

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[5]It should be noted, though, that the proposal in this section, as well as the proposal about medial clauses in Chapter 4.2 does not crucially depend on this assumption. Both types of clauses could, in principle, be adjoined to VPs, vPs, TPs or to any additional projections in between.

There, we have seen that nonfinite vP-adjuncts may, in some languages, constitute an exception to the CED and be transparent for extraction.[6]

As for the other syntactic properties of converbs, we now must depart from the line of argumentation in Chapter 4. Medial clauses exhibit coordinate behavior with respect to the more surface-oriented tests like the order of clauses and the backward pronominalization test. So we must find an answer why backward pronominalization is allowed with converb clauses. However, given the fact that backward pronominalization is grammatical in subordinate contexts in general, the answer is not too surprising. Backward pronominalization in medial clauses is ungrammatical because the pronoun can neither be identified with its antecedent in terms of c-command nor in terms of linear precedence. Elements within conjuncts do not c-command each other and precedence does not help either. However, in the case of converbs, the situation is different. Here, the element within the matrix clause c-commands the pronoun in the converb clause on LF. Thus, according to Williams' (1997) GPAD, converb constructions are of type (29-a) and hence the grammaticality of backward pronominalization is expected.

(29)   *General Pattern of Anaphoric Dependence*

    a. [...pro...]$_{\text{subord}}$ [...antec...]$_{\text{matrix}}$

    b.*[...pro...]$_{\text{matrix}}$ [...antec...]$_{\text{matrix}}$

    c. [...antec...]$_{\text{matrix}}$ [...pro...]$_{\text{subord}}$

    d. [...antec...]$_{\text{matrix}}$ [...pro...]$_{\text{matrix}}$

(Williams, 1997, p.588)

In the same manner, the order of clauses can be easily derived under the assumption of an adjunction structure. Adjunct clauses are typically known to be flexible with respect to their position. That is, they can precede or follow the matrix clause and, to a certain

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[6]Though there this fact is not derived but rather stipulated. See Chapter 4 in Part III for a theoretical solution.

extent, occur in between constituents of the matrix clause. This flexibility is usually accounted for by either left- or right-adjoining the adverbial clauses as well as the possibility of subsequent movement steps of the adverbial clause as a whole. Adverbial clauses that precede their matrix clause are often moved to a position in the left periphery while adverbial clauses that follow their matrix clause are often extraposed to the right.[7] The combination of left- and right-adjoined base positions and the possibility of movement to the left or extraposition to the right is usually taken to be sufficient to derive the word order flexibility of adverbial subordinate clauses. Peripheral adverbial clauses can be derived without any problems. The center-embedded cases we have seen in the last section can be derived under the assumption that they stay in situ in their vP-internal base position, and that the constituents of the matrix clause are ordered to both sides of them.[8]

What we have seen in this chapter is that converb clauses look a lot like medial clauses on the surface. They are nonfinite as they do not carry tense markers (except for relative tense), mood markers, evidentials, etc. Just like medials, they can carry aspectual markers and contain their own subject. The Derived Coordination Approach to medial clauses that was proposed in Chapter 4 allows to capture this obvious relation between these two categories elegantly. Converbs are medial clauses that have not moved to Spec&P but rather stay in their base position. It is to be emphasized that this relation between these two categories can hardly be accounted for under the coordination approaches to clause chaining discussed in Chapter 3. Since converb clauses

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[7]This assumption seems to be borne out at least for Turkish, as Johanson (1995) states that converb clauses preceding the matrix clause often occupy the Turkish prefield. Similarly, adjunct clauses that occur left of the matrix clause in German occupy the so-called prefield.

[8]It should be noted that this does not derive any possible center-embedding configuration. Under these assumptions, vP-adjuncts are not expected to occur in between a verb and its object (if both can be shown to be in situ). However, I will not address this issue further at this point for two reasons. First, I do not know of a comprehensive typological investigation in which positions converb clauses can be center-embedded and in which they cannot. Hence, a discussion of whether this proposal makes the empirically right predictions would be mere speculation. Second, this problem is not only a potential problem of converb clauses but rather of adverbial subordinate clauses in general. Hence, I take it that any solution proposed for adverbial clauses also applies to converb clauses.

uniformly behave like subordinate clauses, the obvious relation between converbs and medials is nothing but a mysterious coincidence in these approaches. Hence, the fact that the present approach captures this generalization is taken as another strong piece of evidence in favor of the Derived Coordination Approach.

7. Two Case Studies: Tsakhur and Korean

So far, we have investigated clause chaining constructions and derived the specific relations between the different types of clauses that can be involved in clause chains: medial clauses and converb clauses. To this end, we have seen data from a wide range of languages. In this chapter, we will investigate clause chaining constructions in two languages that constitute especially interesting cases for this discussion because they illustrate the close connection between medial clauses and converbs even more clearly. The two languages in question are Tsakhur on the one hand and Korean on the other. As we will see, although they are completely unrelated, these languages show a very similar pattern with respect to clause chaining and converb clauses. We start out with Tsakhur.

7.1. Two Types of Converbs in Tsakhur

Tsakhur, a Daghestanian language from the Caucasus (spoken in parts of Russia and Azerbaijan) is an SOV language but nevertheless exhibits relatively free word order (for discussion see Kibrik (1999); Kazenin and Testelets (2004)). As is very frequent in Caucasian languages, Tsakhur has a number of ways to express subordination. The one we are interested in in this work is what Kazenin and Testelets (2004) call the General

Converb construction. A typical example is given in (1).

(1)   eminat-ē   ma-n   ǯuwab   iwho   rasul
        Aminat-ERG this-ATTR-4CL word-4CL say.PFV.CVB Rasul.1CL
        ark'ɨn-na.
        leave-PFV.1CL-ATTR.1CL
        'Aminat having said this word, Rasul left.'

Tsakhur Kazenin and Testelets (2004, p.233)

The morphosyntactic dependency of the general converb in Tsakhur is not as obvious as in the other languages we looked at, since the matrix verbs often do not bear any additional marking. Nevertheless, there is a difference between converbs and matrix verbs, since matrix verbs can bear additional marking; e.g. matrix verbs can occur in the attributive verb form as above and they can make use of all of the three stem alternatives, the perfective, the imperfective and the potential stem (see (Kazenin and Testelets, 2004, p.231) and Kibrik (1999)). Converbs occur in the perfective and the imperfective stem (thereby distinguishing relative tense along the lines sketched in Chapters 2 and 6) and cannot bear the attributive inflection.

Interestingly, Kazenin and Testelets (2004) note that the clausal relations with the general converb in Tsakhur are structurally ambiguous. They use a number of syntactic tests (which we will also have a look at below) to show that converbs can either be subordinate or coordinate. The decision whether converbs are in a subordinate or coordinate relation with the matrix clause is made on the basis of two factors: First, whether or not the subject of the converb clause is identical to the subject of the matrix clause and second, whether or not the converb clause and the matrix clause are in a causal relation. The generalization Kazenin & Testelets arrive at can be rephrased as in (2):

(2)   *Generalization about the clausal relation of converbs in Tsakhur:*

   A converb clause is subordinate if (a) or (b):

   (a) The subject of the matrix clause is coreferent with the subject of the converb clause.

   (b) The converb clause and the matrix clause are in a causal relation.

   Otherwise, the clause is coordinated with the matrix clause.

Kazenin & Testelets back up this claim using three different tests: The extraction test, the center embedding test, and what they call the morphosyntactic locus test. I will briefly give an account of the first two arguments here.[1]

   As for the center embedding test, the results are quite clear. If the converb clause has the same subject as the matrix clause or bears a causal relation with the matrix clause, then center embedding is possible, otherwise it is not:[2]

(3) a. rasul   [ma-n   ǰuwab   iwho]   ark'ɨn-na.
         Rasul.1CL this-ATTR-4CL word-4CL say.PFV.CVB leave-PFV.1CL-ATTR.1CL
         'Having said this word, Rasul left.'

   b. dak̄-ē   [diX   Xā-nče   ark'ɨn]   kaRɨz
         father-ERG son.1CL house-ELAT leave.PFV.CVB.1CL letter.4CL
         ot'k'un.
         write.PFV.4CL

         'The son having left home, the father wrote a letter' (probably with the request for the son to return)

   c. *zɨ [še-na   solulqa ark'ɨn]   ǰiga-j-l_j   aX-u.
         I.1CL he-ATTR.1CL left   leave.PFV.CVB.1CL place-OBL-SUP stay.1CL-PFV
         'He having gone to the left, I stayed.'

                         Tsakhur Kazenin and Testelets (2004, p.235f)

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[1]In the course of the discussion in Kazenin and Testelets (2004), the morphosyntactic locus test does not prove to yield fully reliable results with respect to the clausal relations in Tsakhur. Hence, I will not discuss this test here.

[2]Converb clauses are given in brackets.

In (3-a), center embedding is possible because the subject of the converb clause is coreferential with the subject of the matrix clause. Note that we know that (3-a) is a case of center embedding because *rasul* is absolutive and if it were part of the converb clause, it would bear ergative. In (3-b), center embedding is also possible even though the subjects are not identical. The reason is that a causal relation between these two clauses can be constructed (as indicated by the implication given in brackets). In (3-c), neither are the subjects identical nor can a causal relation be constructed. Hence, center embedding is ungrammatical. This suggests that (3-a) and (3-b) are subordinate constructions while (3-c) is a coordinate one.

Further evidence for this assumption comes from extraction patterns. Kazenin & Testelets note that relativization of elements inside a converb clause is possible only if both clauses have the same subject or a causal relation can be constructed.

(4) a. hama-na   pɨl   al̯āt'-u
         this-ATTR-1CL money.4CL take.4CL-PFV.CVB
         šad-xa-na   rasul   wo-r-na.
         glad-become.PFV.1CL-ATTR.1CL Rasul.1CL AUX-1CL-ATTR.1CL
         'This is Rasul who became happy having got the money.'[3]

     b. *eminat-ē   abɨ   zɨ   gɨnej   al̯āt'-in
         Aminat-ERG carry.PFV.CVB I.ERG bread.4CL buy.PFV.4CL-ATTR.4CL
         n̯ak   jug-un-o-d.
         milk.3CL good-ATTR.4CL-AUX-4CL
         'The milk which Aminat brought and I bought bread is good.'

<div align="right">*Tsakhur* Kazenin and Testelets (2004, p.233f)</div>

In (4-a), two clauses are combined, namely *Rasul became happy* and *Rasul got the money*. Since they have the same subject (and are very likely to bear a causal inter-

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[3]Unfortunately, this is not a fully convincing example for the claim made by Kazenin and Testelets (2004). One might object that the reason that relativization is possible in this case may also be due to the fact that *Rasul* is the subject of both clauses, and what we have here is ATB-movement rather than asymmetric movement out of only one class. Since I have not been able to find an uncontroversial example in the available sources on Tsakhur, we, at this point, cannot confirm the claim made by Kazenin & Testelets without fully conclusive evidence.
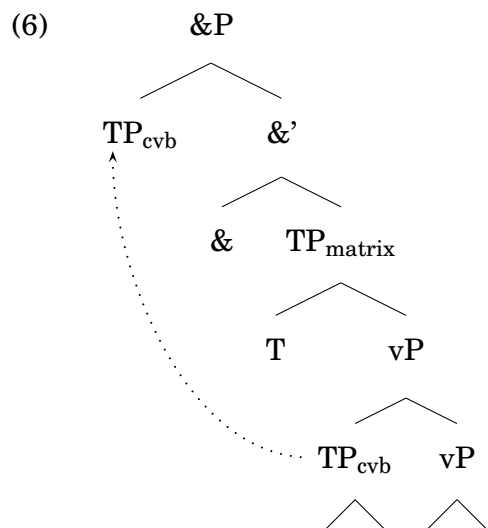
pretation), relativization is grammatical. In (4-b), the subjects of the respective clauses in question are not coreferent. Also, a causal interpretation is excluded (or at least very unlikely). Hence, relativization of an element contained in only one clause is ungrammatical. This suggests a structural difference between the two types of converbs.

So, how can we account for this difference? Following the general idea of the preceding chapters, one could propose that converb clauses which have the same subject as the matrix clause or which bear a causal relation are in fact converb clauses. Clauses with different subjects or without causal relations, however, are actually not converb clauses but medial clauses. Under this assumption, we are in a position to formulate a theoretical version of the generalization about the clausal relations in Tsakhur in (2).

(5)   *Generalization of Clausal Relations in Tsakhur Converb Clauses*
        (theoretical version):
        Converb clauses are moved to Spec&P if they neither bear a causal relation with
        the matrix clause nor have the same subject as the matrix clause.

Thus, the derivation for the two types of converb clauses in Tsakhur can be illustrated as in (6). Converb clauses are base-generated as adjuncts, irrespective of their feature specification. Then, the regular agreement processes apply. Matrix T agrees with the embedded T-head and since, independently, both T heads have agreed with their respective subjects, the indices of these subjects can be compared. If the indices are identical, nothing happens, but if they are not, then the converb clause is moved to the specifier of an &P yielding a coordinate structure. This potential movement step is indicated by the dotted line.

(6)

```
                  &P
          ┌────────┴────────┐
        TP_cvb              &'
          ▲          ┌──────┴──────┐
          ┊          &          TP_matrix
          ┊                  ┌──────┴──────┐
          ┊                  T            vP
          ┊                        ┌──────┴──────┐
          ┊                     TP_cvb          vP
          └──────────────────     △            △
```

The same holds for a possible causal relation. One could assume that converb clauses bear a feature which provides information whether the clause bears a causal interpretation.[4] If the clause has a causal interpretation, it stays in situ, if not, then it will move to Spec&P. So, at the point when matrix T and embedded T enter Agree, the decision is made if a coordinate head is merged and attract the converb clause to its specifier or not. This is illustrated in (7).

---

[4] Another possible way to account for these facts would be to assume that causal adverbial clauses are merged in a different position from which movement to Spec&P is not feasible.

(7)

TP$_{matrix}$

vP   T{subject: i}

TP$_{cvb}$ vP

T{rel:±causal}

{subject: i/j}
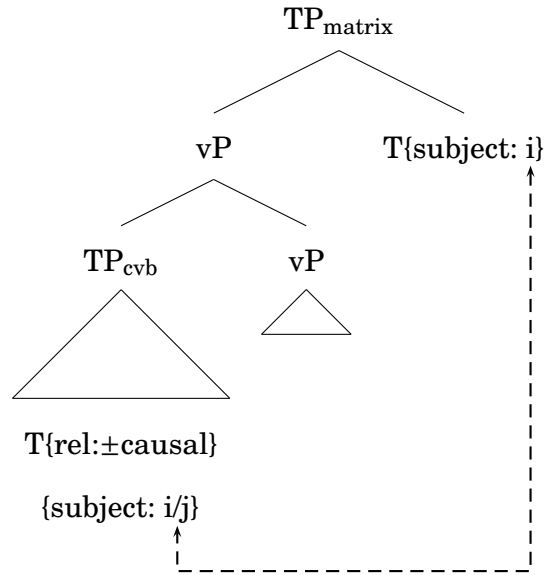
Movement to Spec&P applies if the agreement relation between both T heads yields identity of the indices (in this case if the index on embedded T is i) or if the embedded T-head is specified for {–causal}.

This may seem like a mere restatement of the observed facts. However, as we will see in the next section, in Korean we find a movement trigger that is quite similar. Maybe a closer look at the data in Tsakhur will reveal a more coherent notion of what triggers movement. It is to be emphasized that even though the analysis of the movement trigger in Tsakhur may not be very elegant at this point, we nevertheless saw that some movement approach captures the observed facts much better than an alternative approach which just assumes different base positions for coordinate and subordinate converbs. Such a base-generation approach cannot explain why these two types of clauses look completely identical on the surface. The Derived Coordination Approach, on the other hand, provides an explanation for the fact that subordinate and coordinate converb clauses are related. The explanation is simple: They are basically the same thing with the only exception being that one of them, namely the coordinate converb undergoes one movement step that subordinate converbs do not: Movement to Spec&P. Thus, this

analysis is definitely conceptually advantageous over the possible alternative approach.

Before we turn to the other case study about Korean in the next section, a note is in order on the extraction patterns in Tsakhur. One of the tests that distinguished subordinate from coordinate structures in Tsakhur was whether asymmetric extraction is possible. With converb clauses, asymmetric extraction is possible, whereas with medial clauses, extraction was ungrammatical. This is in conflict with the theory as it stands and raises the question how this can be accounted for. A number of possibilities will be presented in Chapter 8, where the empirical variation of medials and converb clauses is discussed, as well as in Chapter 4 in Part III of this work, where the extraction property is revisited more closely from a theoretical perspective.

7.2. Converbs and Chaining in Korean

In this section, we will take a look at chaining structures in Korean, and what we will see is a quite similar picture. In Korean, converb clauses and medial clauses are (mostly) morphologically identical, which also suggests a uniform analysis. Furthermore, we will see that the conditions on which clauses are converbs and which clauses are medials are not so different from Tsakhur.

But let us start from the beginning: The Korean construction we are interested in is the so-called *ko-construction* or, as Rudnitskaya (1998) puts it, the Altaic Coordination construction. A typical example is given in (8):

(8)   na-nun yangka-eyse   patao-n   ket-tul   nayngcangko-lang kimchi
      I-TOP   two.family-from receive-REL thing-REL refrigerator-and   kimchi
      nayngcangko-ey katuk chaywu-ko ppalay tolli-ko   naccam ca-ko   cemsim
      refrigerator-at fully fill-CVB   laundry run-CVB nap   sleep-CVB lunch
      mek-ko khemphyuthe com ha-ko   KKomayngi aykyen hothel-eyse
      eat-CVB computer   little do-CVB Komayngi   pet.dog hotel-from
      tyelyewa-ss-ta.
      bring-PAST-DECL

      'I filled up the refrigerator and Kimchi refrigerator with things that I received

      from my relatives, did laundry, took a nap, had lunch, worked a little bit on the

      computer and brought Kkomayngi back from the pet hotel.'

                                                    Korean: Kwon and Polinsky (2008, p.2)

The sentence in (8) looks like a textbook example of a clause chaining construction. Non-final verbs are incompletely marked. They lack tense and mood markers. In addition, they are marked for being nonfinite, carrying what is glossed as a converb marker. The final verb, however, carries a past tense as well as a declarative mood marker indicating that all verbs of this complex sentence are interpreted as if they were marked for declarative mood and past tense as well. So, if one applies the standard clausal relation tests to this construction in Korean, one finds that the structure seems to be ambiguous. Just as in Tsakhur, the construction either yields coordinate or subordinate results. In Korean, the decisive criterion seems to be the temporal relation between the clauses in question. Rudnitskaya (1998) and Kwon and Polinsky (2008) both arrive at the conclusion in (9):

(9)   *Generalization about the clausal relation of clause chains in Korean:*
      The clausal relation between clauses of a clause chaining construction in Korean
      is a coordinate one if the events described happen simultaneously. If the events
      are sequential, the relation is a subordinate one.

7. Two Case Studies: Tsakhur and Korean

Interestingly, Rudnitskaya (1998) and Kwon and Polinsky (2008) note that a sequential event interpretation entails a different subject interpretation in the vast majority of cases. Also, it is noted that the sequential reading often forces a causal relation between the two events. Hence, it seems that the conditions on whether a clause is subordinate or coordinate in Korean and Tsakhur are remarkably similar. In Korean, a sequential interpretation triggers a subordinate relation in the syntax and often entails a *same-subject* relation and a *cause-effect* interpretation semantically. In Tsakhur, Kazenin and Testelets (2004) claim that a *same-subject* relation or a *cause-effect* interpretation can trigger a subordinate syntax directly. This suggests that the same underlying process is at work here. Also, it is not out of the question that further research will reveal that the actual decisive criterion in Tsakhur for whether a clause is subordinate or coordinate is the distinction between simultaneity and sequentiality as well. Nonetheless, I will not decide this matter until conclusive data are available. In what follows, I will just assume that the distinction between subordinate and coordinate structures is triggered by relative tense (i.e. sequentiality vs. simultaneity) in Korean and by subject identity and/or causality in Tsakhur.

So, in order to show the empirical validity of the empirical generalization in (9), Rudnitskaya (1998) and Kwon and Polinsky (2008) use the same tests we have used in the preceding sections: The extraction test, the backwards pronominalization test and the center embedding/clause order test. I will briefly go through the relevant data:

If the events described happen simultaneously, as in (10-a), extraction out of one of the clauses is ungrammatical. If they apply sequentially, extraction is grammatical (cf. (10-b)). This suggests that (10-b) is not a coordinate structure.

(10)   a. *Mary-nun John-i   Jane-ul   cohaha-ko Tom-i   cohaha-n-ta.
           Mary-TOP John-NOM Jane-ACC like-CVB   Tom-NOM like-PRS-DECL
           'Mary, John likes Jane and Tom likes.'

Korean: (Kwon and Polinsky, 2008, p.5)

    b.   cohun cip-ul   Swun Mi-nun caki aphathu-lul   phal-ko
         good   house-ACC Sun   Mi-TOP self's appartment-ACC sell-CVB
         sa-ss-ta.
         buy-PAST-IND
         'A good house, Sun Mi sold her apartment and bought.'

<div align="right">

Korean: Rudnitskaya (1998, p.185)

</div>

Similarly, backward pronominalization is not allowed for if the the events described are simultaneous (cf. (11-a)) but it is if the events are sequential (cf. (11-b)).

(11)   a. *caki$_i$-ka Sue-lul cohaha-ko Tom$_i$-i   John-ul   silhehay-ss-ta.
         self-NOM Sue-ACC like-CVB   Tom-NOM John-ACC dislike-PAST-DECL
         'He$_i$ likes Sue and Tom$_i$ disliked John.'

      b.   caki-ka silswu-lul ha-ko Tom-i   na-eykey hwa-lul   nay-ss-ta.
         self-NOM error-ACC do-CVB Tom-NOM I-DAT   anger-ACC give-PAST-DECL
         'Tom got mad at me after he made an error.' (lit: He$_i$ made a mistake and Tom$_i$ got mad at me.')

<div align="right">

Korean: Kwon and Polinsky (2008, p.6)

</div>

Finally, center embedding is ungrammatical in cases with a simultaneous interpretation (cf. (12-a)) whereas it is grammatical in cases with a sequential interpretation (cf. (12-b)).

(12)   a. *Mary-ka [John-i   yakwu-lul   cohaha-ko] nongkwu-lul
         Mary-NOM [John-NOM baseball-ACC like-CVB   ] basketball-ACC
         silheha-ess-ta.
         dislike-PAST-DECL
         'John liked baseball and Mary disliked basketball'

      b.   Mary-ka [John-i   hakkyo-ey ka-ko] John-uy   pang-ey mollay tule
         Mary-NOM John-NOM school-to   go-CVB John-GEN room-to sneak enter
         ka-ess-ta.
         go-PAST-DECL
         'Mary, after John went to school, sneaked into John's house.'

<div align="right">

Korean: Kwon and Polinsky (2008, p.5)

</div>

So, it is evident that these clauses can either be subordinate or coordinate. As in Tsakhur, this suggests that the alleged converb clauses in Korean are of the same type but occupy different positions. This can be modeled by means of the Derived Coordination Approach and, accordingly, the empirical generalization in (9) can be rephrased as (13):

(13)   *Generalization about the clausal relation of clause chains in Korean (theory-internal version):*
         Converb clauses with a simultaneous event interpretation are moved to Spec&P whereas converb clauses with a sequential event interpretation stay in situ.

In Chapters 2 and 6, we have seen arguments that the defective T that heads medial clauses and converb clauses bears relative tense features. Hence, these features are present on embedded T and accordingly it is not surprising that the syntactic derivation is sensitive to them. Converb clauses which bear a relative tense feature with the value [rel.tense: simultaneous] undergo movement to Spec&P; those with a value [rel.tense: sequential] do not.

Based on this simple movement step, the respective properties of converbs or medial clauses are derived in the same fashion as in Chapters in 4 and 6. Sequential TPs (i.e. converbs) stay in situ and hence the subordinate properties are fully expected. Simultaneous TPs (i.e. medial clauses) move to Spec&P and thus show coordinate properties.[5]

Before we conclude the discussion about Korean, I would like to discuss one interesting complication that has not been addressed so far. Up to this point, I have omitted the fact that coordinate and subordinate clause chains can also be distinguished morphologically in some cases. In the examples above, all nonfinite verbs looked completely identical. They consisted of the verb stem plus the affix *-ko*. However, clauses in a coor-

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[5]As in the preceding section about Tsakhur, the question of why one cannot extract from medial clauses is postponed until the next Chapter.

dinate relation can, in addition, be marked for tense. In (14), the events described can either be interpreted as sequential or simultaneous. Hence, the sentence is, in principle, ambiguous between a coordinate and a subordinate structure. Thus, in (14-a), the nonfinite verb can optionally contain a tense marker.[6] Then however, the interpretation is no longer ambiguous. In that case, the events take place simultaneously. In (14-b), one of the direct objects has been moved to the front. This operation disambiguates the structure since asymmetric movement is only grammatical in subordinate constructions. However, as the data confirm, subordinate constructions are not compatible with the tense marker.

(14)   a.   Swun Mi-nun caki aphathu-lul   phal(-ass)-ko   cohun cip-ul
             Sun   Mi-TOP self's appartment-ACC sell(-PAST)-CVB good   house-ACC
             sa-ss-ta.
             buy-PAST-IND
             'Sun Mi sold her apartment and bought a good house.

    b.   cohun cip-ul   Swun Mi-nun caki aphathu-lul   phal(*-ass)-ko
             good   house-ACC Sun   Mi-TOP self's appartment-ACC sell(-PAST)-CVB
             sa-ss-ta.
             buy-PAST-IND
             'A good house, Sun Mi sold her apartment and bought.'

Korean: Rudnitskaya (1998, p.185)

This raises the question how this morphosyntactic difference can be derived if coordinate and subordinate clause chains are really one and the same thing. I will adopt a solution proposed by Hayashi (2012). He applies an idea by Chomsky (2000) to the phenomenon of Japanese *te*-clauses.[7] Chomsky (2000) argues that non-defective T must be

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[6]Even though the verb in (i) can be marked for tense, it is still justified to assume that it is nonfinite since work on Korean agrees that the relevant feature for finiteness in Korean is mood (see discussion in Rudnitskaya (1998); Kwon and Polinsky (2008)).

[7]Japanese *te*-clauses are in many ways similar to Korean *ko*-clauses and, as far as I can see, the analysis proposed in this Chapter for Tsakhur and Korean can be transferred to the Japanese case without any big problems. Hayashi (2012) adopts a base-generation approach. That is, coordinate and subordinate clauses are base-generated in their respective positions and are not derivationally related. Nevertheless, he still implicitly assumes that coordinate and subordinate clauses are identical with respect to

headed by C whereas defective T must not be. The reason is that non-defective T locally inherits features from C. This inheritance relation can also apply across &P-layers since it also works with regular TP-coordination. Thus, we can relate the difference in morphosyntax to a difference in position rather than to a difference in featural makeup. Consider the following derivation: A *ko*-clause with simultaneous interpretation is base generated as an adjunct. In that position, its tense feature is valued in order to achieve the correct interpretation. Then, it moves to Spec&P to establish a coordinate structure. This coordinate structure (i.e. a coordination of two TPs) is itself headed by declarative C.

(15)

```
                              C'
                             /  \
                          &P      C
                         /  \    {mood:Decl}
                   TP_def     &'
                   /  \      /  \
                  T   vP    &   TP_matrix
            {tense:Past} △        /  \
                                 T    vP
                           {tense:Past} △
```
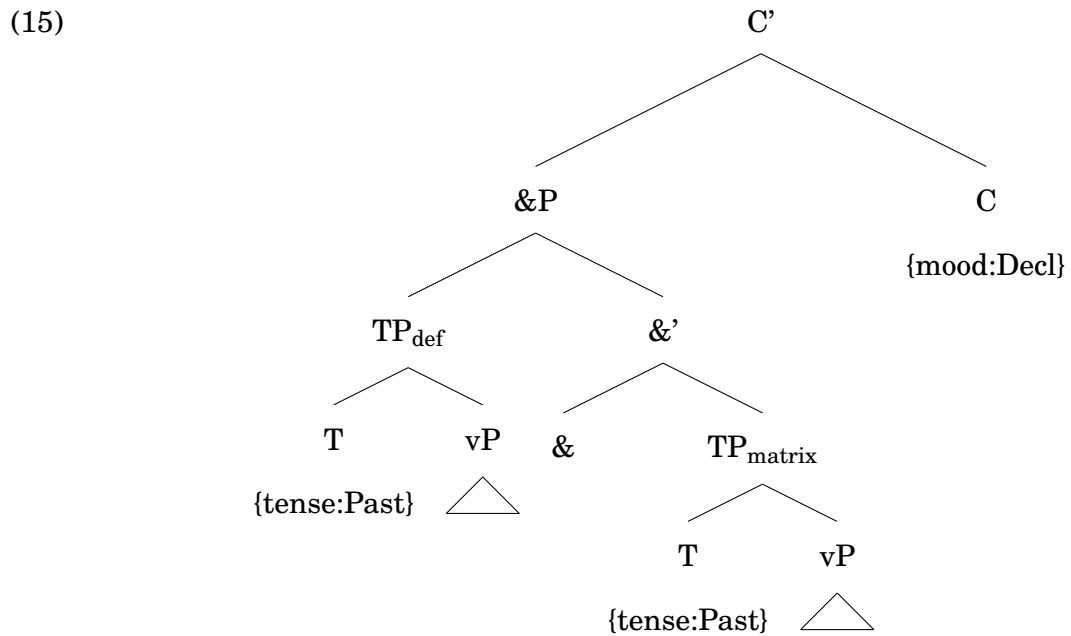
However, in this structure, defective T is in the same position in which a regular non-defective TP would occur, i.e. in the local "inheritance domain" of C. In this position, it can be optionally realized as *tense*.

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their featural makeup, which is why his analysis can be combined nicely with the present approach.

(16) T_{medial} in its base position   ⇔   /∅/

T_{medial} in Spec&P   ⇔   /∅/ or *tense*

T_{matrix} ⇔   *tense*

If the defective T-head is in the inheritance domain of C, realization as a tense morpheme is optional, if it is not, it is realized as null.[8] In other words, inherent tense features must be realized by a tense morpheme, valued tense features can be if they are headed by C^0. The question is how this optionality can be modeled. Obviously, this kind of disjunctive realization rule in (16) is not very elegant. One simple way to account for the optionality would to be assume that the probe on medial T which probes for tense features can also remain unvalued. In its adjoined base position, the probe on T_{medial} cannot be valued as can be seen from the fact that medial TPs that are not moved to Spec&P are never spelled out as tensed. Thus, when medial T probes upwards for the first time, it finds no goal. Then, by assumption, it is optional whether the probe remains active or whether it is deleted unvalued. If it is deleted, medial T is spelled out as null but if it remains active, subsequent movement into a higher position may enable it to find a proper goal in the course of the derivation.

In this chapter, we have seen two case studies of languages which exhibit both medial clauses and converb clauses. In both case studies, we could identify the grammatical trigger that forces some clauses to become medial clauses but leaves others in situ. In Tsakhur, the criterion was the (non-)identity of the subjects and the (non-)existence of a causal relation between the final clause and the non-final clause. In Korean, the features were the relative tense features located on the defective T-head. If the events in both clauses happen simultaneously, the clausal relation is a coordinate one, if they

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[8]More generally, this kind of allomorphy seems to be quite common amongst the world's languages. Cases in which the realization of a head X depends on the category which X selects or which X is selected by have been made responsible for a number of different phenomena. Most notably, English do-support, which has been argued to apply when there is an intervener (such as Neg^0) blocking "feature inheritance" from T downwards.

are sequential, it is a subordinate one.

A possible base-generation approach which assumes that clauses are just merged in different positions can derive the syntactic properties of both clause types but fails to account for the fact that these clauses look totally identical on the surface. Since converbs and medials share the vast majority of morphological properties, it seems like the base generation approach misses the crucial generalization about these kinds of clauses, namely that they are the same thing. The Derived Coordination Approach that has been advocated for in this work can close this gap in that it relates converb clauses and medial clauses derivationally. Under the assumption that medials are formed on the basis of converbs, the morphological similarities are no longer accidental.

One quick note before we proceed. The Japanese *te*-construction, which is in many ways identical to the Korean *ko*-construction, has been put forward as a key argument in Yuasa (2005) (but cf. also Yuasa and Sadock (2002)). There it is argued that modules of grammar can disagree with respect to the clausal relation status of a certain construction. According to Yuasa and Sadock (2002); Yuasa (2005), the Japanese *te*-construction, for example, is semantically coordinate but syntactically subordinate. This accounts for the attested properties of the construction under the additional assumption that each of these properties is related to either the syntax or the semantics. The Deranking property, for example, is related to the syntactic module and, hence, it is expected that medial clauses, which are syntactically subordinate, are morphosyntactically dependent on another clause. The fact that backward pronominalization is not allowed in Japanese (and Korean) medial clauses is accounted for if one follows the assumption that backward pronominalization is a semantic property. Then, it is expected that backward pronominalization is ungrammatical since medial clauses are semantically subordinate. This kind of argumentation, which follows the general line of argumentation in Culicover and Jackendoff (1997), comes at a high cost, namely the separation

of the syntactic and the semantic module.[9] In Minimalist theory and all of its predecessors, the semantics of an utterance is calculated on the basis of its syntax and thus syntax and semantics must necessarily be derivationally related. Thus, the view in Culicover and Jackendoff (1997); Yuasa and Sadock (2002); Yuasa (2005) is completely incompatible with a Minimalist perspective. In this work, I showed that independent developments in the research of coordinate structures have made it possible to account for these apparent mismatches between syntax and semantics without assuming a separation of the two modules (and a subsequent breakdown of the Minimalist architecture of grammar). The key to understanding the apparent mismatches is the Derived Coordination Approach or, more concretely, the assumption that subordinate structures can be mapped to coordinate ones throughout the derivation.

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[9]In Part II about asymmetric coordination, where the original cases from Culicover and Jackendoff (1997) are discussed, this argument is discussed in much more detail.

8. Crosslinguistic Variation of Clause Chaining Constructions

8.1. Parametrizing the Derived Coordination Approach

Up to this point I have deliberately excluded the question of crosslinguistic variation we find with clause chains. In the preceding chapters, only few examples hinted at the enormous range of empirical variation in this area. However, needless to say, there are a lot of different deviations from the concept of clause chaining that was sketched so far.

Recent typological literature has made great progress in describing the various variables that play a role in the definition of clause linkage types. A great number of investigations of clause chaining systems in specific languages have been conducted in recent years. Crosslinguistically, especially Bickel (2010) and Foley (2010) have illustrated the wide range of factors and parameters according to which types of clausal relations and clause chaining constructions in particular can vary. On the basis of what he calls a multivariate analysis, Bickel (2010) even goes so far as to state that the variation in this area is so extensive that crosslinguistic comparative notions of clausal relations such as, for example, *subordination* or *clause chaining* cannot be defined. Rather, each language-specific construction can be located on a (multidimensional) continuum

of clausal relation types.

Such a view, however, is not compatible with a generative framework, be it a framework of the Chomskyan tradition or others like Role and Reference Grammar. Each of these frameworks has certain primitives that are claimed to be crosslinguistically valid. That does not mean that crosslinguistic variation is not expected. Each framework has its means to account for language-specific properties. In frameworks of the Chomskyan tradition such as Minimalism, the concrete constructions we find in each language are the results of (more or less) complex derivations. And since these derivations are subject to language-specific processes or feature specifications, certain constructions can differ from language to language. As was discussed in detail in Chapter 4.1, the terms *coordination* and *subordination* are two of these universal primitives (or, rather, the structural relations these terms are associated with are thought to be universal primitives). Hence, a continuum between subordinate structures and coordinate structures cannot be implemented so easily into these frameworks.

So, the question is what the respective frameworks can do to counter these claims? The only possibility to derive the crosslinguistic variation is to derive a prototypical instance of this construction and meticulously analyze all kinds of possible variation attested in the relevant languages.[1] In the preceding chapters, what I believe to be the prototypical clause chaining construction has been derived. In this chapter, we are now in the position to discuss possible ways of how to parametrize the proposed analysis and to see whether we can capture the crosslinguistic variation in doing so.

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[1] Bickel (2010) discusses the possibility of defining a prototypical construction in order to document the attested deviations from this pattern. He, however, criticizes that the choice of prototype is always arbitrary. There be no good reason to decide whether the construction of a certain language should serve as a prototype, be it English, Amele or any other language. To a certain extent, this may be true. However, in generative frameworks, this choice of prototype is always driven by empirical but also theoretical considerations. In many cases, there are established concepts of what kind of structures count as marked in one way or another. Hence, there may be good reasons to posit unmarked structures when identifying a possible prototype. That the positing of a prototypical construction on theoretical grounds can be (and has been) criticized in both the typological and theoretical literature is a different matter.

The core idea of the Derived Coordination Approach is that clauses can be base-generated as adjuncts and then be moved to the specifier of an &P. This idea captures the mixed behavior of quite a number of constructions which do not seem to fit into the subordination-coordination dichotomy. However, the theory, as it stands, makes a number of additional assumptions to capture the empirical patterns found with clause chaining constructions. These additional assumptions are by no means indispensable. Some of them can be manipulated to capture rare language-specific patterns of these constructions. In particular, I argue that there are three major ways to parametrize the current approach:

- The size of the medial/converb clause:

  Medial clauses have been analyzed as TPs headed by a defective T-head. The main reason for this was the distribution of categories affixed to medial verbs. We usually find no absolute tense or illocutionary force marking in medial or converb clauses. However, as shown below, some languages can indeed express these categories on medial verbs.

- The featural makeup of heads in the medial/converb clause:

  In Chapter 4, the head of the medial clause was assumed to be a defective T-head because it only carries relative tense features and needs to have absolute tense features valued. The assumption of defectivity had a number of consequences, such as the transparency for extraction. Nonfinite adverbial clauses seem to be transparent for extraction more often than finite ones. However, the assumption that T is nonfinite because it has no tense is not necessarily needed. In principle, the T-head could bear tense features itself and thus count as finite and non-defective, or it could bear tense features and still be defective because, as is well-known, in some languages, the decisive category to determine finiteness is not tense but mood or something else.

- The height of the landing site the medial/converb clause moves to:

  Up to this point, we have always assumed a derivation for medial clauses according to which the medial clause in question ends up as being coordinate with the matrix TP. However, depending on its own size, other derivations are possible such as the one resulting in CP-coordination. The height at which medial clauses are attached to the matrix clause will play a crucial role in the discussion about the scope of main clause operators. The same question also arises with converb clauses. As we said in Chapter 6, converb clauses are not moved to Spec&P. However, that does not mean that they cannot move elsewhere. As we will see below, there are certain cases in which converb clauses are moved to SpecCP outside of the scope of matrix C for example.

8.2. Variation of Scopal Properties

In the following, I will discuss the relevant factors with respect to which the properties of clause chains can vary. We start out with the different scopal patterns of illocutionary force. In both Bickel (2010) and Foley (2010) it is noted that clause chains can vary as to which clause is in the scope of the matrix C-head. There are three possible patterns:

(1)   Possible Patterns of Scope of Illocutionary Force

    (i)   Conjunct scope: All clauses are in the scope of the matrix C-head.

    (ii)   Disjunct scope: Only one clause is in the scope of the matrix C-head.

    (iii)   Free scope: There is no restriction which clauses are interpreted as being in the scope of matrix C and which are not.

All three possibilities are attested. The first one is the one we took as prototypical for medial clauses. It was derived by the analysis in Chapter 4. Regardless of whether we

are dealing with a medial clause or a converb clause, both are in the c-command domain of matrix C and hence, both are interpreted as being in the scope of the illocutionary force marker. As for possibility (ii), we find cases in which only the matrix clause is interpreted as being in the scope of matrix C. An example is given in (2).[2] Here, we find that the converb clause, which is presupposed, is not in the scope of the question particle /*rā*/.

(2) āmun   biskut ŋar-i   doŋ-an   chē   yer-a   rā
     3SG.ERG biscuit buy-INF finish-CVB house come-3SG.PAST Q
     'When he finished buying biscuits, did he come?'   *Newari:* Genetti (2005)

The scopal pattern in (2) looks like that of a typical finite adverbial clause in English. However, finite adverbial clauses in English contain their own C-head and hence they are expected to be exempt from the scope of matrix C. However, in line with the possible parameters above, one could assume that the converb clause in Newari differs from the prototypical converb clause in that it is a CP instead of a TP. Then, it will behave like a adverbial clause in English because it has its own C-head and is not dependent on the C-head of the matrix clause. Finally, there is possibility (iii), which describes languages in which the scope of the matrix C-head is completely free. Either it may take scope over both clauses or over the second clause only or even only over the first clause. This possibility is found in Tauya:

(3) tepau-fe-pa   yate fitau-a-nae?
     break-TR-SS go   throw-2-Q

     reading (a): 'Did you break it and go away?' *or*

     reading (b): 'You broke it and did you go away?' *or*

     reading (c): 'Did you break it before going away?'

                                                 Tauya: MacDonald (1990, p.226)

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[2]It is unclear whether there are languages in which obligatorily only the medial or converb clause is in the scope of matrix C whereas the matrix clause obligatorily is not. As we can see below, we find cases in which such a configuration is attested as optional but from a perspective of iconicity, applying such a configuration as an obligatory strategy seems unlikely.

Under reading (a), the question particle takes scope over both the matrix and the medial clause. Under reading (b), it takes scope only over the matrix clause and under reading (c), it takes scope over the medial clause only.

Such configurations are generally problematic for a syntactic approach. To derive readings (a) and (b), one may assume Tauya medial clauses to be CPs with an optionally defective C. If C is defective, then the medial clause is in the scope of matrix C. If medial C is not defective, the medial clause is not in the scope of matrix C. However, in both cases, the matrix clause is in the scope of C as well. It is, thus, not clear how reading (c) can be derived unless one can find arguments that this reading is derived by pragmatic processes. There are, of course, technical ways of deriving the data such as assuming a phonological rule which displaces a sentence-internal question marker to the sentence-final position for whatever reason. However, unless this rule is not shown to apply in independent contexts, it seems that the theory, at this point, cannot account for the data.

A further parameter that exhibits variation that is identified in Bickel (2010) is whether medial or converb clauses can be marked for illocutionary force features or not. In Bickel's survey, being able to be marked for illocutionary force and being independent of the illocutionary force of the matrix clause are taken to be two logically independent variables. However, Bickel also notes that there is a strong correlation of these two variables (cf. Bickel (2010, p.35)). A strong correlation, however, does not mean there are no exceptions. When both binary variables are combined, four logically possible combinations emerge:

(4)   Combinations of Illocutionary Force Marking and Scope

	Ill. Force Marking possible?	Independent Ill. Force?
Pattern I	✓	✓
Pattern II	✗	✗
Pattern III	✓	✗
Pattern IV	✗	✓

Patterns I and II are the ones we expect. If a medial clause is endowed with a C head, then we expect it to be marked for illocutionary force features and we expect it to be able to project its independent force features (Pattern I). If the medial clause does not have its own C projection, then it cannot be marked for C-features and it is dependent on matrix C (Pattern II). The two other patterns are less straightforward. Pattern III describes a case in which the medial clause is marked for illocutionary force features but nevertheless is dependent on the features in the matrix clause. Such a case is derived by assuming a defective C-head which needs to have its features valued by matrix C. That is, the medial clause has a C-head but it does not contain the relevant C-features unless it receives the respective values from the matrix clause. Finally, pattern IV describes a case in which the medial (or converb) clause cannot be marked for illocutionary force features but nevertheless projects them. In other words, even though the medial clause does not have its own phonologically overt C-head, it is still independent of the C-features of the matrix clause. This may be captured by simply assuming C-head on top of the medial clause which is phonologically null.

The following languages exhibit the respective patterns. Pattern I is instantiated by Turkic in (5), where medials can be marked for illocutionary force and if they are marked, this implies independence from the illocutionary force of the matrix clause. In (6), an example from Amele is given. Here we see that medials cannot be marked for illocutionary force. And since Amele medial clauses are always dependent on the illocu-

tionary force features of the matrix clause, this is an instantiation of pattern II. Pattern III is illustrated by Belhare (cf. (7)). In Belhare, illocutionary force marking is possible on medial clauses but only when the marked features are identical to those we find in the matrix clause. That means that illocutionary force is marked on medial clauses but that these medial clauses are nevertheless dependent on the illocutionary force features of the matrix clause. Finally, pattern IV is instantiated by the Tauya example above under the reading (b) and (c) (cf. (3)). Under both readings, the medial clause is independent of the matrix clause with respect to illocutionary force even though it cannot be marked for it.

(5)   otu-up mu konuş-tu-lar?
        sit-CVB Q   speak-PAST-3PL
        'Did they speak (while they were) sitting?'   *Turkish:* Bickel (2010, p.11)

(6)   ho busale-ʔe-b   (*fo) dana age gbo-ig-a?
        pig run.out-DS-3SG Q   man 3PL hit-3PL-TOD.PAST
        'Did the pig run out and the men killed it?'   *Amele:* Roberts (1988*a*, p.52)

(7)   caw-a   ki   khar-a!
        eat-IMP SEQ go-IMP
        'Eat and go!'   *Belhare:* Bickel (2010, p.12)

As Bickel (2010) correctly states, the same kind of discussion we had about the variation of illocutionary force marking and scope can be conducted about the scope of other operators such as tense and negation. For the purpose of this work will mainly ignore the empirical variation of the latter.[3]

The situation is different with tense operators which are universally claimed to be located in T^0. In Chapter 4, where the concrete analysis of medial clauses was introduced,

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[3]The main reason for this decision is that it is my impression that the empirical variation with respect to negation in general is so enormous that locating it in the clausal architecture of a single language can be the topic of a book by itself, let alone crosslinguistically. My theory of clause chaining constructions indeed makes a number of interesting predictions which types of negation can occur in medial clauses and which cannot. However, since a definite distinction of clausal negation and constituent negation is a very complex task, these predictions can hardly be evaluated at this point.

the assumption was that medial clauses all have their own T-projection which may be more or less defective. The reason was mainly that this assumption allowed to locate the relative tense features without stipulative assumptions. However, nothing hinges on this decision. In languages that do not have relative tense morphemes, it may turn out that medial clauses are only vPs (as claimed in Nonato (2013) and partly in Keine (2013)). The theory is fully compatible with that. Thus, we may account for the attested variation in the same manner as we did with the illocutionary force features. According to Bickel (2010), two different patterns of tense relations are attested.

(8)   Possible Patterns of Scope of Tense

    (i)   Conjunct scope: All clauses are in the scope of the Tense-head.

    (ii)   Extensible scope: Medial (and converb) clauses can be in the scope of the matrix Tense-head but do not have to be.

Interestingly, the problematic option that we found with the scope of C is not attested. With illocutionary force features, we saw cases in which only the medial clause but not matrix clause is in the scope of matrix C. This is not found with tense features. Here, the matrix clause is always interpreted as being in the scope of matrix T. The examples below illustrate the two patterns in (8).

(9)   ho busale-ʔe-b   dana age gbo-gbag-an?
       pig run.out-DS-3SG Q   man 3PL   hit-3PL-FUT
       'The pig will run out (*not:* ran out) and the men will kill it'

Amele: Roberts (1988*a*, p.52)

(10)   na tɦem-əŋ   ɦya-sirə bəw-ra   dɦo-wa   ɦin.
        I   house-LOC go-SEQ   father-DAT meet-NOM be.NON.PAST
        'I will go home and see my father.' *or:*

        'Having gone home, I am to see my father.'

Chantyal: Noonan (1999)

In Amele, the tense of the medial clause is always identical with the tense of the respective matrix clause. Since Amele does not show any signs of relative tense marking, in principle, we have two options now. Either we stick to the assumption that Amele is an instance of the prototypical medial construction as introduced in Chapter 4 and additionally assume that the defective T-head in Amele is phonologically null, or we say that medial clauses in Amele are generally vPs and then no additional assumptions are necessary. The Chantyal example in (10) shows what Bickel calls extensible scope. Here, the tense of the matrix clause is NON.PAST, but whether or not the medial (or converb) clause is interpreted as having NON.PAST, too, is optional. We may derive this if we assume that Chantyal converb clauses are TPs headed by a T-head which is optionally defective. If it is defective, the medial clause is interpreted as having the same tense as the matrix clause. If it is not, then the tense features of both clauses are independent.

An alternative approach to derive the Chantyal pattern would be to assume that what we have in (10) is a converb clause which has undergone movement to a clause-initial position in the left periphery. In this position, it is no longer c-commanded by matrix C and hence, its temporal interpretation is completely free. Note, however, that such a derivation is only possible with converbs. Medial clauses, which have already moved to Spec&P, are trapped inside the &P by the Coordinate Structure Constraint. Thus, if clausal relation tests showed that (10) is medial clause rather than a converb clause, this alternative analysis is no longer an option.

8.3. Extraction

Another property which exhibits a certain amount of variation is extraction. According to the analyses in Chapters 4 and 6, medial and converb constructions do not behave coherently with respect to the question of extraction. Some languages do allow for extraction from out of converb/medial clauses, others do not. Furthermore, we have also seen

that different types of extraction behave differently. In (11), for example, we see that question formation in converb clauses in Chechen is grammatical but relative clause formation is not. The difference, according to Bickel (2010), is that wh-question formation does not involve overt movement since Chechen is a wh-in situ language. But with relative clause formation, overt movement takes place since the relativized element is moved out of the converb clause.

(11)   a.   Maliika   hu   iec-na   c'a   j-e'a-ra?
              Maliika.NOM what buy-CVB house J-come-WIT.PAST
              'What did Maliika buy and come home?'

        b.   *Zaara(-s)   ec-na   c'a   j-e'a-cha   j-olu   koch
              Zaara(-ERG) buy-CVB home J-come-CVB J-AUX.PTCP dress
              Intended: 'the dress that Zara bought and came home...'

                                                              Chechen: Bickel (2010, p.21ff)

Thus, there are basically two questions we have to answer to account for the variation. First, how can we account for the languages with extraction from converb/medial clauses in general? Second, how can we account for the asymmetries between different types of movement or between movement and wh-in situ?

As for the first question, there are a number of possibilities to account for the differences with respect to the transparency of clause chaining constructions. The theory in Chapter 4 argued that, in principle, extraction from out of medial/converb clauses is prohibited. There is simply no stage in the derivation when the crucial movement step does not violate a locality constraint. As long as the medial/converb clause is still an adjunct, extraction is banned due to the Condition on Extraction Domains (CED). After the medial clause is moved, extraction is ungrammatical as it violates the Coordinate Structure Constraint. However, since we have observed that some languages seem to allow for CED violations with nonfinite adjuncts, we can state that some languages indeed allow for extraction from out of medial/converb clauses. For some reason, defec-

tive, nonfinite adverbial clauses seem to be much more transparent for extraction that regular finite subordinate clauses.

Thus, the easiest solution to account for languages without extraction is to assume that the respective heads on top of the medial/converb clauses are not defective. Of course, this possibility is dependent on the actual implementation of the observation that nonfinite clauses are transparent while finite ones are not. But in some way or another, a comprehensive theory of islands must reflect this observation. I refer the reader to Chapter 4 in Part III of this work that discusses this question in more detail.

As for the second question, namely the asymmetry between movement and wh-in situ, there are a number of different possible answers. The minimal pair in (11) showed that there are medial/converb constructions in the world's languages which allow for wh-in situ but do not allow for literal extraction. As far as I can tell from the data, this is a quite common strategy. However, given that Huang (1982) has shown that the CED does not (necessarily) apply to covert movement, this difference is expected. If extraction from medial clauses would be banned due to the Coordinate Structure Constraint, we would not expect this kind of variation. The CSC holds for overt and covert movement alike. One might argue that the empirical variation we find thus suggests that attributing these kinds of locality effects to the CED rather than to other constraints is on the right track. Nevertheless, given that there are a number of different approaches to derive the CED from more abstract principles of syntactic structure building, we still need to find a suitable technical implementation that derives the CED and still is sensitive to the difference between overt and covert violations.

The second possibility to derive the difference between overt movement and wh-in situ is to pursue the unselective binding approach (see Pesetsky (1987) and subsequent literature). This approach does not assume movement in wh-in situ languages. Rather, it takes wh-elements to be variables which remain in their base position and which are

bound by an empty operator higher up in the tree. Under this approach, the asymmetries between wh-fronting and wh-in situ are easier to handle. Since the two types of question formation are created by different mechanisms (movement vs. binding), rather than by different versions of the same mechanism (overt vs. covert movement), the syntactic differences are less problematic. The generalization in Chechen and similar languages could then be paraphrased as non-defective T-heads are not transparent for extraction but they are transparent for binding. Given that the standard definitions of binding theory envisage CPs as the relevant domains which restrict binding (cf. Chomsky (1981)), the transparency for binding into medial/converb clauses is expected. Movement on the other hand is restricted by other factors as well. That is, whatever theory of islandhood we adopt, there must be a way to parametrize whether languages allow for movement out of medial/converb clauses or not. Hence, if we assume that syntactic movement out of converb clauses is not allowed in Chechen, but binding of wh-variables is because converb clauses are not CPs, then the data can be explained.

8.4. More Parameters

Bickel (2010) and Foley (2010) give a number of other factors with respect to which medial clauses and converb clauses can vary crosslinguistically. Since they do not necessarily concern the core of my analysis, or since the data are less clear, I will only mention them briefly in this section.

First of all, there is the issue of focus marking and focus interpretation. As with the other operators above, there are in principle two independent questions to be answered. First, whether medial or converb clauses can be interpreted as focused and second, whether they can be marked for focus. Since I do not want to make any bold claims about the location of focus markers (or more generally, of focus features) in the clausal spine, my theory does not make any strong predictions about what should be possible

and what should not be.

Under the prototypical analysis of converb and medial clauses in this work and, given the assumption that focus is an information which is relatively high up in the tree, we may expect focus marking not to be possible in converb or medial clauses. In some languages, this prediction seems to be borne out. The Chechen construction we saw in the preceding section, for example, does not allow for focus marking of the medial/converb clause.

(12)   Maliika   hu iec-na(*='a)   c'a   j-e'a-ra?
       Maliika.NOM what buy-CVB(*=FOC) house J-come-WIT.PAST
       'What did Maliika buy and come home?'

Chechen: Bickel (2010)

In Puma, however, the converb can be focused. Interestingly, focusing also does not have an influence on the illocutionary force interpretation.

(13)   risiwa=cha   mu-so(=ŋa)   mʌ-ta-a=ku   bura-ci?
       shamanic.rhythm=ADD do-CVB(=FOC) 3SG-come-PAST=NMLZ old.man-NON.SG
       'Did they come and play the drum?' *or:*

       'Did they play the drum while coming?' *or:*

       'Playing the drum, did they come?'

Puma: Schackow et al. (2012, p.10)

Second, another factor that varies amongst clause chaining constructions is the positioning of the clauses. In Chapters 2 and 6, the position of the allegedly subordinate clause was taken to be a standard test to distinguish truly subordinate structures from others. Thus, the analyses in Chapters 4 and 6 derived the fixed order of clauses in cases of medial clauses, and a free order the case of converb clauses. In Bickel (2010), it is claimed that with respect to this variable, there is also a certain amount of vari-

ation amongst the world's languages. However, the data he gives do not seem to be convincing at this point. He cites the Belhare *ki*-construction as one example of a construction which allows for the free order of clauses even though it is, according to him, functionally close to medial clauses. However, as the graph on page 31 shows, the *ki*-construction in Belhare crucially differs from examples of prototypical medial clauses in a number of other parameters as well. Thus, I do not take the Belhare examples as crucial counterexamples to the generalization that converbs allow for free word order and medials do not.[4]

Finally, the last parameter I want to mention briefly is whether medial or converb clauses can appear inside of the matrix clause. In Chapter 2, this, too, was introduced as one of the standard tests for clausal relations. Subordinate clauses can, under certain circumstances, occur main clause internally. Conjuncts never can. While this may be a practical rule of thumb, there are a number of complications. First, we must note that this generalization is only unidirectional. There are a number of reasons why clauses cannot occur main clause-internally, and only one of them is that they are not subordinate. In other words, ungrammaticality of center embedding contexts does not entail a coordinate relation. There may be other reasons for the ungrammaticality. Second, while this rule is probably correct for a combination of two full CPs, there are cases in which elements high up in the tree can occur before medial clauses even though they belong to the matrix clause. Take the following example from Kĩsêdjê:

(14) kôt   [Hwajitxi=ra hwĩsôsôk to   nhy=nhy] Ajuwelu=ra hrõn=ne mbra
      HYP.FUT H=NOM   paper   with sit.DS   A=NOM   run.SS stay
      'H. could be writing and then A. could be running.'

Kĩsêdjê: Nonato (2013, p.9)

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[4]The second example, Bickel gives comes from Chechen. However, this example only shows that there is no adjacency requirement between medial clauses and the matrix clause. Sequences of medial clauses can be interrupted by converb clauses. This, however, is not a surprise. We have seen examples of this type in Kashibo-Kakataibo in Chapter 5.

In a sense, the medial clause in brackets is center embedded into the matrix clause because it is preceded by the matrix clause mood marker and followed by the rest of the main clause. However, this does not entail a subordinate relation because the clause-initial mood marker can be analyzed as a C-element that takes the whole &P as a complement to its right. When the elements in question are categories that are usually associated with heads in T or C, the identification is usually not problematic. However, since other elements such as arguments or adjuncts can also be moved to the C-domain, we often cannot distinguish cases of center-embedding from cases of asymmetric extraction. In other words, we would need an in-depth study of a whole number of topics in a certain language (e.g. the extraction patterns, the inventory of functional categories and probably even the phonological structure that allows or disallows center-embedding) to find an unambiguous case of center embedding which shows that the prediction that my analysis makes is false. That does not mean that such cases do not exist, and if they do, they either need some further investigation or they may even turn out to be very problematic for my analysis. But at the moment I have no conclusive data to prove or falsify this claim that my analysis makes, namely that medial clauses cannot be center-embedded while converb clauses (sometimes) can.

8.5. Summary

In this chapter, I have tried to expand the view and cover, or at least discuss, a wide range of data which are not compatible with the analyses of Chapters 4 and 6. The properties of clause chaining constructions vary from language to language, and it is clear that one analysis cannot cover all languages at the same time. Thus, I have illustrated how the present approach can be parametrized. Most of the assumptions I made to derive the prototypical medial clause construction are not crucial and can be subject to variation. As far as I can see at this point, the only assumption that is really crucial

for the approach in this work is that medial clauses are base-generated as adjuncts and then moved to the specifier of an &P. All other assumptions are secondary.

To illustrate this, I gave a systematic account of the variation that was discussed in works like Bickel (2010) and Foley (2010), and I tried to show how a possible solution could look like. This approach has the disadvantage that possible interactions of the proposed solutions are neglected. So, for example, if one manipulates the assumption that the head of the medial clause is a defective head, then this has a whole number of consequences. On the one hand, this may have consequences on the scope and the marking of the medial clause. On the other hand, it may have an influence on whether or not extraction from that medial clause is allowed. In other words, even though every single puzzle piece of crosslinguistic variation has received an explanation, there may still be combinations of properties that cannot be derived with this analysis in its present state. However, since the identification of such combinations needs a great amount of data on medial or converb clauses in a certain language, I cannot tell, at this point, whether there are really languages for which the explanations provided in this chapter and the preceding ones do not suffice.

Before we proceed, however, there is one piece of data from Turkish that I briefly want to mention. Certain types of Turkish converbs clauses can bear a question marker. Given the assumptions in the preceding chapter, this could be explained by assuming that these converb clauses in Turkish are CPs. However, according to the table in the appendix in Bickel (2010), these converbs do not allow for tense marking and obligatorily obtain conjunct scope of the tense operator.

(15) a. Ali gel-ince   git-t-in   mi?
          Ali come-CVB go-PAST-2SG Q
          'Did you go when Ali came?'

b. Ali gel-ince   mi git-t-in?
    Ali come-CVB Q   go-PAST-2SG
    'Was it when Ali came that you went?'

Turkish: (Bickel, 2010, p.11)

Under the standard assumption that C heads non-defective T (Chomsky 2000), these data are definitely problematic. It is not clear how the absence of tense marking and the obligatory identity of tense features can be explained. Moreover, these data even seem to be a problem for the hierarchy of functional projections. I do not have a satisfying answer to that problem at this point, and I hope that future research will shed some light on this issue.

9. A new Perspective on Switch-Reference

The topic of clause chaining is closely related to the topic of switch-reference (SR). All the existing theories of clause chains (see Chapter 3) were proposed in order to justify a certain syntactic structure, on the basis of which the respective switch-reference mechanisms apply. As a result, the complex syntactic properties of clause chains have often been disregarded or neglected. But since we have established a comprehensive theory of clause chaining constructions by now, we are in the position to evaluate what the consequences for the respective theories of switch-reference are. Let me just briefly recapitulate some of the most important properties of the phenomenon of switch-reference marking.

(1)   a.   ni piru-a   na-wa
            I   sit.down-SS eat-1SG
            'I sat down and ate.'

      b.   ni piru-no   na-a
            I   sit.down-DS.1SG eat-3SG
            'I sat down and he ate.'

Kewa: Franklin (1983, p.40)

In its canonical form, an SR-marker expresses whether the subject of the clause it is attached to is identical to the subject of another clause. The clause it refers to is usually

the immediately following clause, but as we have seen in Chapter 5, one also finds instances of clause skipping. In the vast majority of the cases, the SR marker is a verbal affix, and since most SR languages are OV-languages, the SR marker often occurs right in between the clauses just like a clitic conjunction. Usually, the SR marker is sensitive only to the (non-)identity of the subjects involved, but the literature notes quite a few cases in which other factors can play a role as well. In what follows, I will follow Stirling (1993) and call these cases instances of *non-canonical switch-reference*.

The generative (and to a certain extent also the typological) literature on switch-reference can be divided into two camps. Those that analyze SR as a process applying to coordinate structures and those assuming that SR applies only under c-command, i.e. in subordinate structures. Haiman (1983), for example, proposes that SR can be described as an instance of coordination reduction or gapping. Finer (1984, 1985), on the other hand, argued that SR marking should rather be categorized as an instance of binding. Along with such proposals, there was always a more or less explicit claim that SR only or predominantly occurs in a certain syntactic context. Haiman claims that SR (typically) applies on the basis of coordinate structures while Finer claims that SR is found in adverbial subordinate clauses only. Even though Finer's claim was attacked in a number of typolgical works (see e.g. Roberts (1988*a*,*b*); Farrell et al. (1991)), most of the subsequent generative work on switch-reference assumed a subordinate relation to be responsible for switch-reference marking. Broadwell (1997); Watanabe (2000); Camacho (2010); Assmann (2012); Georgi (2012) all have proposed mechanisms to account for the distribution of SR markers which are based on the concepts of c-command. While Broadwell (1997) defends Finer's original claim that SR is an instance of binding, Watanabe (2000); Camacho (2010); Assmann (2012) argue that SR should rather be analyzed as agreement between certain elements of both clauses involved. Georgi (2012) proposes a different approach according to which the identical subjects in SAME SUB-

JECT-clauses are related by means of syntactic movement. Since syntactic movement, agreement and binding are generally taken to apply on the basis of c-command, all of these approaches assume a subordinate relation for the structures they analyze.[1]

Only very recently, a few approaches have been proposed which try to account for SR marking assuming a coordinate structure. Keine (2012, 2013) and Nonato (2013) argue that SR marking is an instance of phrasal coordination, with the conjunction being sensitive for the identity of subjects of these phrases in one way or another. As we have seen in Chapter 3, these accounts presuppose that clause chaining constructions are to be analyzed as coordinate constructions. Crucially, all of these approaches take subordinate and coordinate structures to be incompatible and hence all of them argue that the other camp is on the wrong track. However, under the Derived Coordination Approach we may draw a very conciliatory conclusion: It may very well be that both of them are right. We could envisage a derivation in which the subordinate relation at an early step of the derivation allows for a c-command-based process such as agreement, binding or even movement. Then, at a later step of the derivation, when the coordinate structure is established, other processes such as coordination reduction apply. In what follows, I will briefly outline this possibility and show that it has several benefits.

We begin this discussion with languages that have SR marking in both types of clausal relations, in uncontroversially subordinate as well as in uncontroversially coordinate constructions. One such language is Kiowa. Kiowa has a pretty standard SR marking system in adverbial subordinate clauses.

(2)   a.   À   fòchân   [èm=kóp-dàu-mènáu]
           1.SG see.arrive.PFV 2.SG=sick-be-EVID=ADV.DS
           'I came to see you because (I heard) you were sick.

Kiowa: Watkins (1983, p.141)

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[1] With the exception of Georgi (2012) who tries to derive cases of SR marking in coordinate clauses by means of sideward movement. Nevertheless, the subordinate relation is taken to be the prototypical environment for SR marking.

b. Háun hájél   [èm-gún-mɑ́u-chɛ̀]   èm-dɑ́ujàu-gù
     NEG   person.INDEF 3SG-dance-IPFV=when.SS 3SG-sing-NEG
     'Nobody_i sang while they_i danced.'

<div align="right">

Kiowa: McKenzie (2011, p.81)

</div>

The subordinate clause, which may be center-embedded as the example in (2-b) shows, carries a verbal marker indicating whether its subject is identical to the matrix subject. McKenzie (2011) notes that, in subordinate SR, the only relevant factor to determine which marker appears is the identity or non-identity of the subjects.

In addition, Kiowa has SR marking in structures which are uncontroversially coordinate. Here, SR is not expressed as verbal marker, but rather it is the choice of the conjunction that indicates whether or not the subjects are the same. This difference in locus may be taken as a first indicator that switch-reference marking in subordinate and in coordinate contexts has two different underlying mechanisms. In (3-a), the conjunction is */gàu/* which expresses that the subjects are identical, whereas in (3-b) the conjunction is */nàu/* which expresses disjoint subjects.

(3) a. Yísàum ∅=hɛ́bà   gàu   èm=sɑ́u.
          Yisaum 3SG=enter.PFV and.SS 3SG=sit.down.PFV
          'Yisaum_i came in and he_i sat down.'

     b. Yísàum ∅=hɛ́bà   nàu   èm=sɑ́u.
          Yisaum 3SG=enter.PFV and.DS 3SG=sit.down.PFV
          'Yisaum_i came in and he_{*i/j} sat down.'

<div align="right">

Kiowa: McKenzie (2011, p.58)

</div>

Interestingly, with SR marking in coordinate contexts, there may be intervening semantic factors relevant for the correct choice of SR marker. In other words, there are cases where we find the alleged SAME SUBJECT-marker */gàu/* even though the subjects are disjoint (cf. (4-b)) and we find occurences of */nàu/*, the alleged DIFFERENT SUBJECT-marker when the subjects are identical (cf. (4-a)).

156

(4)   a.   Óp   á=ālɛ́.   nè=gáu   óp   jáuchò á=ālɛ́.
            There 3>3=chase-PFV then=and.DS there instead 3>3=chase-PFV
            'They chased it here and then they chased it this way'

Kiowa: Palmer Jr. (2003) as cited in McKenzie (2007, p.166)

         b.   Kathryn gà=gút   gàu   Esther=àl gà=gút
            Kathryn 3>3=write.PFV and.SS Esther=too 3>3=write.PFV
            'Kathryn wrote a letter and Esther wrote one too.'

Kiowa: McKenzie (2007, p.167)

The semantic factor that causes this non-canonical use of SR markers is, according to McKenzie (2007), situation coherence.[2] Rather than indicating a change of subject, the coordinating conjunctions indicate a change of scenery, time, location, etc. In (4-a), there is a change of location in between the two conjuncts. Hence, the alleged DIFFERENT SUBJECT-marker is chosen. In (4-b), if the situation is coherent, i.e. if both events apply at the same location, at the same time or even for the same reason, then the choice of the alleged SAME SUBJECT-marker is grammatical. We see that the choice of the coordinate conjunctions is not triggered by (non-)identity of the subjects but by (non-)identity of the situation. This is in stark contrast to the use of SR markers in subordinate contexts. There, only canonical use is grammatical which means that only the subject identity triggers a SAME SUBJECT-marker but no intervening semantic factors.

This generalization does not only hold for Kiowa. Weisser (2012) discusses all six languages for which there were claims in the literature that they show SR marking in coordination of full fledged finite clauses. There, it is shown that in all of these languages, SR marking is expressed by means of coordinating conjunctions (which is very rare amongst the world's languages) and, more importantly, all of these languages allow for non-canonical use of switch-reference markers. This means that, in all of these languages, it can be shown that the actual criterion to decide which marker occurs is

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[2]As noted above, the term "non-canonical switch-reference", introduced by Stirling (1993), and subsumes all cases in which semantic factors can trigger SR marker whose occurrence is unexpected if one just compared the indices of the subjects involved.

the situation coherence and not the subject identity. Furthermore, it is shown that the two other languages which have SR marking in subordinate and in coordinate contexts (Yakunytjatjara and Pitjantjatjara (cf. Goddard (1985); Bowe (1990))) also behave identical to Kiowa. Subordinate SR is always canonical whereas coordinate SR is not.[3]

The conclusion we can draw from this is that SR marking in uncontroversially subordinate contexts behaves fundamentally different from SR marking in coordinate contexts. Subordinate SR is always canonical while coordinate SR is not. The question this raises is, of course, how SR marking in clause chaining constructions behaves. Unfortunately, the answer is not as clear and different from language to language.

Many languages of Papua New Guinea allow for non-canonical SR marking (see Reesink (1983); Roberts (1997) for discussion). This has been documented comprehensively for the Papuan language Amele in Roberts (1987, 1988*a,b*). In (5), a typical example of canonical use in Amele is given. However, the SR system in Amele also allows for non-canonical marking to indicate a change of scenery as in (6).

(5)   a.   Ija hi-m-ig   sab j-ig-a.
              1SG come-SS-1SG food eat-1SG-TOD.PAST
              'I came and ate the food.'

        b.   Ija ho-co-min   sab ja-g-a.
              1SG come-DS-1SG food eat-2SG-TOD.PAST
              'I came and you ate the food.'

Amele: Roberts (1988*b*, p.49)

(6)   a.   Eu 1977 jagel November na odo-co-b   cul-ig-en.
              that 1977 month November in do-DS-3SG leave-1PL-3SG-REM.PAST
              'That was in November 1977 that he$_i$ did that and then he$_i$ left it for us.'

Amele: Roberts (1988*b*, p.61)

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[3]In Weisser (2012), the conclusion is drawn that the process that is found in coordination structures is not switch-reference marking in its strict definition. Rather, this process shares a number of properties with a similar phenomenon called *Tight and Loose Coordination* (cf. Bril (2004); Moyse-Faurie and Lynch (2004)). Thus, the possibility that is entertained in this section could be summarized as follows: Switch-reference is decoded as an interplay of an actual switch-reference process and another process responsible for the tight vs loose distinction.

Here, the DIFFERENT SUBJECT-marker has been used even though the subjects of both clauses are identical. The reason is that, according to Roberts, a change of time and/or location took place in between these two events. This is the exact same thing as we have seen in Kiowa for instances of clear coordination. There, a change of situation also led to unexpected use of the DIFFERENT SUBJECT-marker.

However, other languages in Papua New Guinea, such as Kobon and Haruai, do not allow for non-canonical use. Comrie and Davis (2013) note that "both languages strictly track the grammatical subject" ((Comrie and Davis, 2013, p.4)). In (7), both examples have the same topic but since the second one is an experiencer and a strictly syntactic notion of subject is tracked a DIFFERENT SUBJECT-marker occurs.

(7) Hömlö römal rag   ur   nɨm-mɨd-mɨn, kiö   pɨl-öŋ-a.
     banana cut   carry cook eat-IPFV-DS   hunger shoot-PAST(3SG)-DECL
     '(He) cut, brought, cooked and ate some bananas and felt hungry.'

     Literally: '(He) cut, brought, cooked and ate some bananas and hunger shot him.'

     Haruai: Comrie and Davis (2013, p.4)

This suggests that switch-reference in clause chaining constructions may in fact be the collapse of two distinct mechanisms. One of these mechanisms applies to subordinate structures and the other to coordinate ones. Each language with medial clauses can therefore choose whether it makes use of the coordinate or the subordinate strategy. Depending on how the concrete mechanisms are implemented, one may even think of a mixed strategy. The subject features or indices are compared as long as the relation is a subordinate one but the resulting feature structure is manipulated/overwritten by processes or rules that apply later on in the coordinate structure. I leave the question open how the concrete mechanisms should be implemented. The various theories of subordinate and coordinate SR allow for a wide range of possible combinations. It remains to be seen whether these can be combined to yield fruitful results to derive the crosslinguis-

tic patterns of SR marking in the world's languages. However, it is to be emphasized that the possibility of combining two different strategies of SR marking into one theory crucially depends on the Derived Coordination Approach. None of the other theories of clause chaining constructions allows for a derivation which includes a subordinate and a coordinate context. Thus, the Derived Coordination Approach to clause chaining constructions may turn out to be a novel perspective which may shed some light on the discussion about switch-reference.

10. Summary

The first part of this work dealt with the topic of clause chaining constructions. This topic is of interest for the current theories of grammar because it seems to violate the standardly assumed dichotomy of clausal relations. A number of people in the recent literature have claimed that clause chaining constructions are neither subordinate nor coordinate or both at the same time. This provided the need for a detailed investigation of the clausal relations in clause chaining constructions. In this work, I made use of the most reliable clausal relation tests that we know of and came to the conclusion that the claims in the literature are basically correct. Clause chaining constructions are neither simple cases of subordination nor simple cases of coordination. According to some tests, they behave like subordinate constructions, and according to others, they behave like coordinate constructions. On the basis of this conclusion, a closer look at previous theories of clause chaining constructions yielded the result that none of the previous approaches could do justice to both, the subordinate properties as well as the coordinate properties of clause chaining constructions. This is not surprising, since, as we have seen, according to the standard view in generative grammar, constructions that are in between these two discrete categories are unexpected. In this work, however, I showed that independently motivated research on the exact structure of coordination constructions in the recent years provide for the possibility to derive such structures. Since Munn's groundbreaking works on the internal structure of coordination, it is fairly established that coordination structures are to a certain extent asymmetric as well. Once

161

these findings are formally implemented into a generative framework, this, in principle, allows for transformational rules that map subordinate structures to coordinate ones. Under this approach, which I call the Derived Coordination Approach, constructions can be subordinate and coordinate at different stages of the derivation. A phrase may start out as an adjunct and be moved to the specifier of a coordination phrase at a later step of the derivation.

This derivation was shown to derive the whole range of properties of clause chaining constructions, be it the subordinate or the coordinate ones. The recurring pattern in the course of this discussion was subordinate properties follow from processes early on in the derivation and coordinate properties follow from the output structure of the derivation.

The chapters that followed provided additional evidence for the Derived Coordination Approach. It was shown to successfully derive the patterns found with sequences of multiple medial clauses: The iterative pattern and the recursive pattern. Unlike the previous theories of clause chaining, the Derived Coordination Approach can account for both strategies at the same time. Further evidence came from the investigation of converb clauses. Converb clauses can be shown to be fairly indistinguishable from medial clauses on the surface. The only difference between these two categories is their syntactic behavior. While medial clauses are neither fully subordinate nor fully coordinate, converb clauses are uniformly subordinate. This was taken as additional evidence for the assumption that medial clauses are base-generated as adjuncts. Converb clauses and medial clauses are both generated in the same position but only medial clauses undergo the crucial movement step to the specifier of a coordination phrase. This conclusion was supported further by two case studies from Tsakhur and Korean. In both languages, clause chaining constructions do not behave uniformly. Even though they are morphologically indistinguishable, the respective constructions are sometimes coor-

dinate and sometimes subordinate, depending on grammatical features such as certain instances of relative tense. Under the Derived Coordination Approach, this behavior is expected and can be derived elegantly. In Korean and Tsakhur, coordinate and subordinate clauses are base-generated in the very same position, namely as adjuncts to vP, but movement to the specifier of the coordination phrases is triggered by these grammatical features such as relative tense.

Also, it was shown that the present approach can be parametrized in a number of ways to account for a wider range of crosslinguistic variation attested with clause chaining constructions. Most of the assumptions I made to derive the mixed properties of medial constructions are not indispensable, i.e. they can be adapted to language specific properties of medial clauses. The only assumption that is taken to be a universal characteristic of this very construction is the crucial movement step which turns an adjunct into a conjunct. This movement step derives the mixed properties of the construction.

Finally, the consequences for the various theories of switch-reference marking were discussed. Clause chaining has long been considered to be a concomitant topic to the more interesting topic of switch-reference marking. However, the increased confusion about the clausal relations in clause chaining constructions lead to a wide range of possible accounts of switch-reference marking. In the preceding chapter, I was able to show that the Derived Coordination Approach provides a whole new perspective on this discussion. Not only is the Derived Coordination Approach in principle compatible with each of the proposed analyses of switch-reference, but also it provides for the possibility of combining two lines of research that seemed to be incompatible until now. In fact, there are, as was shown, good reasons to think that what is called switch-reference marking in the literature is indeed a combination of two distinct processes, one applying on a subordinate structure and one applying on a coordinate one. If this turns out to be empirically correct, there is no other possibility than to assume the Derived Coordi-

nation Approach to be correct. None of the other approaches allows for a combination of subordinate approaches to switch-reference marking and coordinate approaches at the same time.

Part II.

Asymmetric Coordination

1. Introducing Asymmetric Coordination

In the first part of this work, we looked at the so-called clause chaining construction to verify the claims in the literature that this construction was neither subordinate nor coordinate. A systematic examination of the construction indeed revealed that the most reliable tests to identify the relations between clauses yield contradictory results. Clause chaining constructions are in fact neither fully subordinate nor fully coordinate.

In the second part of this work, we will see that similar phenomena can be found in more familiar languages like English. Various phenomena often subsumed under the label *asymmetric coordination* exhibit properties that are very similar to those we found with clause chaining constructions.

The idea that certain cases of asymmetric coordination and clause chaining constructions are the same thing, or at least very similar, is not a new one. The observation was made at least in Na and Huck (1992), Haspelmath (2007) and Nonato (2013). Na and Huck (1992) compare cases of asymmetric coordination (more concretely SceCo and ConsecCo constructions - see below) to clause chaining in Korean and conclude that the properties are basically the same. Haspelmath (2007) discusses these two phenomena from a descriptive perspective and includes them in a list of phenomena which seem to be between coordination and subordination. Nonato (2013), in a brief section at the end of his paper, tries to extend his analysis of clause chains to cases of asymmetric

coordination.

The label *asymmetric coordination* subsumes a number of phenomena in English and related languages which superficially look like cases of coordination, but which exhibit a number of syntactic properties that differ from regular coordination. Most notably with these phenomena, a violation of Ross' Coordinate Structure Constraint seems to be possible. The following lists a number of constructions that are sometimes referred to as such cases:[1]

1. Conative Coordination:

    (1)   *He wanted to try and finish t_1 this thesis.*

<div align="right">cf. Zwart (2005, p.1)</div>

In cases of conative coordination, the first conjunct always consists of the bare verb stem *try*. Since the second conjunct expresses, in a certain sense, the complement of "trying", the construction is highly reminiscent of the corresponding infinitival construction. Though examples of conative coordination superficially look like cases of contiguous coordination to a certain extent, de Vos (2005) has shown that a wide range of syntactic and semantic properties distinguishes these two constructions. Most notably, unlike cases of contiguous coordination, the first conjunct in a conative coordination construction can never be inflected. This construction is discussed in Schmerling (1975); Carden and Pesetsky (1977); de Vos (2005).

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[1]Similar lists with slightly different classifications can be found in Schmerling (1975); Lakoff (1986); Na and Huck (1992); de Vos (2005); Zwart (2005); Nonato (2014).

2. Contiguous Coordination:[2]

    (2)   *He went and addressed t_1 the troops.*

<div align="right">cf. Zwart (2005, p.1)</div>

With contiguous coordination, the set of verbs that can appear in the first conjunct is also very restricted. Typically, only *come*, *go* and *sit* are allowed. These verbs are semantically bleached so that they have lost most of their lexical meaning. In (2), the situation does not necessarily include a *going*-event. For this reason, the verbs in the first conjunct are often claimed to contribute an aspectual or even, in the case of *go*, a counter-expectational meaning. As with conative coordination, the first conjunct consists of nothing but the verb. Adjuncts, for example, cannot intervene between the verb and the conjunction. Cases of contiguous coordination are discussed in Carden and Pesetsky (1977); Pullum (1990); de Vos (2005)

3. Scene-Setting Coordination:

    (3)   *He went to the store and bought the whiskey.*

<div align="right">Ross (1967, p.168)</div>

Cases of scene-setting coordination are the classical cases of asymmetric coordination. They are characterized by a semantic asymmetry in which the first conjunct provides (usually) temporal or locational background information for the second conjunct. In other words, the first conjunct sets the scene for the second one. In contrast to both types of asymmetric coordination above, the choice of the verb in

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[2]De Vos (2005) uses quite a number of tests to show that what he calls *reduplicative coordination* as in *His legions marched and marched for days* has the exact same properties as contiguous coordination. Hence, I follow him in assuming that reduplicative coordination is in fact a special case of contiguous coordination.

the first conjunct is not so limited. A wide variety of motion or posture verbs can occur in this construction. This construction is discussed in Ross (1967); Schmerling (1975); Goldsmith (1985); Lakoff (1986); Na and Huck (1992); de Vos (2005, 2009)

4. Consecutive Coordination:

(4)   *The guys in the Caucasus drink that stuff and live to be a hundred.*

cf. Lakoff (1986, p.157)

This construction is in many ways very similar to scene-setting coordination. It is distinguished only on the basis of the underlying semantics. While in scene-setting coordination the first conjunct provides temporal or locational background information, in consecutive coordination the second conjunct expresses a consequence of the first one.[3] This construction is analyzed in Goldsmith (1985); Lakoff (1986); Na and Huck (1992)

5. Conditional Coordination:

(5)   *You drink another can of beer and I'm leaving.*

Culicover and Jackendoff (1997, p.197)

In this construction, coordination expresses a conditional meaning. The first conjunction denotes a condition for the event in the second conjunct to occur. Interestingly, compared to all asymmetric coordination constructions above, the con-

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[3]Lakoff (1986) further distinguishes this type depending on whether the consequence is a natural one as in (4), or whether the consequences are unexpected as in *You can drink a whole bottle of vodka and still stay sober.* Since these two classes do not seem to differ syntactically, and the present work is mainly concerned with the syntax of these constructions, I do not see the need for this distinction at this point. Thus, I will treat these examples as instances of the same construction. That does not mean, however, that there are no semantic and/or intonational differences between these two subtypes.

juncts of a conditional coordination construction must be of a different size, as this construction is the only one which permits different subjects in both conjuncts. Cases of conditional coordination are discussed in e.g. Culicover (1970, 1972); Culicover and Jackendoff (1997); Takahashi (2004); Klinedinst and Rothschild (2012); Keshet (2013).

In the second part of this thesis, I will investigate the latter three of these five types: Scene-Setting Coordination (SceCo), Consecutive Coordination (ConsecCo) and Conditional Coordination (CondCo). We will see that even though these three constructions differ with respect to a number of properties, they are derived by means of the same underlying mechanism, namely movement of an adjunct to Spec&P. In all three cases, we will see that one of the conjuncts, in a way, expresses the same meaning as a regular subordinate adjunct clause. In the case of SceCo, it is usually a temporal adjunct clause; in the case of ConsecCo, it can either be a consecutive or an adversative clause and, finally, in the case of CondCo, it is a conditional clause. In the course of the derivation, these adjunct clauses are then promoted to regular conjuncts by means of movement. This analysis provides an explanation for the fact that, in all these cases of asymmetric coordination, one conjunct seems to have the properties of a subordinate clause on the one hand, and those of a coordinate clause on the other.

The second part of this work will follow this outline: In Chapter 2, we will start out with ScoCo as it is probably the asymmetric coordination construction that has gained the most attention. I will outline the general properties of SceCo and show that, with respect to the clausal relations test we applied in the first part of this thesis, the results are not so different from clause chaining. I will briefly discuss two preceding analyses and illustrate why they are not tenable. Then, I will discuss what category the conjuncts in a SceCo construction are. Based on these investigations, I will present an analysis of the construction myself that derives the syntactic properties and show that, as with

clause chaining constructions, the analysis also nicely accounts for complex cases with more than two conjuncts.

In Chapter 3, I will discuss the ConsecCo construction. The discussion will be less extensive than the one in the previous chapter because one can show that ConsecCo constructions are basically identical to SceCo constructions. The only thing that distinguishes these two constructions is the order of clauses. In SceCo, the derived conjunct precedes the regular conjunct, while in ConsecCo the derived conjunct follows the regular one. Thus, I will show that the analysis can be easily adapted to account for cases of ConsecCo. Finally, I will show that there are complex constructions involving more than two conjuncts in which different cases of asymmetric coordination constructions are mixed. We find cases of three conjuncts, for example, in which the relation between the first and the second conjunct is of the SceCo type, and the relation between the first two conjuncts and the third one is of the ConsecCo type. The fact that my analysis can account for these complex data patterns will provide another piece of evidence for the Derived Coordination Account.

In Chapter 4, we will deal with cases of CondCo. We will see that this construction differs from the two others with respect to a number of syntactic properties. It will be shown that these differences can be attributed to the different size of the conjuncts. Thereby, it is shown that the underlying mechanism I invoke for deriving different asymmetric coordination constructions is independent of the actual category it applies to. Then, I will briefly outline the previous analysis by Culicover and Jackendoff (1997) who claim that the CondCo construction cannot be accounted for within a framework of the Chomskyan tradition. However, the brief discussion will also reveal that the analysis Culicover & Jackendoff provide has a hard time accounting for the properties of the construction as well. Then, I will discuss the semantic analysis of this construction by Keshet (2013) and show that, while it yields the correct semantic interpretation for

CondCo, it cannot account for several syntactic effects including asymmetric binding, quantifier raising and extraction. I will illustrate that if one combines the Derived Co-ordination account with Keshet's semantic analysis, the syntax and the semantics of the CondCo construction can be derived satisfyingly under Minimalist assumptions.

Chapter 5 concludes.

2. Scene-Setting Coordination

2.1. The properties of Scene-Setting Coordination

In this section we will discuss the semantic and syntactic properties of scene-setting coordination (SceCo). We will begin by investigating the general properties of the construction and then, as a second step, take a look at how the construction behaves when the basic clausal relation tests are applied. What we will find is that, even though not all of the tests we used in the first part of this work can be applied, we still find incoherent results. With respect to some tests, the SceCo constructions seem to be a subordinate construction, but with respect to other tests, the construction seems to be coordinate. We start out by taking a look at the most noticeable semantic properties of SceCo.

An interesting semantic property of SceCo constructions is the obligatory one-event interpretation. The conjuncts in a SceCo construction are interpreted as individual subevents of one complex event. Take a look at the following examples taken from various different sources on asymmetric coordination.[1]

(1)   a.   Here's the whiskey$_i$ that John went to the store and bought t$_i$.

Ross (1967, p.168)

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[1]Note that all of these examples involve asymmetric extraction from one conjunct only. As we will see later in this section, asymmetric extraction is a reliable test to distinguish symmetric and asymmetric coordination. Thus, using examples involving extraction allows us to make sure that we are dealing with examples of asymmetric SceCo and not with regular symmetrical coordination. Of course, the assumption is though that there are cases of SceCo without extraction. These cases are, however, always ambiguous between a symmetrical and an asymmetrical reading.

b.   Who$_i$ did he pick up the phone and call t$_i$?

<div align="right">Lakoff (1986, p.156)</div>

c.   Sam is not the kind of guy$_i$ you can just sit there and listen to t$_i$.

<div align="right">Lakoff (1986, p.153)</div>

d.   We were looking at the remnants of the sculpture$_i$ that Spalding took a hammer and destroyed t$_i$.

<div align="right">Na and Huck (1992, p.126)</div>

e.   Who$_i$ did John go to town and pump water for t$_i$?

<div align="right">de Vos (2005, p.24)</div>

In all examples above, it is evident that the two actions in the two conjuncts are closely related and describe one complex event. *Going to the store* and *buying whiskey* is a natural course of events which fits conventionalized expectations (Lakoff (1986)). If one tries to block the one-event interpretation either by inverting the order of conjuncts (cf.(2-a)) or by adding a temporal adjunct (cf (2-b)), the result is ungrammatical.[2]

(2)   a.   *Here's the whiskey$_i$ that John bought t$_i$ and went to town.

     b.   *Here's the whiskey$_i$ that John went to the store and bought t$_i$ two days later.

A related semantic property that is characteristic of SceCo is the semantic asymmetry between the two conjuncts. In all the cases above, it seems that the second conjunct contains the primary piece of information (Na and Huck (1992)), whereas the first one contains some kind of additional temporal background information. In (1-a), for example, the *going to the store*-event seems to be secondary to the actual information the speaker wants to give, namely that a *buying whiskey*-event took place. The literature gives three tests to substantiate this intuition. First, it seems that all the examples

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[2]Most of the examples in this part of the thesis are taken from various sources in the literature. If no references are given, the examples my own and the judgments are checked with a number of native speakers from different regions.

in (1) can be paraphrased as adverbial clauses without affecting the meaning (cf. (3)). Since adverbial clauses provide additional background information, this already suggests that there is indeed a semantic asymmetry between the two conjuncts.

(3)   Here's the whiskey he bought when we went to the store.

The second test proposed by Na and Huck (1992) is the optionality in discourse. Na & Huck state that "if the clause can be deleted without seriously distorting the message expressed", then it counts as secondary and the construction is an asymmetric one. This test is, of course, somewhat hard to apply without a given discourse but the intuitions are clear. When the first conjunct is deleted as in (4-a), the message is not seriously distorted since the *buying whiskey*-event very likely implies the *going to the store*-event. However, in (4-b) this is not the case. The *going to the store* does not make an implication about the deleted conjunct. John could have bought a cake, a car or he could have gone home without buying anything.

(4)   a.   John bought whiskey.

        b.   John went to the store.

Finally, as a third test, Schmerling (1975) points out that SceCo constructions cannot be modified by *both* whereas regular cases of coordination can. She observes that (5-a) and (5-b) are understood differently.

(5)   a.   John went to the store and bought whiskey.

        b.   John both went to the store and bought whiskey.

                        Schmerling (1975) as cited in Na and Huck (1992, p.122)

The reason for this difference in interpretation is that *both* enforces an interpretation

2. Scene-Setting Coordination

of two distinct events in (5-b) whereas the default interpretation for example (5-a) without *both* is the asymmetric one, namely the one with one complex event. Accordingly, asymmetric extraction is ungrammatical in a sentence containing *both*.

(6) *Here's the whiskey that John both went to the store and bought.

As we will see in the course of the discussion about SceCo, this semantic asymmetry will turn out to be crucial for giving us a handle to account for the syntactic properties of this construction.

Now, we turn to the syntactic properties of the construction. All examples of SceCo in the literature have in common that both conjuncts have the same subject. Trying to replicate the examples in (1) above with different subjects results in ungrammaticality:

(7) a. *Here's the whiskey Peter and John went to the store and Peter bought.
     b. *Who did Bonny pick up the phone and Clyde call?
     c. *Sam is not the kind of guy you can just sit there and I listen to.

Similarly, different tense marking is completely impossible in SceCo constructions:

(8) a. *Here's the whiskey John went to the store and buys?
     b. *We were looking at the remnants of the sculpture that Spalding took a hammer and will destroy tomorrow.
     c. *Who did John go to town and pumps water for?

With respect to voice, however, differences seem to be possible, at least to a certain extent. SceCo constructions in which one conjunct is active and the other one is passive are grammatical.

(9) This is the present that John went to the party and was given.

178

So, to draw an intermediate conclusion, we see that the categories that can have independent values in both conjuncts are very limited. For this reason, the literature uniformly treats SceCo constructions as cases of VP- or vP-coordination. In the remainder of this chapter, we will do the same. In Chapter 2.4, I will briefly discuss which option to choose.

The fact that the conjuncts are relatively small makes it difficult to apply some of the standard tests for clausal relations. The backward pronominalization test distinguishes subordinate structures from coordinate ones by the distribution of pronouns. In a coordinate structure a pronoun in the first conjunct cannot be coreferent with a full DP in the second conjunct. In a subordinate structure, it can.

(10)   a.   After he$_i$ went to the bookstore, Peter$_i$ bought the new bestseller.

          b.   *He$_i$ went to the bookstore and Peter$_i$ bought the new bestseller.

However, as we can see in the examples above, this test usually uses a subject pronoun in the first conjunct and a full DP in the subject position of the second conjunct. But since the second conjunct in SceCo constructions does not allow for an overt subject, this test cannot be applied. One might try this test with elements in a different position such as the position of the direct object but, in these cases, the results seem to be less reliable, even with regular coordination.

(11)   a.   (?)They walked up to him$_i$ and Mary slapped Peter$_i$ right in the face.

          b.   (?)She called him$_i$ and told Peter$_i$ the truth.

The same holds for the deranking test (cf. Stassen (1985); Diessel (2001); Yuasa (2005)). This test states that nonfinite clauses which are morphosyntactically dependent on other clauses are generally taken as subordinate. However, since features and categories usually associated with finiteness such as tense or mood are located higher up

in the tree, no distinction between the two conjuncts can be found with respect to the deranking test.

Finally, we find that the center embedding test cannot be applied to alleged cases of VP-coordination either. Usually, this test allows to distinguish subordinate and co-ordinate structures with respect to their ability to be center embedded. Subordinate clauses can be center embedded, coordinate clauses cannot. However, in the case of SceCo, the conjuncts usually consist of nothing more than a verb and its object. But since the verb and the object cannot be separated in English for independent reasons, center embedding is not possible anyway.

(12)   *John bought [when going to the store] some whiskey.

There are two tests we are left with, namely the extraction test and the extraposition test. We start with the latter. The extraposition test is based on the observation that subordinate clauses can occur on both sides of their matrix clause, whereas the order of coordinate clauses is fixed as they must occur in the natural order of events (see Jakobson (1971); Bjorkman (2010)) Thus a clause like (13) can only mean that the *'going to the bookstore'*-event occurred before the *'buying the new bestseller'*-event and not vice versa.

(13)   Peter went to the bookstore and he bought the new bestseller.

With subordinate clauses, the order is more flexible. Subordinate clauses may either precede or follow their matrix clauses, irrespective of the temporal order of events.

(14)   a.   After Peter went to the bookstore, he bought the new bestseller.

        b.   He bought the new bestseller after he went to the bookstore.

If we try and reverse the order of conjuncts in a SceCo construction, the results are

clearly ungrammatical. This suggests that the relation between the two conjuncts is a coordinate one.

(15)   *Here's the whiskey that John bought and went to the store.

The second test is the extraction test. We have seen throughout this chapter that asymmetric extraction is grammatical with SceCo. Since examples without extraction are, in principle, ambiguous between SceCo and ordinary vP/VP-coordination, I have, more or less implicitly, used the extraction test to make sure that we are dealing with real instances of SceCo. For the sake of convenience, the relevant examples (1) are repeated in (16).

(16)   a.   Here's the whiskey$_i$ that John went to the store and bought t$_i$.

                                                            Ross (1967, p.168)

         b.   Who$_i$ did he pick up the phone and call t$_i$?

                                                            Lakoff (1986, p.156)

         c.   Sam is not the kind of guy$_i$ you can just sit there and listen to t$_i$.

                                                            Lakoff (1986, p.153)

         d.   We were looking at the remnants of the sculpture$_i$ that Spalding took a hammer and destroyed t$_i$.

                                                            Na and Huck (1992, p.126)

         e.   Who$_i$ did John go to town and pump water for t$_i$?

                                                            de Vos (2005, p.24)

The cases in (16) all involve extraction out of the second conjunct. Interestingly, extraction from the first conjunct of a SceCo construction is not possible.[3]

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[3]I will only be concerned with the extraction of arguments in this work. However, as de Vos (2005, 2009) points out, extraction of adjuncts seems to complicate the picture. In fact, it seems that adjunct extraction shows the exact opposite behavior with respect to both conjuncts. De Vos gives the following

(17)   a. *Which phone did he pick up and call John?

        b. *We were looking at the hammer that Spalding took and destroyed the sculp-
            ture.

Thus, with respect to extraction we find an asymmetry between the conjuncts that suggests a subordinate relation. As we will see, the extraction asymmetry between the two conjuncts of a SceCo also extends to cases of ConsecCo. In the case of ConsecCo, it is the first conjunct that allows for extraction and the second one that does not. But since, in the case of ConsecCo, the first conjunct is the primary one semantically, we can state that extraction of arguments is licensed only from the primary conjunct of a SceCo or a ConsecCo construction.

This observation has been prominently discussed in the literature. It is reflected more or less explicitly in the discussions in Goldsmith (1985); Lakoff (1986); Höhle (1990); Na and Huck (1992); de Vos (2005, 2009). Na & Huck, for example, formulate an explicit constraint, namely the Condition on Asymmetric Coordination (CAC) that allows for asymmetric extraction only from the primary conjunct.[4]

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minimal pair:

(i)   a. *By which credit card did you go to the store to buy whiskey?
        b.   By which route did you go to the store to buy whiskey?   de Vos (2005, p.24f)

Adjunct extraction from the first conjunct is grammatical while it is not from the second conjunct. Thus, we are confronted with the following puzzle:

	1st conj	2nd conj
Arg. Extr.	*	✓
Adj. Extr.	✓	*

(ii)

In the course of this chapter, I will give an explanation for the two cells in the first row. At this point, however, I do not have an elaborate analysis for the two remaining cells in the bottom row. A possible line of argumentation would be to say that adjunct extraction is in fact not extraction at all but rather base-generation above the coordination or even directly in its surface position. The semantics, however, tries to create a reading for low adjuncts of this kind and tries to lower them somehow. But this kind of lowering only applies to the first conjunct, as does reconstruction as, for example, shown in Munn (1994); Salzmann (2012).

[4]As a side remark, the extraction asymmetry in SceCo constructions is not restricted to syntactic move-

So, to sum up, even though not all the clausal relation tests we have used in the first part of this thesis could be applied to SceCo constructions, the remaining tests still yield inconclusive results. With respect to the extraposition test, SceCo behaves like a coordinate structure but with respect to the extraction test, it behaves like a subordinate structure. From this perspective, SceCo constructions show the exact same puzzle as clause chaining constructions in the first part of this work. This suggests a coherent analysis that covers both cases. However, before we take a look at how the Derived Coordination account can handle the data, we briefly discuss previous analyses of this construction.

2.2. Previous Analyses of SceCo

Even though the construction is discussed quite frequently in the literature, there are hardly any concrete analyses available. Ross (1967) discusses some examples and tentatively concludes that they must be subordinate structures because they do not obey the Coordinate Structure Constraint. But as Na and Huck (1992) correctly point out, Ross' argumentation is circular at that point because he does not give any additional evidence for the subordinate status of these constructions.

Lakoff (1986) even argues that, in the face of the whole class of counter examples, the CSC cannot be maintained and should be discarded as a whole. The alternative that he

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ment but is also reflected in LF-movement. Though quantifier raising is usually constrained by the Coordinate Structure Constraint as well (see (i)), it is grammatical in cases of asymmetric coordination ((ii)).

(i)   A student was bored and wrote to every professor. $\exists > \forall, \forall \not> \exists$

(ii)   There was a rumour that some essays were marked too harshly. The next day, a student wrote to every professor and asked for a better grade. $(\exists > \forall, \forall > \exists)$

In (i), the universal quantifier cannot take scope over the existential quantifier because it is trapped inside of the coordination but in (ii), it can. I thank Andrew Murphy for pointing this out to me.

proposes is to try to derive extraction patterns on the basis of a frame semantic system. He even goes so far as to claim that the phenomenon of SceCo cannot be derived in a Government-and-Binding-like framework while maintaining the CSC. Lakoff argues that examples like (18) which shows extraction from the second, third and fifth out of five conjuncts, must necessarily involve *across-the-board*-movement (ATB).

(18)   What did he go to the store, buy, load in his car, drive home and unload?

Lakoff (1986, p.155)

Since ATB is only attested in coordinate structures, (18) must be a coordinate structure and the CSC is doomed to failure. As I will show in Chapter 2.5, where examples of this type are analyzed, Lakoff's argument does not go through. The structure of coordination is more complex than he assumes and the assumption of nested coordination phrases provides for an analysis in which the extraction in (18) is indeed a case of ATB-movement without violation of the CSC.

In the following, I will discuss two types of previous analyses and show that they are not able to derive the flexibility of English SceCo constructions. We will see that, as with clause chaining constructions, the subordinate as well as the coordinate analyses have arguments on their side, but neither of them can do justice to the whole phenomenon of SceCo.

2.2.1. A subordination analysis: Wiklund (1996,2007)

Wiklund (1996, 2007) develops an idea according to which the Swedish counterpart of the SceCo and ConCo constructions is in fact a subordinate structure, parallel to embedding of infinitives. She lists quite a number of properties which SceCo and infinitives have in common, most of which circle around the fact that SceCo and infinitives involve only one event, whereas regular coordination involves two events. Thus, SceCo and in-

finitival constructions can be referred to anaphorically by a singular agreement marker, whereas classical coordination cannot.

(19)   a.   To go to town and have a coffee is a fun thing to do.   *SceCo*

   b. ?*To have a coffee and go to town is a fun thing to do.   *Coord*

                         (cf. Wiklund (2007))

Also, she argues that SceCo and infinitive constructions have in common that they seem to form one intonational phrase, whereas ordinary coordination must always involve two intonational phrases. Furthermore, as (19) shows, the order of conjuncts in SceCo constructions cannot be changed. The same holds for infinitivals.

The strongest syntactic argument against a coordination structure comes from the extraction data. Reanalyzing SceCo as infinitival constructions allows to derive the extraction patterns while leaving the Coordinate Structure Constraint intact. Finally, Wiklund gives some interesting data from word order in Swedish SceCo constructions which suggest that adverbs and negation behave identical with SceCo and infinitival constructions.

So, to briefly sketch her analysis, Wiklund assumes that the verb in the first conjunct of a SceCo construction is some kind of light verb selecting for a clausal complement. The light verb is semantically bleached and contributes mainly aspectual information.[5] By means of a special process, namely *TMA-Copying*, the tense, mood or aspect features of the light verb are copied to the embedded verb, resulting in the illusion of a coordinate structure. This is illustrated in (20).

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[5]In Wiklund's system, this information encoded in the hierarchy of functional projections the light verb selects which can include initP, procP and resP.

(20)

```
                          CP
                        /    \
                      ...
                     /    \
                   ...     initP
                          /    \
                  LightVerb    ...
                       |      /    \
                       |    ...     CP
                       |           /  \
                       |          / △  \
                       |     ... LexVerb ...
                       |              ↑
                       └─── TMA-Copying ───┘
```
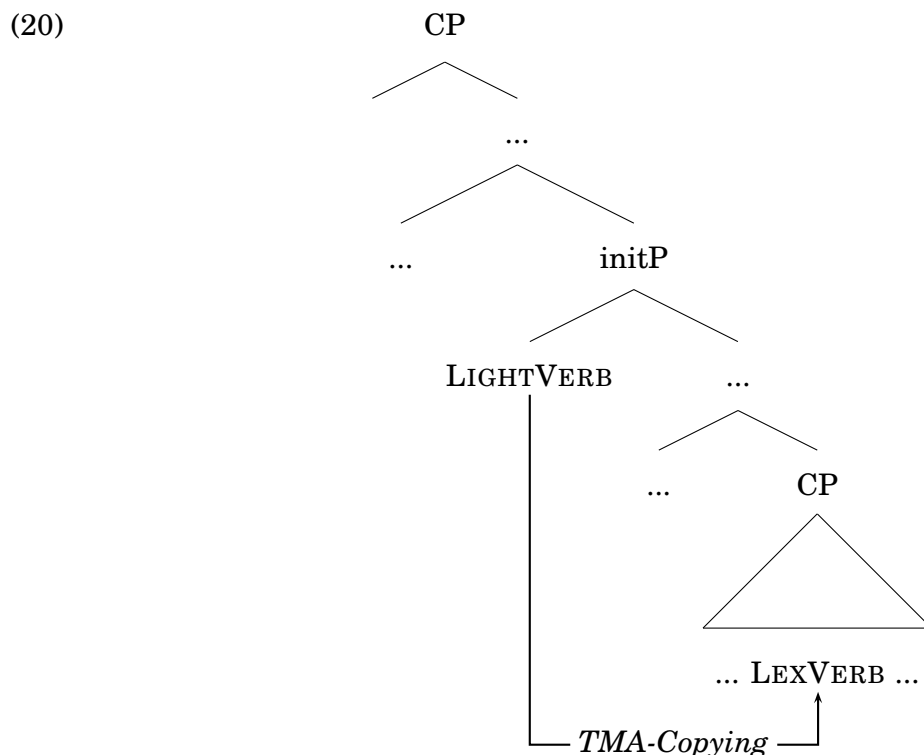
TMA-Copying ensures that the embedded verb shows the same inflection as the matrix verb, i.e. that it is specified for the exact same features. The result is a structure that resembles a coordinate structure on the surface.

Wiklund's account nicely derives the properties that SceCo and infinitivals have in common. However, the account also faces quite a number of problems, especially when it is transferred to the cases of asymmetric coordination in English. First and foremost, the analysis cannot account for the fact that the first conjunct is much more flexible in English than it is in Swedish. According to Wiklund, only four verbs in Swedish can occur in the first conjunct, similar to what de Vos (2005, 2009) identified for English ConCo constructions. However, given that we find all kinds of verbs in the first conjunct in English, the light verb account is probably not tenable.[6] Thus, the VP *pick up the phone* in *Who did he pick up the phone and call?* would have to be reanalyzed as a light

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[6]Wiklund (2007) briefly mentions the distinction between SceCo and ConCo constructions but expresses her doubts about whether this distinction is necessary. Thus, in principle, her account is also supposed to cover the cases of English SceCo.

verb. This is, of course, quite implausible since this VP contributes much more than just aspectual features.

Also, it is not clear how the conjunction is derived in Wiklund's analysis. She does not speak about which of the functional heads *and* realizes or how it comes into existence. In fact, as de Vos (2009) points out, in some Scandinavian languages such as Norwegian, the conjunction is homophonous (though not homographical) with the subordinator that embeds infinitivals. But again, in English, this analogy breaks down and another explanation has to be found.

Finally, another crucial problem that arises when Wiklund's theory is applied to English, is the case of multiple extraction as in the examples by Lakoff (1986).

(21)   What did he go to the store, buy, load in his car, drive home and unload?

<div align="right">Lakoff (1986, p.155)</div>

It is hardly tenable to assume a structure with five infinitivals iteratively embedded into its predecessor. But even if one subscribes to this assumption, it cannot be explained how the peculiar extraction pattern arises. Multiple extraction sites headed by one antecedent is usually a case of ATB-movement[7] which, of course, does not apply to infinitival constructions.

So, to briefly sum up, while the analysis by Wiklund (1996, 2007) may derive the Swedish and maybe the English ConCo construction, it definitely cannot do justice to the lexical and syntactic flexibility of the English SceCo construction.

2.2.2. A coordination analysis: De Vos (2009)

The second analysis which I want to discuss is de Vos (2009). Unlike the subordination analysis sketched above, de Vos assumes that what we are dealing with here is a clear

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[7]Or a case of parasitic gaps but see Lakoff (1986) against the view that examples such as (21) involve parasitic gap structures.

coordination structure. He assumes a coordination of VPs. Thus, the major challenge he must face is explaining why one can extract from the second conjunct asymmetrically.

The analysis he proposes features the core idea that c-selectional features can be percolated in a coordinate structure to the coordination head. This means that an object may be merged outside of the scope of the coordination and, thus, it is not affected by the Coordinate Structure Constraint.

(22)

```
                              &P
                         /         \
                   &P [uDP]          OP:what
                   /      \
                 VP        &'
                / \       /  \
               /___\     &    VP
             went to town    / \
                            /___\
                          buy [uDP]
```
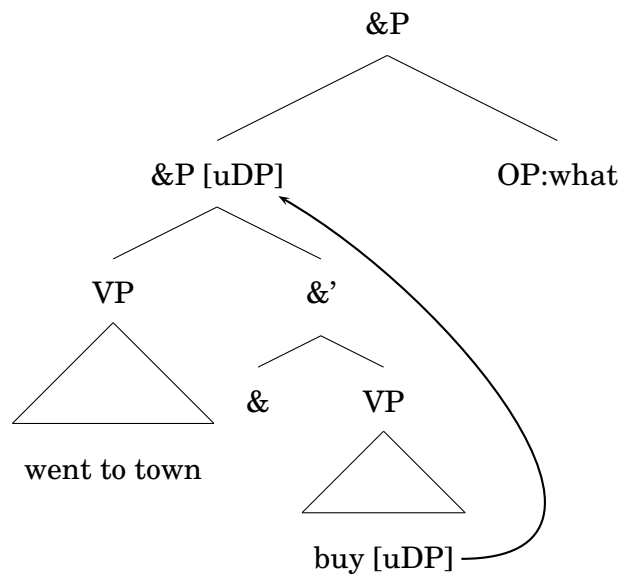
De Vos states that since the coordination phrase is usually thought to be a composite of the features of its conjuncts, the option of delaying the selection of the object is possible. It is, however, only available if the object is an operator that will be A'-moved to a higher position. This is, according to de Vos, due to the fact that this option is some kind of *Last Resort* phenomenon. If the normal VP-internal base position causes no problems in the course of the syntactic derivation, it must be chosen.

This analysis faces some severe problems, conceptually as well as empirically. Conceptually, the general idea of this analysis violates the Earliness principle (cf. Pesetsky (1989)) which states that operations must apply when the possibility is given. The so-

lution that de Vos envisages seems to be that the Earliness principle is temporarily overruled by the Last Resort property of this operation. However, this, quite clearly, requires look-ahead. Whether or not the direct object is merged inside of the VP is determined by whether the VP is headed by a coordination head or not. Since this information is not present in the VP, the decision cannot be made at that point.

Also, as far as I can see, it remains unclear how the object receives its theta-role on LF. Usually, dislocated objects can be reconstructed to their base position to receive a theta-role. But since objects of this type have never been in the position throughout the derivation, reconstruction is impossible. As far as I can see, this is a violation of the UTAH (Baker (1988)), which requires arguments of the same thematical relationship to be represented by the same structural position. De Vos briefly addresses this point and alludes to frameworks like Combinatorial Categorial Grammar in which it is possible to merge objects very high up in the structure, in case of Right Node Raising, for example. However, these frameworks have no theta-roles, and semantic assignment of relations to the predicate must occur differently.

Finally, it is not clear what the underlying assumptions about the categorial status of heads is. The standard assumption is that some head projects a maximal category when all its structure building features are deleted. Since the features of the second conjunct are not deleted because they must be percolated up, the second conjunct would count as a V'-level projection. Hence, it is not clear why the coordination can be merged and why the first conjunct, which is a proper VP, can occur as a specifier. English usually does not provide for VP-and-V' coordination.

Empirically, this analysis is also problematic. First, de Vos seems to assume that the first conjunct is always intransitive and thus he does not discuss cases of argument extraction from the first conjunct. However, as we have seen, the literature notes cases in which the first conjunct selects its own object. A direct object contained in the first

conjunct can, however, not be extracted.

(23)   a.   Who did he pick up the phone and call?   Lakoff (1986, p.156)

           b.   We were looking at the remnants of the sculpture that Spalding took a hammer and destroyed.   Na and Huck (1992, p.126)

           c.   *Which phone did he pick up and call John?

           d.   *We were looking at the hammer that Spalding took and destroyed the sculpture.

It is not at all clear how the asymmetry between the two conjuncts can be derived under de Vos' assumptions. For some reason, the second conjunct can percolate its features to the &P, but the first conjunct cannot.

The second reason, why de Vos' theory overgenerates, is that we would expect the same mechanism to apply with coordination of other categories as well. In principle, we would expect that vP-coordination could in principle be asymmetric as well, given that v has a [uDP]-feature to merge its subject that could be percolated to the &P in the same way that VP percolates its feature [uDP]. This is shown in the following tree. The second conjunct in a case of vP-coordination percolated its selectional feature to the coordination head because it is a wh-element which needs to escape the coordination.

(24)

&P

&P [uDP]   OP:wh

vP   &'

Sam went to town

&   vP

v [uDP] bought whiskey
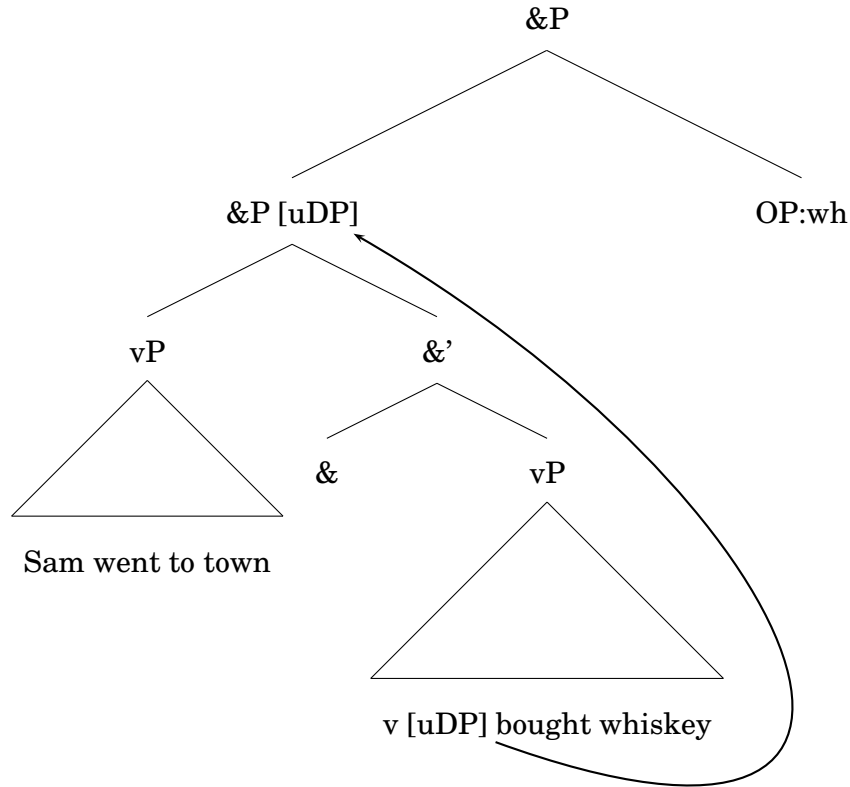
The result would be a complex sentence involving a violation of the Coordinate Structure Constraint like (25). The first conjunct contains its own subject, whereas the second one has asymmetrically extracted its subject from the coordination.

(25)   *Who did Sam go to town and bought whiskey?

It is clear that generating examples like (25) must be avoided. For some reason, this delaying of the selectional features applies only at the VP-level with direct objects. I do not see how the mechanism of delaying selection can be constrained.[8]

Finally, the last piece of evidence comes from complex SceCo constructions with more than two conjuncts. We will see a number of examples of this type in Sections 2.5 and

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[8]One possibility would be to avoid the possible conjunction heights. In other words, if there is no vP-coordination, then the problem with vP-coordination delaying subject merger does not arise in the first place. However, it is not clear how promising this option is. For example, it has been argued by Bošković and Franks (2000) that English has the option of coordinating vPs, but it does not coordinate VPs.

3.2, but, for now, let us take a look at the example we already saw.

(26)   What did he go to the store, buy, load in his car, drive home and unload?

<div align="right">Lakoff (1986, p.155)</div>

Here, we have five conjuncts and extraction from the second, third and fifth of them. In order for de Vos (2009) to derive these cases, one would have to assume that the second, third and fifth verb each percolates its [uDP]-feature to the &P. The &P, which is good at resolving features of all kinds, "knows" that these features are referring to the same DP and hence, one DP can be selected by multiple features at the same time. This may, in principle, be possible, but the questions that arise are the following: How does the &P know that they are referring to the same thing, and what if they are not. With ATB-movement, it is clear that we have one antecedent and many gaps, but with this kind of feature resolution this is not at all clear.

So, to sum up, we have seen that neither the subordination account proposed by Wiklund (1996, 2007) nor the coordination account by de Vos (2009) can derive the patterns that arise with SceCo construction. Both accounts seem to struggle when it comes to deriving the syntactic properties of the first conjunct. The subordination approach treats the first conjunct as a light verb construction and, hence, the syntactic flexibility cannot be accounted for. The coordination account cannot derive the fact that one cannot extract out of the first conjunct. Furthermore, both approaches face some additional problems, both conceptually and empirically.

In the next section, I will present a novel analysis for cases of SceCo which is based on the core idea that the semantic asymmetry between the two conjuncts has a syntactic correlate. The secondary conjunct is base-generated as an adjunct and turned into a conjunct in the course of the derivation.

2.3. A Derived Coordination Account of Scene-Setting Coordination

In this section, I will present my own analysis of SceCo constructions. The discussion is basically identical to the analysis presented in Chapter 4 of the first part about clause chaining constructions. Nevertheless, I will again sketch the analysis in some detail so that both parts of this work can, in principle, be read independently.

2.3.1. The Category of SceCo conjuncts

Before I lay out the core ideas of my analysis, I will briefly discuss what kind of category the conjuncts in SceCo are. We have seen in Section 2.1 that both conjuncts in SceCo must have the same subject as well as the same tense. However, as the following example suggests, differences in voice seem to be acceptable.

(27)   This is the present that John went to the party and was given.

The second conjunct is passivized, but since it contains a ditransitive verb, there is still an object left to be extracted. And as this kind of extraction is asymmetric, the construction in (27) is undoubtedly a SceCo construction. Voice is encoded above the VP (see e.g. Chomsky (1995); Kratzer (1996); Marantz (1997); Alexiadou et al. (2006); Folli and Harley (2007)). We can thus state that de Vos' (2009) assumption that conjuncts in SceCo are VPs can hardly be maintained. This is another crucial setback for de Vos' theory since he would have to assume that VP can percolate its features up to vP. This, however, can hardly be achieved by the usual mechanisms that &Ps provide for.

The question is what the alternatives are. An elegant approach would be to find a category that allows for manipulation of voice features but excludes the subject. This would explain why the subjects in both conjuncts must be identical but the voice mor-

2. Scene-Setting Coordination

phology need not be. However, even though recent research on argument structure has revealed a very fine-grained structure in this domain (see e.g. Borer (2002); Alexiadou et al. (2006); Folli and Harley (2007); Harley (2010, to appear)), a category like the one we are looking for has not been identified.

Another possible explanation one may envisage is to attribute one of the two parameters to independent properties of the language. And, indeed, since English forces its subjects to raise of out the vP-internal base position to SpecTP, the need for an identical subject can be explained on independent grounds (see Nonato (2013) for the same argument). We can thus assume that the category of the conjuncts in SceCo is little v or, in the terminology of those who decomposed v into further functional heads, VOICE.[9]

2.3.2. The Analysis of SceCo constructions

Now that we have identified the category of each conjunct in SceCo, we can outline the main idea of the proposal. The starting point for this outline is the observation made in Section 2.1 that the conjuncts in SceCo construction do not seem to be equally important. One conjunct is semantically backgrounded in the sense that it contains secondary information. As Goldsmith (1985) and Na and Huck (1992) put it, the semantic relationship between these two conjuncts is essentially the same as between an adverbial and a main clause. The core assumption of this analysis is that this kind of semantic intuition has a concrete syntactic correlate. The first conjunct, which is said to set the scene for the second one, is base-generated as an adjunct in the same position where adverbial clauses are generated: as an adjunct to the matrix vP.

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[9]For the purposes at hand, the decomposition of v into further functional heads does not play a role. However, it is of course an interesting question whether the functional hierarchy that has been found in anticausatives, causatives and passives is also reflected in their ability to occur in SceCo or not.

(28)

```
                    T'
                 /     \
               T        &P
                      /    \
                   vP₁      &'
                  / \      /   \
                 /___\    &     vP₂
                         / \
                       tᵥₚ   vP₂
                            / \
                           /___\
```
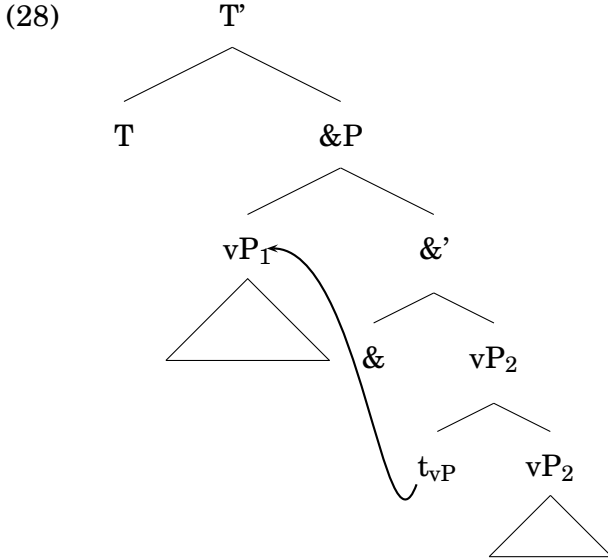
Then, the matrix vP (i.e. vP$_2$) is merged as the complement of an &P to whose specifier the adjoined vP (i.e. vP$_1$) moves. The result is a case of vP-coordination that can be embedded under a regular T-head just like an ordinary case of vP-coordination.

This derivation provides us with the possibility of explaining the differences between symmetrical and asymmetrical vP-coordination. Asymmetrical vP-coordination derives from a subordinate structure and, hence, one might expect that this construction shows properties of a subordinate construction and properties of a coordinate construction at the same time. This, as we have seen in the previous sections, is borne out. In the following, I will show that these properties can indeed be derived under the proposal above. As the derivational history predicts, we will see that the subordinate properties follow from operations and processes that apply early on in the derivation, and the coordinate properties follow from processes that apply late in the derivation or on the basis of its output.

We start with the data on linearization. In Section 2.1, it has been shown that SceCo constructions behave like coordinate clauses as the order of clauses cannot be changed. Adverbial clauses can appear before or after their matrix clause, coordinate clauses

cannot. Under the analysis above, this is not surprising. Linearization is known to be a process that applies very late in the derivation. Most likely, it is a postsyntactic process that transforms the hierarchical structures of syntax into a linear string immediately before the structure is sent to the phonological module. Hence, as usual with movement, it is the derived position that will be taken into account for linearization.

In addition, it is to be noted that the coordination head in (28) is the regular coordination head that is employed in all kinds of English coordination. Hence, additional operations such as movement (out) of a conjunct to a position higher up in the tree are definitely excluded by the Coordinate Structure Constraint.

Next, we focus on the data on extraction. Since one of the goals of this work is to reconcile the Coordinate Structure Constraint with the asymmetric coordination data, we start out by taking a closer look at the concrete version of the CSC I want to base this discussion on. In (29), a version of the CSC is given that is basically equivalent to Ross' (1967) original but theoretically updated.

(29)   Coordinate Structure Constraint (updated):

In a structure [$_{\&P}$ A [$_{\&'}$ & B]], movement (out) of either A or B is prohibited.

Given the analysis of SceCo constructions above, one might think of one derivation involving extraction from the second conjunct which does not violate the CSC in (29). As alluded to above, the underlying assumption is that the crucial step of the derivation takes place *before* the first conjunct moves to Spec&P and establishes a coordinate structure in the first place. Hence, a violation of the Coordinate Structure Constraint is trivially avoided.

(30)

```
                              T'
                         ┌────┴────┐
                         T         &P
                              ┌─────┴─────┐
                            vP₁          &'
                           ╱  ╲       ┌───┴───┐
                          ╱    ╲     wh      &'
                         ╱──────╲         ┌───┴───┐
                     Peter go to          &      vP₂
                      the store      ②         ┌───┴───┐
                                            t_vP1      vP₂
                                       ①               ╱╲
                                                      ╱  ╲
                                                Peter buy t_wh
```
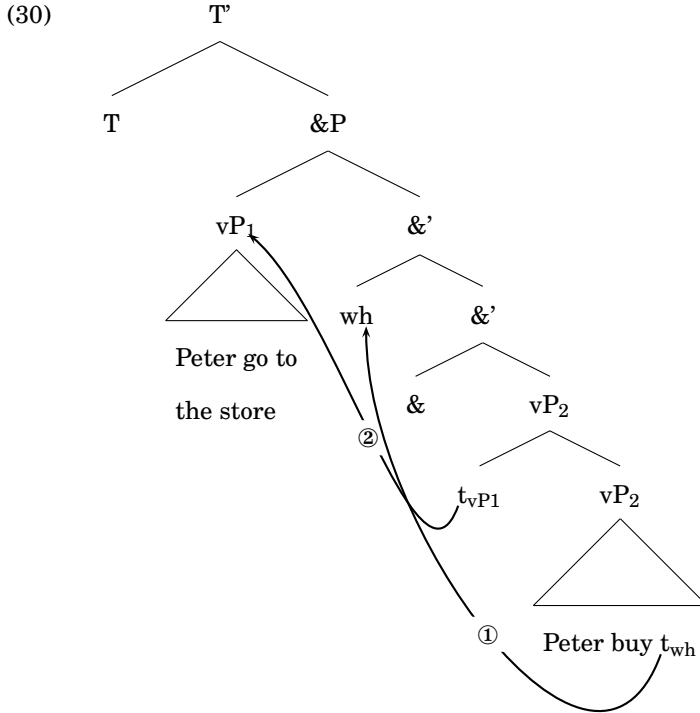
In (30), extraction out of the second conjunct (step ①) takes place *before* the coordination structure is established by vP_1 moving to Spec&P (step ②). Thus, the CSC does not rule out this step. Afterwards, in step ③ below, the wh-phrase is moved from its intermediate specifier further up in the tree as usual. This step does not violate the CSC since, at this point, the wh-element is no longer part of either of the conjuncts. Thus, every single step is consistent with the Coordinate Structure Constraint.[10]

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[10]This of course presupposes that the CSC is a derivational principle of syntax and not, as often assumed, a representational one. This issue is discussed in Chapter 2 in Part III.

(31)
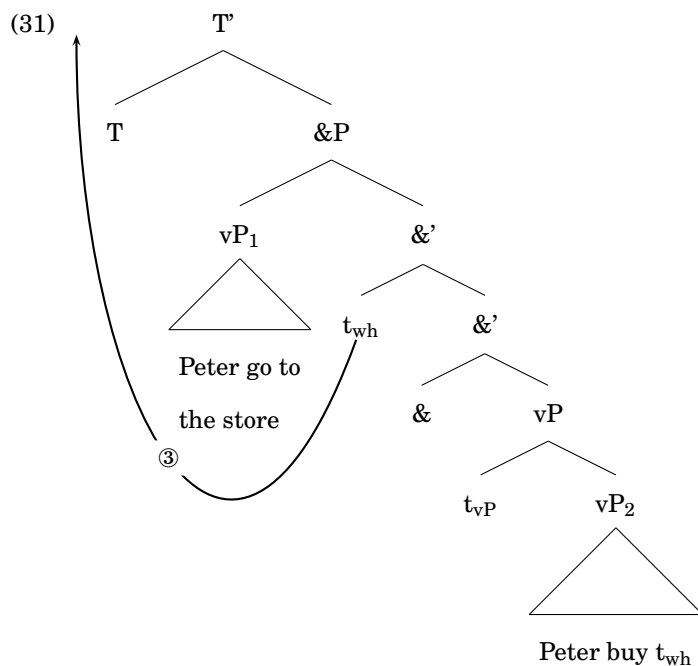
The fact that extraction must apply early on in the derivation also explains the striking asymmetry between the two conjuncts. In their base position, the vP_1 is an adjunct whereas vP_2 is a complement. Since extraction from adjuncts is generally ruled out by the Condition on Extraction Domains (Huang (1982)), the asymmetry is expected.[11] Take a look at the following minimal pair, abstractly represented by the tree in (33).

(32)　　a.　Who did he pick up the phone and call?　　　　　Lakoff (1986, p.156)

　　　　b.　*Which phone did he pick up and call John?

---

[11]We have seen in the first part of this work that the picture is not that simple. It seems that some adjuncts allow for extraction whereas others do not. I will compare the respective cases in Chapter 4 in Part III of this work in detail and discuss whether the ability to extract can be derived from other properties of the categories involved.

(33)
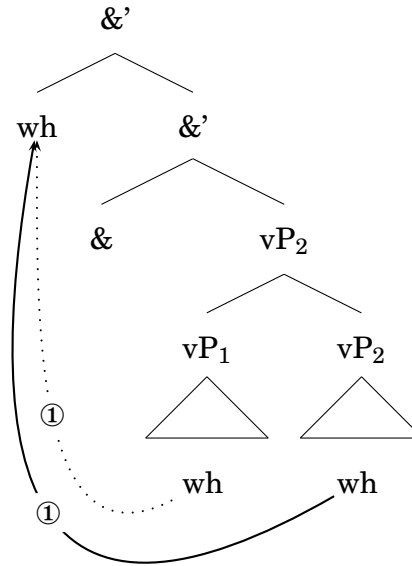
Extraction from vP_1 is ruled out (as indicated by the dotted line) due to its status as an adjunct, whereas extraction from vP_2 affects a complement position. Hence, it is well-formed.

Before we proceed, a brief note is in order about the derivation depicted in (31) and (33). We successfully circumvented a violation of the CSC but still managed to extract asymmetrically out of the right one of two conjuncts. The immediate question that comes to mind is why this kind of derivation is not possible with regular clausal coordination. If this derivation was possible with all kinds of clausal coordination, it would always be possible to circumvent the CSC. This would be equivalent to saying that one could always move out of the second conjunct of a coordination. Hence, we have to distinguish symmetric and asymmetric coordination. With regular, symmetrical coordination, circumventing the CSC is impossible, with asymmetric cases of coordination, it is possible. I argue that the difference lies in the fact that the first conjunct of a asymmetric coordination construction comes about via movement. With regular coordination, the first conjunct is the result of (External) Merge. To be more concrete, I assume a well-known principle that regulates the order of operations and distinguishes these two

syntactic operations: The Merge-over-Move Principle (Chomsky 1995, 2000).[12,13]

(34)   Merge over Move (MOM):

        If, at some point of the derivation, Merge and Move can both apply, then Merge always applies first.

The exact point of the derivation which is of interest here is when the &-head and vP_2 have been merged. In principle, we do have two possibilities. Either we first move vP_1 and then we move the wh-phrase (which leads to a violation of the CSC) or we move the wh-phrase first and then we move vP_1 (which leads to a circumvention of the CSC). Here, the two operations in competition are two instances of Movement. Hence, MOM does not regulate their relative order. Both orders are possible.

So, let us imagine a similar situation with regular, symmetrical coordination. We have merged the &-head with the second conjunct. If the second conjunct contains a wh-phrase, we also have two possibilities of how to proceed. Either we first move the wh-phrase and then we merge the first conjunct (which circumvents the CSC), or we first merge the first conjunct and only then we move the wh-phrase out of the second conjunct (which violates the CSC). Here, the two operations in competition are one instance of Merge and one instance of Move. Hence, MOM forces Merge to apply first. However, if Merge applies first, we encounter a CSC violation in the second step. So, asymmetric extraction out of the second conjunct of normal coordinate clauses either violates the CSC or MOM and is hence prohibited. The situation is illustrated in (35). Merge-over-Move requires step ① to apply before step ②. However, once step ① has applied, the coordinate structure is established and the CSC kicks in prohibiting subsequent

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[12]In many recent publications, Merge and Move are assumed to be instances of the same operation: Move is to be seen as Internal Merge while Merge is External Merge. Even though these two operations share a common label nowadays, it must be possible to distinguish them at least at a certain point of the derivation.

[13]For a critical discussion of the MOM principle, see Chapter 3 in Part III.

movement of the wh-element (step ②, the dotted line indicates the ungrammaticality of this specific movement step).

(35)

$$
\begin{array}{c}
\cdots \\
\diagup\diagdown \\
\&\text{P} \\
\diagup\diagdown \\
\text{TP}_1 \quad \&' \\
\diagup\diagdown \\
\& \quad \text{TP}_2 \\
\text{wh}
\end{array}
$$
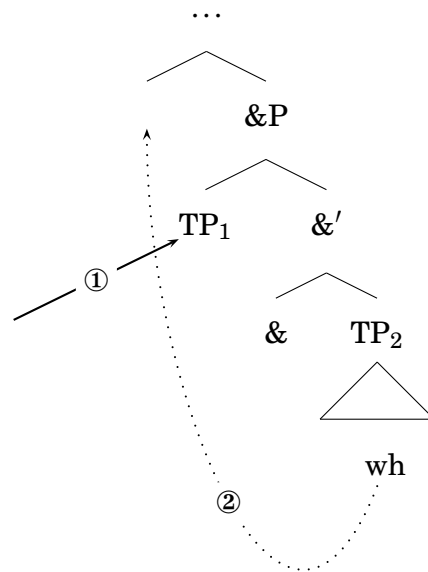
So, as an intermediate summary, we can state that the Derived Coordination Account derives the attested asymmetries between the two conjuncts. We find extraction out of the second conjunct but no extraction from the first one. This difference is attributed to the difference in base position of the two conjuncts. While the second conjunct is base-generated in complement position, the first conjunct is base-generated as an adjunct. Since adjuncts are known to constrain the possibilities of extraction, the asymmetry between the two conjuncts is derived.

However, the derivation is not yet complete. The structure in (31) includes two instances of the same subject. These two subjects must, later on in the TP cycle, be ATB-extracted to the subject position. I do not want to make any specific assumptions about the nature of ATB-movement. In principle, the approach that I pursue is compatible with different implementations of ATB-movement. Whether ATB-movement is a complex process that simultaneously extracts elements from all conjuncts at the same time and unites them into one in their landing site (as in Williams (1978) or Blümel (2013))

or whether it is a rather simple process that extracts the element from the first conjunct and licenses gaps in all other conjuncts (as in Munn (1999*a*, 2001) or Salzmann (2012)), does not play a role for the purposes here.[14] In any case, the subject is ATB-extracted to the subject position. This step happens of course, after coordinate structure is built since, otherwise, ATB-movement could not apply in the first place.

(36)
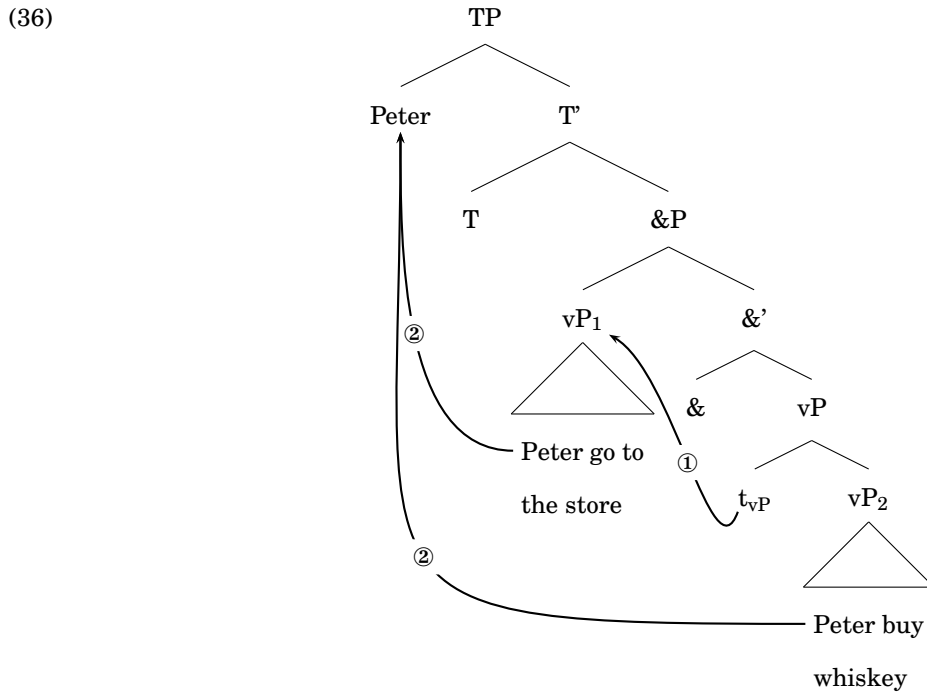
It should not be concealed that, as one can see in (36), step ② violates the Freezing Principle as it extracts an element from a moved category.[15] While this may seem like an undesired result at first sight, it should be noted that all the standard analyses of ATB-extraction violate a very similar principle as they all extract from a specifier. Since extraction from moved categories and extraction from complex specifiers is both degraded, and movement by standard assumption only targets specifiers, both con-

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[14]Note, however, that the latter approaches (Munn (1999*a*, 2001); Salzmann (2012)) presuppose a representational concept of the Coordinate Structure Constraint that I do not subscribe to. It is an open question whether this discrepancy can be resolved. I discuss this issue further in Chapter 2 in Part III.

[15]On Freezing, see Wexler and Culicover (1980); Browning (1991); Collins (1994); Müller (2010).

straints are generally thought to be deducible to the same ultimate cause (see Huang (1982) and much subsequent literature). Hence, it is not surprising that ATB extraction can also violate the Freezing Principle if it, given standard analyses, applies to specifiers.[16]

In this section, we have seen that the Derived Coordination Account nicely derives simple cases of Scene-Setting Coordination. It provides a principled explanation of why these cases are not ruled out by the Coordinate Structure Constraint, an otherwise very robust principle of language. In doing so, it could be shown that the CSC can be maintained as a syntactic principle if it is understood (and applied) derivationally. In the following section, I will turn to more complex structures that provide even more evidence for the Derived Coordination Account. SceCo constructions can become quite complex inasmuch as they can comprise a great number of conjuncts with seemingly arbitrary extraction patterns. However, it can be shown that the Derived Coordination Account coupled with the standard analysis of nested coordination phrases can derive the full range of attested patterns.

2.4. SceCo with Multiple Conjuncts

In this section, I will try and show that the analysis I proposed can also account for the complex extraction patterns found with more complex cases of SceCo. Lakoff (1986) lists quite a number of cases with more than two conjuncts and various different extraction patterns.

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[16]If the analysis I proposed is combined with approaches of ATB-movement as a single extraction plus deletion or operator licensing as in Munn (1999*a*, 2001); Salzmann (2012) there is in principle one possibility that avoids the violation of the Freezing Principle. One could alternatively assume that, in the cases of ATB-movement out of SceCo constructions, the actual extraction proceeds from the second conjunct and that, this time, the operator (in Munn's analysis) or the deleted element (in Salzmann's analysis) is contained in the first conjunct. Since the second conjunct has not moved, we do not encounter a violation of the Freezing Principle. Usually, asymmetries between the two conjuncts of this kind have been argued for in the relevant papers on the basis of reconstruction effects and agreement asymmetries. It remains to be seen whether this analysis can be maintained.

(37)   a.   What problem$_1$ did he sit there for a while, start thinking about t_1, get

bored, and give up on t_1?

b.   Sam is not the kind of guy$_1$ you can just sit there, listen to t_1 and not want

to punch t_1 in the nose.

c.   What$_1$ did he go to the store, buy t_1, load t_1 in his car, drive home and

unload t_1?

d.   I went to the toy store, bought t_1, came home, wrapped t_1 up and put t_1

under the christmas tree one of the nicest little laser death-ray kits I've

ever seen.

Lakoff (1986, p.153)

Example (37-a) is a coordination of four conjuncts with extraction from the second and fourth conjunct. (37-b) has three conjuncts with extraction from the second and third. (37-c) shows extraction from the second, third and fifth out of five conjuncts, and (37-d) extraction from the second, fourth and fifth out of five conjuncts. At first sight, it seems that anything is possible.

However, a second look at these examples reveals that the semantic asymmetries we identified between the two conjuncts of simple SceCo are found here as well. In (37-a), for example, the first conjunct expresses the context in which the event described in the second conjunct occurs. The *sitting there for a while*-event describes the background of the *thinking*-event. The same holds for the third and fourth event. The *getting bored*-event precedes the and leads to the *giving up*-event. These semantic asymmetries will again be the handle to decompose the complex coordination constructions into smaller parts. The assumption that provides for this decomposition is that we have nested &Ps.

When confronted with coordination data with more than two conjuncts, one has to decide in which position the additional conjuncts are merged. There are, in principle, two different possibilities. First, one could assume that one coordination phrase has

more than one specifier, and each additional conjunct is merged in an additional specifier. The second possibility is that coordination phrases can be nested and multiple conjuncts entail multiple coordination phrases. The difference can be represented as in (38).

(38)   *Multiple specifiers of one coordination head:*

[$_{\&P}$ John [$_{\&'}$ Paul [$_{\&'}$ George [$_{\&'}$ & Ringo]]]]

(39)   *Multiple coordination heads:*

[$_{\&P}$ John [$_{\&'}$ & [$_{\&P}$ Paul [$_{\&'}$ & [$_{\&P}$ George [$_{\&'}$ & Ringo]]]]]]

As I already discussed in Chapter 5 of Part I, (39) is probably correct. It has been argued for convincingly in Johannessen (1998); Munn (1987); Zoerner (1995) (see Progovac (1998*a,b*) for an overview).

The structure in (39), combined with the assumptions of the Derived Coordination Approach to SceCo sketched in the preceding section, enables us to account for the whole range of extraction patterns in (37). Based on the semantic asymmetries between the respective conjuncts, we are in the position to determine the inner structure of complex &Ps more accurately.

Take a second look at the first example in (37), repeated in (40). We have noted that the first conjunct gives background information for the second one, and the third conjunct gives background information for the fourth one.

(40)   What problem$_1$ did he sit there for a while, start thinking about t$_1$, get bored, and give up on t$_1$?

<div align="right">Lakoff (1986, p.153)</div>

2. Scene-Setting Coordination

Under the Derived Coordination Account, these semantic dependencies can immediately be translated into structural ones as in (41).[17]

(41)   *Syntactic base position of the Conjuncts in (40):*[18]
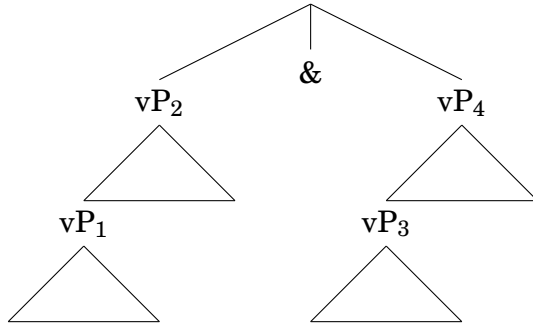
With respect to the movement of the clauses into the specifiers of the coordination heads, the concrete syntactic tree thus looks as follows:

(42)

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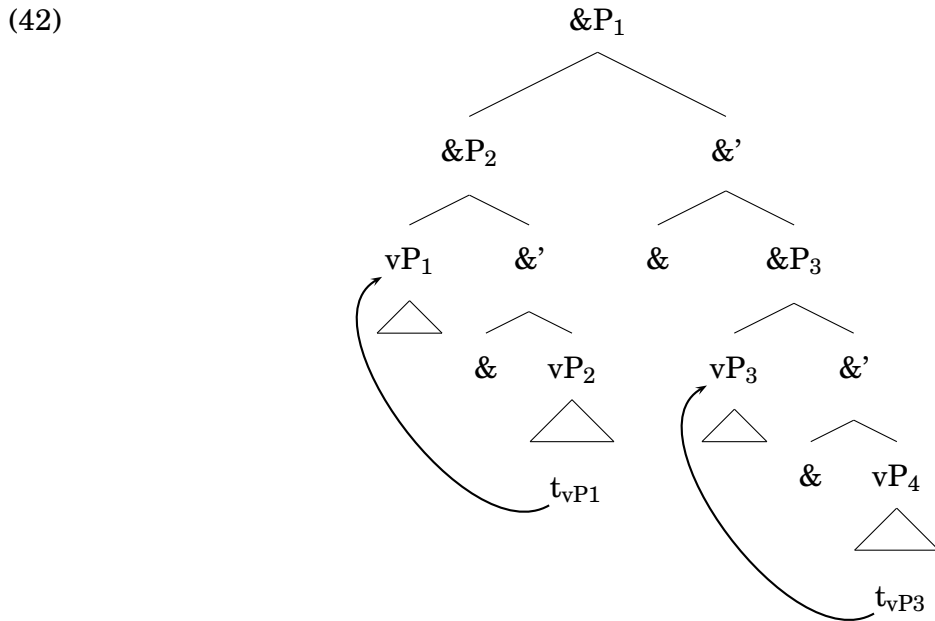
[17]It is not clear whether the combination of vP_1 and vP_2 modifies the combination of vP_3 and vP_4, or whether this is regular coordination. In (i), the structure for the regular case of coordination is given. Although the question might be interesting from a general semantic point of view, the syntactic derivation of the extraction pattern does not crucially depend on this relation.

[18]This ternary structure is, of course, only a simplified version of the asymmetric binary coordination structure.

206

All that is left to do is to determine for each of the single coordination phrases in (42) whether it undergoes no movement, ATB-movement, or asymmetric movement. The latter is, of course restricted to &P whose specifier was filled by movement (i.e. $\&P_2$ and $\&P_3$).

Given the example in (40), we want to asymmetrically extract out of the second and the fourth of the conjuncts. Hence, both $\&P_2$ and $\&P_3$ undergo asymmetric extraction from their right conjuncts respectively. In $\&P_1$, we want the wh-element to be extracted from the specifier and out of the complement at the same time. Thus, $\&P_1$ undergoes ATB-movement. These movement steps are shown in (43). For reasons of illustration the movement steps of vP_1 and vP_3 into the specifiers of $\&P_2$ and $\&P_3$, respectively, are omitted.

(43)
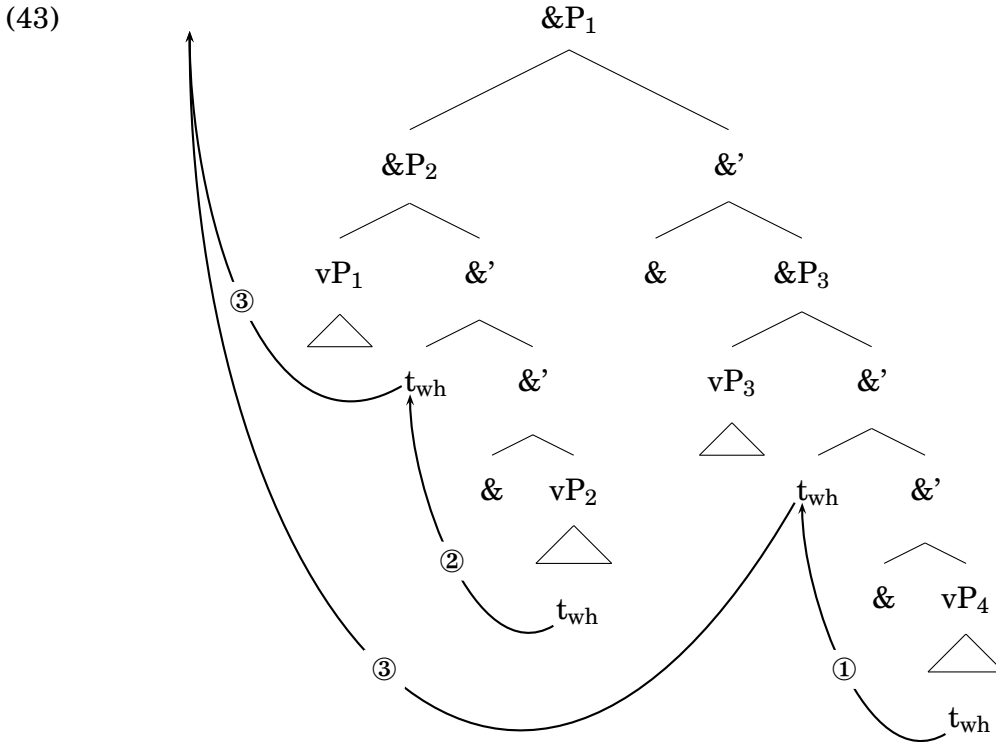
In step ①, the wh-phrase is extracted asymmetrically from the primary, right conjunct (i.e. vP_4) of $\&P_3$. In step ②, the wh-phrase is extracted asymmetrically from the right

conjunct (i.e. vP$_2$) of &P$_2$. Step ① and step ② both land in intermediate specifiers of their respective &Ps. Then, in the final step ③, both wh-phrases are ATB-moved out of each conjunct of &P$_1$. The result is a complex coordination structure with gaps in the second and fourth conjunct.

Similar derivations account for the other complex cases of SceCo. Below, I give the underlying &P-structures for two of the examples we saw at the beginning of this section:

(44)   Sam is not the kind of guy$_i$ you can [$_{vP1}$ just sit there] , [$_{vP2}$ listen to t$_i$] and [$_{vP3}$ not want to punch t$_i$ in the nose].

<div align="right">Lakoff (1986, p.153)</div>

(45)   Dependency relations in (44)
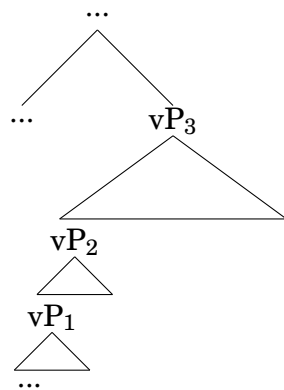
This underlying structure is recursive. The vP$_1$ sets the scene for vP$_2$, which, in turn sets the scene for vP$_3$. In the course of the derivation, vP$_1$ moves to the specifier of an &P coordinating vP$_1$ and vP$_2$. This &P then moves to the specifier of another &P which coordinates the complex &P consisting of vP$_1$ and vP$_2$ and vP$_3$. The surface structure (movement traces omitted) looks as follows:

(46)   [$_{\&P1}$ [$_{\&P2}$ vP1 [$_{\&'}$ & vP2]] [$_{\&'}$ & vP3]]

To derive the concrete extraction pattern in (44), we must extract asymmetrically from the right conjunct of $\&P_2$ and, afterwards, ATB-extract from both conjuncts of $\&P_1$.

The following example is another complex case of movement out of a subset of all conjuncts:

(47)   What$_i$ did he [$_{vP1}$ go to the store], [$_{vP2}$ buy t$_i$], [$_{vP3}$ load t$_i$ in his car], [$_{vP4}$ drive home] and [$_{vP5}$ unload t$_i$]?

<div align="right">Lakoff (1986, p.153)</div>

The underlying structure of this example is relatively complex. Since there are five conjuncts, we need four &Ps to account for the derivation. However, a closer look at the semantics of the clauses reveals the modification relations. vP_1 modifies vP_2, as the *going to the store*-event sets the scene for the *buying*-event. vP_3 and vP_4, on the other hand, modify the final conjunct vP_5, as both the *loading X in his car*-event and the *driving home*-event provide background information for the *unloading*-event.

(48)   Dependency relations in (47)
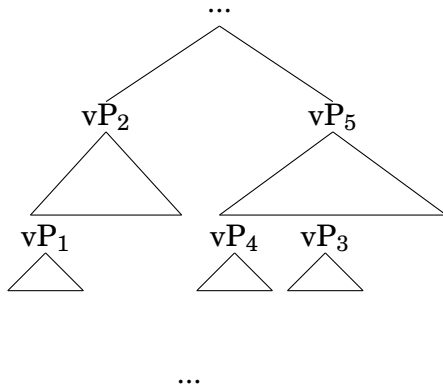
The surface structure then looks as follows:

(49)   [$_{\&P1}$ [$_{\&P2}$ vP$_1$ [$_{\&'}$ & vP$_2$]] [$_{\&'}$ & [$_{\&P3}$ vP$_3$ [$_{\&'}$ & [$_{\&P4}$ vP$_4$ [$_{\&'}$ & vP$_5$]]]]]]

The extraction pattern that we want to derive is extraction from the second, third and fifth vP. In order to do that, we must state for every &P whether it was extracted by ATB-movement or asymmetric movement. We start bottom-up: $\&P_4$ undergoes extraction asymmetrically from the right conjunct, thus leaving the fourth conjunct intact. $\&P_3$ undergoes extraction in an ATB-fashion from both conjuncts (i.e. vP_3 and $\&P_4$). $\&P_2$ undergoes asymmetric extraction, since the first conjunct is not affected. Finally, $\&P_1$ again undergoes extraction from both conjuncts (i.e. $\&P_2$ and $\&P_3$).

So, to sum up, we have seen that even the extraction patterns with multiple conjuncts can be derived under the Derived Coordination Account. When the semantic asymmetries of these complex examples are closely investigated, one finds that the relations in these cases are just the combinations of several &Ps. Since each of these &Ps can either be construed symmetrically or asymmetrically, quite a number of possible patterns emerge. But again, even in these complex patterns we find that the so-called semantically backgrounded conjuncts only undergo extraction if it applies in an ATB-fashion. Asymmetric extraction always applies to the right conjunct only.

As we will see in the next section, this nice finding is however blurred by the fact that with the phenomenon of Consecutive Coordination, the possible order is reversed. It will be shown that ConsecCo has the exact same syntactic properties as SceCo with one exception, namely that this time the semantically secondary conjunct is the right one. We will see that the Derived Coordination Account can also account for these cases and, furthermore, we find that even the most complex cases in which SceCo and ConsecCo constructions are mixed within one sentence can be accounted for.

3. Consecutive Coordination

3.1. Integrating ConsecCo Constructions into the Theory of SceCo

Cases of Consecutive Coordination (ConsecCo) look a lot like SceCo constructions. Most notably, ConsecCo constructions also allow for asymmetric extraction from only one conjunct. Take a look at the following examples:

(1)   a.   That's the stuff the guys in the Caucasus drink and live to be a hundred.

<div align="right">Lakoff (1986, p.157)</div>

        b.   That's the kind of of firecracker that I set off and scared the neighbors.

<div align="right">Lakoff (1986, p.157)</div>

        c.   How many lakes can we destroy and not arouse public antipathy?

<div align="right">Goldsmith (1985, p.213)</div>

        d.   How much can you drink and still stay sober?

<div align="right">Goldsmith (1985, p.213)</div>

        e.   How many courses can you take for credit and still stay sane?

<div align="right">Lakoff (1986, p.155)</div>

Examples of this type have first been noted by Goldsmith (1985) and Lakoff (1986). There, this category is divided further into two types, namely one which encodes a se-

mantic relation similar to a *cause-effect* description as in (1-a),(1-b) and (1-c) and, on the other hand, a semantic relation encoding some kind of an unexpected result of an action as in (1-d) and (1-e). While this categorization may very well be semantically justified, I decided to lump these two categories together because their syntactic behavior is identical and we are primarily concerned with that.

It can be shown that ConsecCo constructions share the vast amount of syntactic properties with SceCo, including which categories can occur in the respective conjuncts and those which cannot. Thus, ConsecCo constructions can neither have different subjects in both conjuncts, nor different tense specifications.

(2)   a. *That's the kind of of firecracker that I set off and the noise scared the neighbors.

    b. *These are the lakes we destroyed and not arouse public antipathy.

The same holds for the behavior of the two clausal relation tests that we applied to SceCo in the preceding chapter. The order of clauses cannot be changed in a ConsecCo construction, indicating that the construction is somehow coordinate in nature.

(3)   *?You can still stay sober and drink so much vodka.

Since the order of conjuncts in (3) represents an order of events that is incompatible with the natural order of events, the example cannot be interpreted. As with regular coordination, the order of conjuncts must thus reflect the order of events in time.

On the other hand, we have seen in all the examples above that, as with SceCo, asymmetric extraction from ConsecCo constructions is possible. Crucially, however, with ConsecCo, it is always the first conjunct that allows for extraction and the second one which does not. This is the exact opposite of what we have seen with SceCo.

(4)   a.   That's the stuff$_i$ the guys in the Caucasus drink t_i and live to be a hundred.

     b.   How many courses$_i$ can you take t_i for credit and still stay sane?

<div align="right">Lakoff (1986, p.155f)</div>

This correlates with the observation made above that with ConsecCo the first conjunct is the semantically primary one, while the second one is backgrounded. The second conjunct expresses some kind of consequence or result of the action described in the first conjunct. Again, it is the primary conjunct that allows for extraction and the secondary one which does not. Since the semantic asymmetry between the two conjuncts is represented in the syntactic structure of SceCo, we expect that to be the case with ConsecCo as well. This leads us to make one additional assumption that allows us to account for ConsecCo constructions within our theory as well. The assumption is that the specifier of the standard English coordination head can also be on its right. Thus, the structure for ConsecCo constructions looks as follows:

(5)   You drink very much and still stay sober.

(6)

```
                          T'
                   _____/_____
                  /              \
                 T               &P
                              ___/\___
                             /        \
                           &'          vP₂
                        __/\__        /\
                       /      \      /  \
                      vP       &    /____\
                    __/\__         you still
                   /      \
                 vP₁      t_vP      stay sober
                 /\
                /  \
               /____\
             You drink

             very much
```
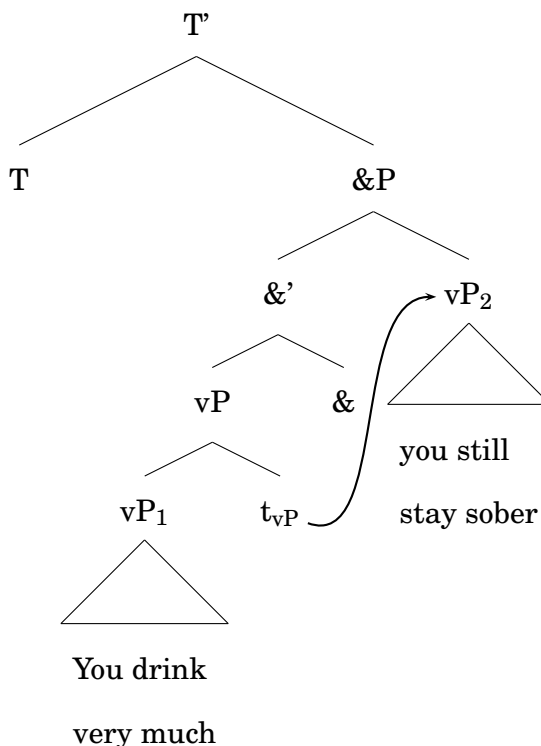
As with SceCo constructions, the secondary conjunct was base-generated as an adjunct to the primary one.[1] Again, the &-head is merged and takes the matrix vP as a complement. Then, the formerly adjoined vP moves to the specifier of the &-head, but, crucially, the specifier is to the right of its head, which is, in turn, right of its complement. This derivation accounts for the syntactic properties of ConsecCo constructions. It derives the fixed order of clauses, since subsequent extraposition or other movements confusing the order of conjuncts violate the Coordinate Structure Constraint. Moreover, it also derives the extraction patterns of ConsecCo, namely that extraction from the first conjunct is allowed whereas extraction from the second conjunct is not. We see that, from a purely syntactic point of view, the analyses for SceCo and ConsecCo constructions are identical. The only thing that distinguishes the constructions is the order of the conjuncts. Thus, we must face the question why it should be the case that

---

[1] In the tree in (6), the adjunct is on the right of the matrix clause but, actually, this is not of importance. It might also be a left adjunct. The important thing is, however, that its landing site is to the right of the &-head.

the coordinate head projects its specifier to the left in SceCo constructions, whereas it does to the right in ConsecCo constructions.

I argue that the difference in linearisation between the two constructions is not a syntactic matter. Also, it is not a construction-specific rule. The answer to that question lies in the semantics of the &-head and the events it conjoins. It has often been noted (see e.g. Jakobson (1971)) that coordinated events generally reflect the order of events in real time. Thus, since SceCo constructions describe a situation in which the secondary conjunct sets the stage for the primary one, it also precedes it in discourse. Similarly, since the backgrounded conjunct in ConsecCo constructions describes an unexpected result or an effect of the foreground conjunct, it must necessarily follow. It crucially violates what one might call the Temporal Iconicity Principle to describe an effect preceding its cause. The Temporal Iconicity Principle can be stated as follows:

(7) **Temporal Iconicity Principle**:

> The order of the conjuncts must reflect the temporal order of events in real time.
>
> <div align="right">(cf. e.g. Jakobson (1971))</div>

The Temporal Iconicity Principle is not necessarily a primitive of language. It has been shown in Bjorkman (2010) that, in principle, it can be derived from the semantics of coordination as such. That would be a nice finding since, as we know, adverbial clauses need not obey to Temporal Iconicity. Anterior temporal adverbial clauses may follow its matrix clause. However, with coordination, obeying the Temporal Iconicity is quite important.

So, I argue that there is nothing syntactic which distinguishes SceCo and ConsecCo constructions. Syntactically, they are identical. What distinguishes them is the postsyntactic linearization algorithm that is sensitive to something like the Temporal Iconicity

Principle.[2]

3.2. Mixed Cases of SceCo and ConsecCo

The finding that, syntactically, SceCo and ConsecCo are one and the same thing, is supported further by the fact that there are complex constructions in which both can be mixed. Below, I give some examples which shows that complex coordination constructions can contain both SceCo and ConsecCo.

(8)   a.   How many courses can you take for credit, still remain sane and get all A's in?

       b.   Sam is not the kind of guy you can just sit there, listen to and still stay calm.

Lakoff (1986, p.153)

Both examples consist of three conjuncts. In (8-a), the first two conjuncts form a ConsecCo construction. The semantic relation between the first two conjuncts is some kind of unexpected consequence relation similar to *How much can you drink and still stay sober?*. However, the conjunction of the first and the second conjunct together in turn sets the scene for the third conjunct as it provides additional background information for the *getting A's*-event. Thus, in (8-a), a ConsecCo construction is embedded as the first conjunct of a SceCo construction.

In (8-b), the situation is vice versa. The first two conjuncts form a typical SceCo construction. The *sitting there*-event sets the scene for the *listening*-event as it provides additional information about it. These two conjuncts together then act as a first conjunct in a ConsecCo construction which expresses an unexpected cause-effect relation.

---

[2]This is an interesting finding since it indicates that there is not something like a head-parameter that strictly forces all heads to project in one direction. Even in English, a language in which heads standardly take their specifiers to the left, this default can be overwritten by other principles. It remains to be seen whether one can find other meta-principles which can influence the headedness of certain categories.

Here, a SceCo construction is the first conjunct of a ConsecCo. The semantic relations and the constructions they entail are indicated in the following examples.

(9)   a.   ... [$_{SceCo}$ [$_{ConsecCo}$ vP$_1$ & vP$_2$] & vP$_3$]

      b.   ... [$_{ConsecCo}$ [$_{SceCo}$ vP$_1$ & vP$_2$] & vP$_3$]

These dependency relations also explain the extraction patterns in these two examples. In (8-a), we find extraction from the first and the third conjunct, and in (8-b), we find extraction from the second conjunct only. This is derived as follows: In (8-a), the lower &P is a ConsecCo which allows for extraction from the first of two conjuncts (i.e. vP$_1$). Then, in the higher &P, which is a SceCo construction, ATB-movement applies moving the element in question out of both conjuncts at the same time.

In (8-b), the lower &P is a SceCo construction licensing asymmetric extraction from the right conjunct (i.e. vP$_2$) only. The higher one is a ConsecCo construction licensing asymmetric extraction from the left conjunct only.

The following tree sketches the complete derivation for (8-b). Since extraction applies to the second conjunct only, we must extract asymmetrically twice. The lower &P is a SceCo construction which allows for asymmetric extraction from the right conjunct and the higher &P is a ConsecCo construction allowing for asymmetric extraction from the left conjunct.

3. Consecutive Coordination

(10)

&P$_1$

&'

vP$_3$

stay calm

⑥

t$_{REL}$

&'

&P$_2$

&

⑤

vP$_1$

&'

sit there

&'

t$_{vP3}$

t$_{REL}$

&'

③

&

vP$_2$

④

vP$_2$

t$_{vP3}$

②

t$_{vP1}$

vP$_2$

①

listen to t$_{REL}$
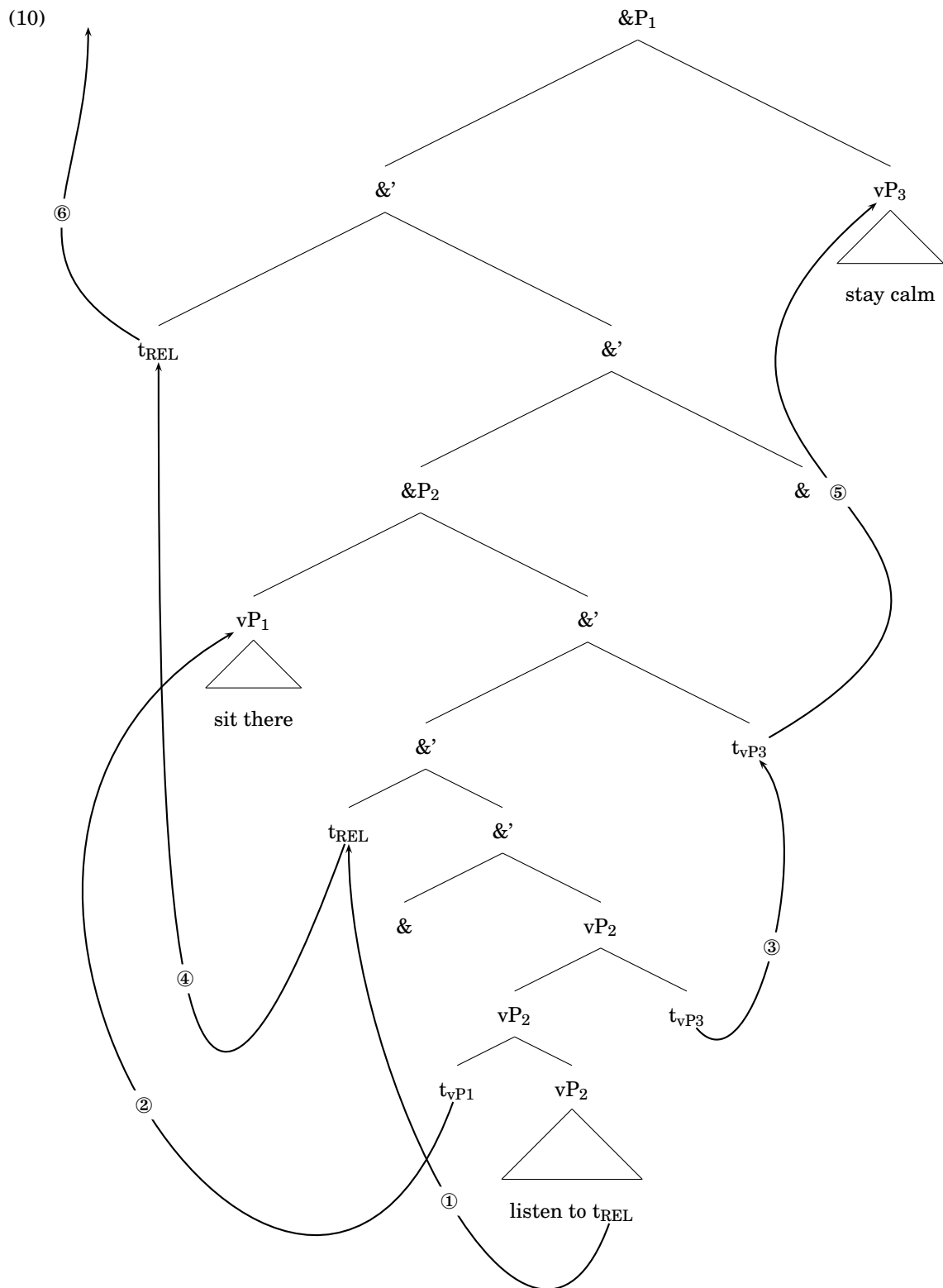
We see that even complex patterns of extraction from clauses with a mix between SceCo and ConsecCo constructions can be derived in the present account. This provides

218

evidence for Derived Coordination Account as such, because it shows that it is indeed the semantic asymmetry between the two conjuncts that is the key to understanding the extraction patterns in asymmetric vP coordination. In the Derived Coordination Account, this semantic asymmetry is encoded directly into the syntactic structure. Furthermore, the fact that the mixed cases of SceCo and ConsecCo fall out nicely from the analysis I provide suggests that these two phenomena should be treated as subtypes of the same thing. I have argued that there is nothing syntactic that distinguishes these two constructions. The differences lie only in the semantics as well as in the linearization. Finally, this account indirectly suggests that the structure of nested &Ps is indeed the right approach to coordination constructions which involve more than two conjuncts. In this approach, each &P is in principle independent, and we see that this is correct because, for each of them, we can state whether it is an &P with a SceCo or with a ConsecCo reading. Also, since each of them is an independent XP, each of them could, in princple, be linearized differently. This is exactly what we find in the cases above.

In this chapter, I applied the Derived Coordination Account to cases of asymmetric vP-coordination. These cases, and especially the asymmetric extraction patterns they can contain, have been puzzling generativists for decades. It is remarkable that even though this problem has been known for at least 55 years, hardly any theories have been proposed to capture this puzzle. I have shown that the two previous analyses cannot cope with the whole range of data and even though both, the subordination and the coordination analysis have some arguments on their sides, the whole phenomenon cannot be accounted for. The Derived Coordination Account combines the best of both worlds. The key to understanding these cases of asymmetric coordination is the semantic asymmetry between the two conjuncts. In these constructions, one conjunct always provides some kind of additional background information whereas the other one contains the real foreground piece of information that drives the discourse forward. This

semantic asymmetry has been observed a long time ago but, to date, no one has made a concrete proposal how to incorporate this observation into a semantic or a syntactic analysis.

In the approach put forward in this chapter and, more generally, in this thesis, this semantic asymmetry finds its direct correlate in the syntactic structure. One conjunct is base-generated as an adjunct to the other, and it is turned into a proper conjunct in the course of the derivation by means of movement. The result is a structure that is indistinguishable from regular coordination on the surface. Some phenomena, amongst which is extraction, may, however, apply at an early stage of the derivation and thus it may be the case that with respect to some properties, the structure at hand may seem to be subordinate even though it looks like a coordinate structure.

In the next chapter, I will discuss another case of asymmetric coordination in English, namely Conditional Conjunction. I will show that the puzzle is in many ways identical. One conjunct of a clear case of coordination behaves like it is subordinate with respect to some properties. Though the conclusions drawn and the analysis proposed will be fairly similar to the ones in this chapter, a closer look at this construction will prove to be useful. Since the semantics of the Conditional Conjunction construction is well-understood due to recent work in the literature, this construction can show how the Derived Coordination Account relates to semantic interpretation.

4. Conditional Coordination

In this chapter, I will discuss the so-called conditional coordination construction (CondCo) and show that, even though some properties distinguish it from SceCo and ConsecCo constructions, the overall picture is the same: On the surface, the construction looks like a coordinate one, even though one conjunct shows a number of subordinate properties.

4.1. Some Syntactic Properties of CondCo

Conditional conjunction (also known as "conditional coordination" or "the left-subordinating-and construction") as well as the related "One more"-construction have been the subject of linguistic studies for several decades now (cf. Ross 1967; Culicover 1970; Lakoff 1970; Culicover 1972; Lakoff 1986; Culicover and Jackendoff 1997; Takahashi 2004; te Velde 2005; Klinedinst and Rothschild 2012; Keshet 2013). The major characteristic of both of these constructions is the apparent mismatch between syntax and semantics. Syntactically, examples like (1-a) and (1-b) look like cases of coordination, but their semantics resembles the semantics of a conditional clause (cf. (1-c)), which is generally assumed to be subordinate.[1]

(1)   a.   You drink one more can of beer and I'm leaving.   *CondCo*

      b.   One more can of beer and I'm leaving.   *OM*

---

[1]In what follows, I will use the following abbreviations: CondCo - Conditional Conjunction; OM - "One more"-construction; Coord - (Ordinary) Coordination; Cond - Conditionals

c.   If you drink one more can of beer, I'm leaving.   *Cond*

(Culicover and Jackendoff, 1997, 197ff)

Culicover and Jackendoff (1997), who were, to my knowledge, the first to carve out the properties of these constructions in detail, observed that may be used to paraphrase conditional clauses; however, their distribution is much more restricted. For example, the conditional reading of these constructions much harder to get when they appear in past or perfect tense:[2]

(2)   #You've drunk another can of beer and I've left.

(Culicover and Jackendoff, 1997, p.198)

Unlike SceCo and ConsecCo constructions in the previous chapters, CondCo allows for two explicit subjects. Interestingly, CondCo even seems to require two subjects. The conditional reading is lost when the subject in the second conjunct is omitted.

(3)   #You [vP get hit one more time] and [vP leave].

With complementizers, however, we find the opposite. The conditional reading is also lost when the complementizer is repeated (cf.(4-a)). Note that the loss of the conditional reading cannot be attributed to the fact that CondCo constructions cannot be embedded. (4-b) shows that they can.

(4)   a. #You know, of course, [CP that you drink one more beer] and [CP that you get

kicked out].

---

[2]Throughout this chapter, minimal pairs between ordinary coordination and conditional conjunction are always constructed on the basis of this observation. Ordinary coordination constructions bear past tense while CondCos bear present tense. Note, however, that past tense is not categorically excluded in CondCo (see Section 4.3 for discussion).

b. You know, of course, [$_{CP}$ that [$_{TP}$ you drink one more beer] and [$_{TP}$ you get

kicked out]].   (Culicover and Jackendoff, 1997, p.198)

This suggests that what we are dealing with here is neither vP-coordination nor CP-coordination. Rather, it must be something in between, namely TP coordination.[3]

Interestingly, even though cases of CondCo look like a TP-coordination on the surface, they share a lot of properties with the construction they paraphrase, namely conditional clauses. This can be illustrated with a number of different properties such as binding, extraction, quantifier raising.

Take, for example, binding of anaphors or variables. With regular coordination, one cannot establish binding relations from one conjunct into another. This is shown in (5-a), where the variable pronoun in the first conjunct cannot be bound by a quantified expression in the second one. However, as illustrated in (5-b) with CondCo constructions, binding of a variable pronoun in the first conjunct is possible. Thus, with respect to binding properties, CondCo patterns with conditionals (shown in (5-c)).

(5)   a. #We gave him$_i$ enough opportunity and every senator$_i$, no matter how honest,

succumbed to corruption.   *Coord*

b. You give him$_i$ enough opportunity and every senator$_i$, no matter how honest,

will succumb to corruption.   *CondCo*

c. If you give him$_i$ enough opportunity, every senator$_i$, no matter how honest,

will succumb to corruption.   *Cond*

(Culicover and Jackendoff, 1997, p.204)

Second, we find that at least some speakers accept asymmetric extraction from CondCo constructions. If CondCo was an instance of ordinary coordination, extraction would be ungrammatical due to the Coordinate Structure Constraint.

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[3]A detailed investigation about what kind of category is involved here is given in Section 4.3

4. Conditional Coordination

(6)   a. *This is the pizza Sam ordered and Mary asked for an orange juice.

        b. *This is the beverage Sam ordered a pizza and Mary asked for.

In (6-a), *pizza* is extracted from the first conjunct leaving the second conjunct intact. In (6-b), *beverage* is moved out of the second conjunct without affecting the first one. However, in both cases extraction leads to ungrammaticality. But, in contrast to the examples above, extraction from CondCo is only slightly degraded, if at all, at least according to Culicover and Jackendoff (1997). In (7-a), an element was extracted from the left conjunct while leaving the right one intact. In (7-b), vice versa.

(7)   a. ?This is the loot that you just identify _ and we arrest the thief on the spot.

        b. ?This is the thief that you just identify the loot and we arrest _ on the spot.[4]

                                      (Culicover and Jackendoff, 1997, p.206)

So, it seems that, as with SceCo and ConsecCo constructions, asymmetric extraction is possible with CondCo. Interestingly, however, in the case of CondCo, it seems that both conjuncts allow for asymmetric coordination.

Finally, as noted by Keshet (2013), data from adverbial quantifier raising also suggest a subordinate relation between the two conjuncts. In CondCo, an adverb in the second conjunct may covertly raise into a position where it takes scope over both conjuncts. Hence, whether the adverb is located within the second conjunct, or whether it is above both conjuncts does not affect the meaning:

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[4]It should be noted that the data on extraction out of CondCo are not uncontroversial. Some speakers find that extraction from CondCo is degraded in general, some allow for asymmetric extraction but only from either the left or the right conjunct. Nevertheless, I think these data are of significance because there is a clear contrast between (7) and clear violations of the Coordinate Structure Constraint (as with ordinary coordination in (6) above). This shows that there must be a basic structural difference between ordinary coordination on the one hand, and CondCos and other cases of asymmetric coordination on the other.

(8)   You come early enough, and you sometimes get a seat.

        = Sometimes, you come early enough and you get a seat.

(Keshet, 2013, p.242)

This is not possible when the adverb is located in the first conjunct (see (9)). Similarly, covert adverb raising is also ungrammatical with ordinary coordination (see (10)).

(9)   You sometimes come early enough, and you get a seat.

        ≠ Sometimes, you come early enough and you get a seat.

(Keshet, 2013, p.242)

(10)   Peter went to Canada and Mary sometimes visited him.

        ≠ Sometimes, Peter went to Canada and Mary visited him.

Again, we see that the second conjunct of a CondCo is somehow more amenable to certain processes than the first conjunct, and Keshet suggests that the reason is for this asymmetry is an underlying relation between CondCo and the construction they paraphrase, namely conditional subordinate clauses. He does not develop this idea any further and does not specify what this relation could look like, but I think that this intuition is on the right track and as we will see, it can be implemented into a theoretical approach.

It seems that the CondCo construction combines the surface structure of ordinary coordination with a number of properties which are usually indicative of subordinate structures. For frameworks such as Minimalism, which assume a rather strict dichotomy between subordinate and coordinate structures, such findings pose a severe challenge. As we will see in the following sections, a number of people, most prominently Culicover and Jackendoff (1997), even claimed that such structures are impossible to derive and are thus a fatal counter-argument against frameworks such as Minimalism.

4.2. Previous Analyses

4.2.1. Culicover & Jackendoff (1997)

The fact that CondCo behaves just like conditional clauses with respect to a number of tests might suggest that they are actually not coordinate at all, and one might think the conjunction *and* may also be used as a subordinator. Culicover and Jackendoff (1997) briefly discuss this possibility but discard it for a number of reasons.

First, they argue that if *and* was a subordinator, it would be a very strange one, at least in English, because it would be the only clause-final subordinator that English has. All other complementizers or C-elements in general always appear in clause-initial position.

Second, they show that, unlike other subordinate clauses, the subordinate clause of a CondCo must always appear in sentence-initial position. Other kinds of subordinate clauses can appear either sentence-initially, sentence-finally or sometimes even within the main clause:

(11)   a. *[$_S$ Louie puts out a contract on you, [$_S$ [$_S$ he sees you with the loot] and]].

(Culicover and Jackendoff, 1997, p.200)

        b. Big Louie puts out a contract on you if he sees you with the loot.

        c. If he sees you with the loot, Big Louie puts out a contract on you.

Hence, Culicover and Jackendoff (1997) conclude that the analysis of *and* as a normal subordinator of English cannot be maintained. Instead they propose a completely new analysis. It is based on the assumption that the apparent mismatch between syntax and semantics is to be taken literally here. CondCo constructions are syntactically coordinate but semantically subordinate.

This assumption helps to solve the puzzle of CondCo if one further assumes that all

cases where the construction behaves like a coordinate clause are syntactic phenomena, and all the cases where it behaves like a subordinate clause are semantic phenomena. This means, for example, that all kinds of binding (i.e. licensing of anaphors, variable binding) make reference to semantic structure and ignore syntax completely. However, Culicover and Jackendoff (1997) are not explicit about how these purely semantic principles can derive the data in (5). On the other hand, the fact that the semantically subordinate clause of a CondCo must always appear clause-initially is due to the fact that the whole construction is syntactically coordinate and extraposition of a first conjunct violates some syntactic principle. The following table lists all the phenomena Culicover & Jackendoff investigated as well as the constraints that regulate them, and classifies them according to whether they apply on the semantic or the syntactic structure.[5]

(12)   Processes/Constraints ordered by the structure to which they apply according to Culicover and Jackendoff (1997)[6]

Syntax	Semantics
Extraposition	Gapping[7]
CED	Right-Node Raising
CSC	Licensing of anaphors
	Variable Binding
	CSC
	(ATB-Movement)

---

[5]Constraints are given in italics.

[6]In its standard formulation, the Coordinate Structure Constraint (Ross 1967) prohibits extraction of the first conjunct of a coordination. However, since the Coordinate Structure Constraint is, according to Culicover and Jackendoff (1997), a purely semantic principle and does not apply to CondCo (because CondCo are semantically subordinate), this ban on extraposition cannot be attributed to it. So, ironically, Culicover and Jackendoff (1997) need to stipulate a constraint which basically does the exact same work as the CSC does but which does it in the syntax. Hence, I have listed the CSC in both columns.

Whenever CondCo patterns with conditional if-clauses with respect to some property, this property is a semantic property, and whenever some property of CondCo patterns with coordinate clauses, the property must be a syntactic one.

However, the question is whether the classification of operations and constraints into these two distinct classes is empirically justified or merely stipulated to make the system work. Since the main purpose of this chapter is to present an alternative analysis of CondCo, I do not want to delve too deeply into that discussion. However, it seems to me that the classification in (12) is, at least for some of the phenomena, far from uncontroversial. The question of whether binding theory (i.e. licensing of anaphors and variable binding) is a matter of syntax or semantics is still under debate. To my knowledge, it has not been possible to capture the complexity of the whole topic of binding theory by means of one module, either syntax or semantics. Hence, it seems problematic to just say that binding applies within the semantics without reference to syntactic structures at all. A similar point can be made for Gapping which is well-known to be subject to a certain number of locality constraints (i.e. Gapping may not cross syntactic barriers. (cf. Hankamer 1973; Neijt 1979; Pesetsky 1982; Chao 1988; Hartmann 2000; Murguia 2004)). And since such locality constraints are usually thought to be syntactic in nature, it seems implausible that Gapping is a purely semantic process. In my opinion, this shows that the approach by Culicover and Jackendoff (1997) has very far-reaching and often undesirable consequences.

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[7]Culicover and Jackendoff (1997) note that CondCo constructions can neither undergo Right Node Raising (RNR) nor Gapping, even though CondCo constructions look like coordinate structures on the surface. Culicover & Jackendoff take this as further evidence for their assumption that the construction is semantically subordinate. Since RNR and Gapping both apply only on coordinate structures, they cannot apply to CondCo. However, in Weisser (2014) I have argued that the reason for the fact that RNR and Gapping cannot apply on CondCo structures has nothing to do with semantic or syntactic asymmetries. It has been shown that Gapping applies only in low coordination (i.e.vP-coordination). Hence, it is not expected to show up in CondCo constructions in the first place. Also, it has been shown that RNR is tightly related to the focus structure of a sentence. As we will see in the next section, CondCo constructions have a very unique focus structure, which I have argued also in Weisser (2014) not to be compatible with the one required for RNR. Therefore, I take neither Gapping nor RNR to be indicative of a semantic or syntactic asymmetry of a certain kind.

Apart from that, a note is in order about the relation of syntactic and semantic structure in the account of Culicover and Jackendoff (1997) in general. As we have seen, they try to show that CondCo constructions are semantically subordinate and syntactically coordinate. And since these two states, namely being subordinate and being coordinate, are, according to Culicover and Jackendoff (1997), incompatible with each other within the same level of representation, they try to construct an argument for their hypothesis that syntax and semantics are two completely distinct levels and *"that syntax is therefore autonomous in that it is not reducible to semantic structure, and semantic structure is not isomorphic to any level of syntactic structure such as LF"* (Culicover and Jackendoff, 1997, 196). This, of course, is incompatible with the standard model of Minimalism, where the semantics is built on the basis of syntactic structure. Therefore, it is clear that the analysis Culicover & Jackendoff propose cannot be transferred to Minimalism. But unless a Minimalist analysis is provided, the argument by Culicover & Jackendoff goes through. As long as there is no adequate analysis which obeys to Minimalist principles, it stands to reason that the construction cannot be captured in a framework assuming the strict dichotomy between subordinate and coordinate clauses like Minimalism. This, in turn, suggests that this dichotomy may be wrong.

However, what I will do in the remainder of this chapter is to show that the assumption Culicover & Jackendoff make is wrong. Minimalist Theory provides for a way to transform subordinate structures into coordinate ones. The transformation that is needed is simply *movement* (internal merge). As we have seen a number of times in this work, movement to the specifier of a coordination phrase can map a subordinate structure to a coordinate one without stipulating additional mechanisms or new machinery.

In the next section, I will discuss a semantic analysis of CondCo by Keshet (2013) who shows how the meaning of CondCo constructions can be derived compositionally. As we will see, however, the analysis cannot account for the semantic properties observed in

the previous section. I will show that Keshet's account can be combined with the Derived Coordination Account to yield both the correct meaning and the correct syntactic properties.

4.2.2. Keshet (2013)

In contrast to previous analyses such as Culicover and Jackendoff (1997) or Klinedinst and Rothschild (2012), Keshet (2013) neither assumes two different lexicon entries for *and*, nor a mismatch between different levels of representation. According to him, CondCo is characterized by a standard coordination phrase within the scope of a modal element, and the correct representation for an example like *You eat too many carrots and your skin will turn orange* is (13).

(13)
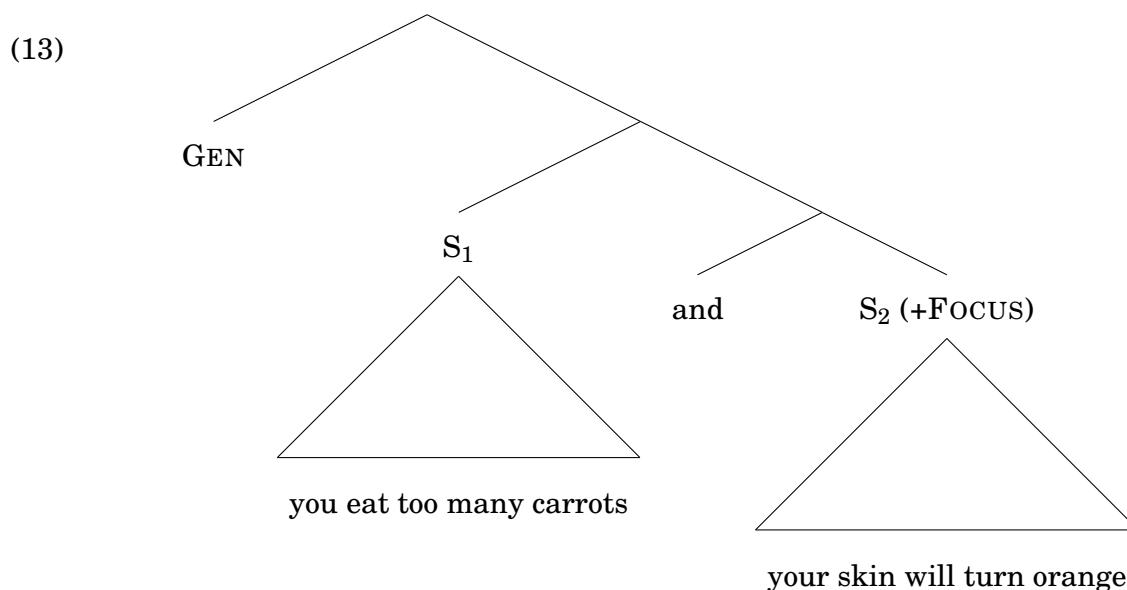
Using a number of tests, e.g. pitch contour evaluation, Keshet conclusively shows that CondCo constructions have a quite restricted focus structure. In CondCo, the first conjunct is generally unfocused while the second is usually focused.[8] Take the following

---

[8]Even though virtually all examples of CondCo have this kind of focus structure, this is not necessarily the case. Keshet discusses CondCo examples in which focus can fall on the first conjunct as well. He shows that his analysis can cope with these examples, and he shows that such examples indeed have a slightly different meaning.

minimal pair in (14) and (15), uttered in a context in which someone asks about the controls in a computer game.

(14)   What happens when you hit the space bar?

         You hit the space bar and your character jumps.

(15)   How do you make your character jump?

         ??You hit the space bar and your character jumps.   (Keshet 2013, p. 228)

If the given information is part of the first conjunct as in (14), then using a CondCo is possible. However, if the first conjunct consists of new information and the given information is part of the second conjunct, the answer is unacceptable.

   To form a CondCo, a generic modal element takes scope over a normal conjunction whose conjuncts have these special focus properties. Due to the fact that this modal element is focus-sensitive, the unfocused first conjunct may join the restriction of the modal such that the structure above receives an interpretation like *Generally, in situations where you eat too many carrots, you eat too many carrots and your skin turns orange*. This is basically the same process as with regular conditionals in which a high modal takes scope over the main clause and the conditional, with the result that the backgrounded conditional clause joins the restriction of the modal (cf. Kratzer (2012)). As the first conjunct joins the restriction of the modal, it restricts the set of possible situations in which the proposition in the second conjunct is true. A generic modal like *always* as in *You come on time and you always get a seat* thus states that in each situation in which the first conjunct is true, the second conjunct is true as well. This is the meaning of a generic CondCo.

   However, since the meaning of a CondCo is not always generic, Keshet (2013) argues that instead of a generic modal, the same position can also be occupied by a covert modal yielding a future interpretation. This assumption may seem ad hoc at first but Keshet

argues that the same element is necessary for the semantic derivation of conditionals whose main clause does not contain an overt modal and, more generally, for future uses of present tense forms. Thus, the covert modal in *You leave this house and you are grounded* either states that whenever you leave this house, you will be grounded, or that, if you leave this house at a certain point in the future, you will be grounded, depending on whether the covert modal in the second conjunct has a generic or a future reading (cf. Keshet (2013, p.221f)).

Thus, Keshet convincingly shows that it is possible to derive the semantics of CondCo while still maintaining a coherent meaning of the conjunction *and*, and without doing away with the idea of a semantic structure interpreting the output of syntax. Furthermore, many of the peculiar properties of CondCo, such as the modal and tense restrictions of both conjuncts or the special focus properties of the construction nicely fall out from his analysis.

However, as Keshet admits, the subordinate properties of CondCo cannot be captured by his analysis. According to his assumptions, the structure is generated as a coordination structure and thus no explanation can be given for why asymmetric binding relations, asymmetric extraction or asymmetric quantifier raising should be possible. These properties still need a satisfying answer.

In the following, I will show that Keshet's account can be combined with the Derived Coordination Account, which, as we have seen throughout this thesis, can account for asymmetries between the two conjuncts elegantly.

4.3. A Derived Coordination Account to CondCo

Before I can present the actual analysis, I must discuss the question what the category of the conjuncts in a CondCo is. We have seen in Chapter 4.1 that the size of the conjuncts must be smaller than a CP because the conditional meaning is lost when both

conjuncts contain a complementizer.[9] On the other hand, each conjunct must be bigger than a vP because vP-coordination never yields a conditional interpretation. The relevant examples are repeated in (16) below.

(16)   a. #You know, of course, [$_{CP}$ that you drink one more beer] and [$_{CP}$ that you get
           kicked out].   (Culicover and Jackendoff, 1997, 198)
       b. #You [$_{vP}$ drink one more beer] and [$_{vP}$ leave].

Keshet (2013) argues that CondCo is a coordination of AgrPs, a functional projection between TP and vP, which is responsible for agreement between the subject and the verb. Right above this AgrP root modals are merged, and since the generic and the future operator fall into this class of modals, the structure of CondCo is as follows:

(17)
```
                        TP
                       /  \
                      T   ModP
                          /   \
                     GEN/FUT   &P
                              /  \
                          AgrP₁   &'
                                 /  \
                                &   AgrP₂
```

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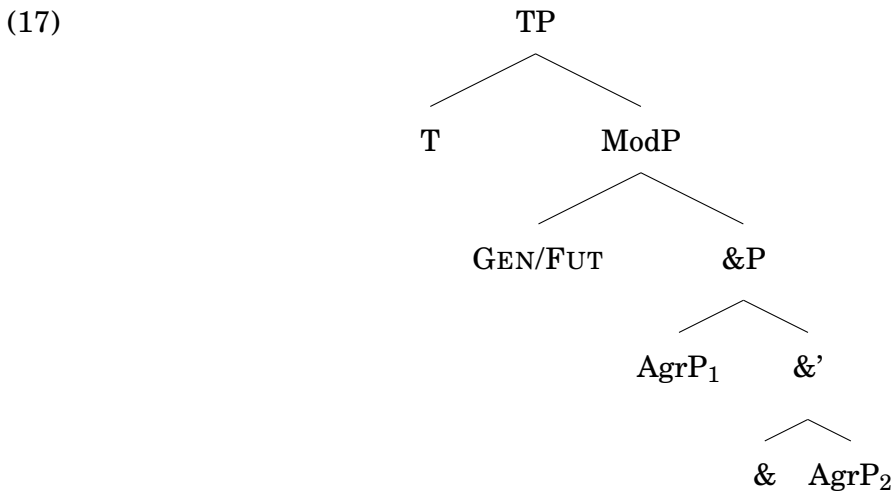
[9] As was pointed out to me, there are some residual examples which suggests that conjuncts within a CondCo can be CPs because they can allow for fronting.

(i)   You drink one more beer and [$_{CP}$ OUT you go]

  This is unexpected under Keshet's analysis because he presupposes that the modal operator selects for a specific syntactic category and hence CP-coordination is not an option for a CondCo. However, as we will see below, the data from German suggest that TPs (or AgrPs in Keshet's analysis) are not the only option for forming a CondCo. Data such as (i) seem to suggest the same thing for English.

4. Conditional Coordination

Keshet's arguments for the fact that each conjunct is a AgrP involve agreement as well as tense and modal restrictions. With respect to agreement, it is evident that the subject of each conjunct independently agrees with its own verb (cf. (18)). And since agreement with the verb is usually associated with the T-head or Agr-head[10], it is clear that at least an agreement phrase must be present within each conjunct to ensure independent subject-verb agreement.

Second, as we have seen in Section 2, there are certain restrictions on tense in both conjuncts. If both conjuncts are present tense (as in most examples above), CondCo are well-formed.[11] If both conjuncts are past tense, then the construction is grammatical too. This is shown in (18).

(18)   Back in the days, schools were strict: You came one minute too late and you got

         detention for a week.   (Keshet, 2013, p.215)

However, even though both tense forms are acceptable in CondCo constructions as such, a combination of them is ungrammatical. A CondCo in which the first conjunct is past tense but the second one is present tense cannot convey a conditional meaning:

(19)   #You ate too many carrots and you will turn orange.

                                                                          (Keshet, 2013, p.215)

---

[10]The existence of an Agr-head as proposed in Pollock (1989) is not an uncontroversial assumption, as this head is often seen as mostly unmotivated from an empirical perspective and unnecessary from conceptual minimalist perspective (cf. discussion in Iatridou (1990); Chomsky (1995)). However, as will become clear below, it is indispensable for Keshet to assume that subject agreement features and tense features are located on distinct heads. In the following, I will show, however, that the tense and mood restrictions which Keshet takes to be an indicator of the size of conjuncts must be due to factors other than the size of the conjuncts and, hence, there is no need to assume the existence of an AgrP anyway.

[11]Keshet follows Abusch (1988, 1997); Ogihara (1989, 1996) in assuming that future is a modal category rather than a tense form and, hence, all examples which involve a future auxiliary *will* or *be going* are taken to be present tense.

Keshet takes this as evidence that the construction contains only one T-head because otherwise one would expect the possibility of distinct tense forms in each conjunct. Hence, each conjunct must be smaller than TP.

Finally, Keshet takes a look at modals and finds that there are certain restrictions on the appearance of modal categories in CondCo as well. He shows that so-called epistemic modals as well as epistemic adverbs are not possible in CondCo. (20) shows that CondCo readings are excluded when one conjunct contains an epistemic modal, either a covert one (20-a) or an overt one (20-b).

(20) a. #He ate the omelet and Urquhart was immune to arsenic.

b. #He ate the omelet and Urquhart must have been immune to arsenic.

(Keshet, 2013, p.217)

The same holds for epistemic adverbs such as *probably*. A conditional reading is excluded with these adverbs:

(21) #John leaves at six and he is probably at home by eight.[12]

Keshet argues that as Iatridou (1991); Abusch (1997) have shown, epistemic modals and adverbs are interpreted right above the TP. Accordingly, since the conjuncts cannot contain these elements, the conjunction site must be TP or lower.

In the remainder of this section I will argue that even though the tense restrictions as well as the modal restrictions Keshet reports are real, they must be due to factors other than the size of the conjuncts. The argument is based on the German equivalent of this construction and goes as follows: In German, word order tells us independently that each conjunct must contain at least a C-head. Nevertheless, we find the exact

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[12]Example slightly adapted from Keshet (2013, p.217) who cites Schwager (2005). Since the original examples contained different tense forms in both conjuncts, the conditional reading was excluded for independent reasons.

same tense and mood restrictions we found with the English example. Hence, it is very implausible to assume that the restrictions in English are due to the size of the conjuncts but that in German, they are due to some other factor.

So, let us take a look at the argument more closely. In Weisser (2014), the syntactic properties CondCo in German have been discussed more extensively. But for the sake of the argument here, it is sufficient to note that German has an equivalent construction which looks, at least superficially, like English CondCo.

(22)   a.   Du trinkst noch ein Bier und ich hau   ab.
                You drink   more one beer and I   leave PRT

            b.   Du isst zu viele Karotten und du wirst   orange.
                You eat too many carrots   and you will.be orange

Crucially, each conjunct in this construction is verb-second. And since the widely adopted analysis for verb-second clauses is V-to-C movement (see e.g. den Besten (1977); Schwartz and Vikner (1989) and many others), each conjunct must contain a C-head.

This alone is not surprising. It may very well be that CondCo in German differs from its English equivalent with respect to categorical status.[13] What is surprising, however, is that German CondCo exhibits the very same restrictions with respect to tense and modals.

First, with respect to tense, we find that CondCo can occur in present as well as in past tense (cf. (23-a) and (23-b)). However, a combination of both tenses, where the two conjuncts differ in their temporal specification, does not have a conditional reading (23-c).

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[13]In fact, I argue in Weisser (2014) that German CondCo constructions are CPs, while in English, they are only TPs since they behave crucially different with respect to embedding.

(23)   a.   Du kommst zu spät zum Treffen und die   schmeißen dich sofort
             You come   too late to   meeting and they kick   you immediately
             raus.
             out

        b.   Früher   waren die Regeln echt   streng: Du kamst nur eine Minute
             Back.then were   the rules   really strict: You came only one minute
             zu spät und sie   schmissen dich sofort   raus.
             too late and they kick   you immediately out

        c.   #Er fuhr   gestern   los und er kommt heute gegen vier an.
             He drove yesterday PRT and he comes today about four PRT

             Intended reading: 'If he started to drive yesterday, then he will arrive about

             four o'clock today'

The same holds for modal categories. Here, we also find that the restrictions which

modals can and which ones cannot appear in German are the same as in English. Epis-

temic readings are incompatible with CondCo in German as well. This holds for covert

epistemics as in (24-a), with overt ones as in (24-b) as well as with epistemic adverbs as

in (24-c).

(24)   a.   #Er isst das Omelett ganz auf und er ist immun gegen Arsen.
             He eats the omelet   whole PRT and he is immune to   arsenic

        b.   #Er isst das Omelett ganz auf und er muss immun gegen Arsen sein.
             He eats the omelet   whole PRT and he must immune to   arsenic be

        c.   #John verlässt das Büro um sechs und er ist wahrscheinlich gegen acht
             John leaves   the office at six   and he is probably   about eight
             zuhause.
             at.home

To conclude, German exhibits the very same restrictions on tense and modals as En-

glish. Hence, it seems fairly implausible to assume that these restrictions follow from

the size of each conjunct in English and from another reason in German. The natural

assumption would rather be that these restrictions are due to the same reasons in both

languages, and that the conjunct size is an independent factor. Thus, these arguments for the conjunct size are invalid, and the only one that remains is the first one by Culicover and Jackendoff (1997) (see examples (16)) who has shown that the size of each conjunct in English CondCo must be smaller than CP but bigger than vP/VP. Thus, I will stick to the default assumption that both conjuncts are TPs, since the motivation for stipulating the existence of an AgrP has disappeared.[14]

4.3.1. The Analysis of CondCo

As we have seen in the previous sections, the Conditional Conjunction construction seems to exhibit subordinate and coordinate properties at the same time. This poses an interesting challenge for all generative theories such as Minimalism which assume a strict dichotomy of clausal relations: The relation between two clauses can either be a subordinate or a coordinate one, but nothing in between.

And since, in addition, it is generally assumed that a coordinate relation cannot be mapped onto a subordinate one (or vice versa) by means of transformational rules or other processes, Culicover and Jackendoff (1997) concluded that the puzzling properties of CondCo cannot be derived in frameworks such as Minimalism. Hence, they argue that constructions like CondCo prove the empirical inadequacy of these frameworks. In this section, I want to argue instead that a derivational Minimalist approach is particularly well-suited to derive the dual behavior of the CondCo construction and that standard view that the semantics interprets syntactic structures can still be maintained.

The core assumption of the analysis is the same as in the preceding chapters of this thesis: Contrary to what Culicover and Jackendoff (1997) claim, subordinate structures can be mapped onto coordinate ones by means of transformational rules: A clause can

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[14]It should be emphasized, though, that the whole mechanism to derive the peculiar properties of CondCo which I will present in the following section is also compatible with the assumption that the conjuncts of English CondCo are AgrPs or any other category.

be merged as an adjunct and then, at a later stage of the derivation, it can be moved to the specifier of a coordination phrase.

Transferred to the concrete cases of CondCo constructions, the structure looks as follows: We have seen in the preceding section that both conjuncts of an English CondCo are TPs. Since the first clause of a CondCo has the interpretation of a conditional clause, I assume further that the first conjunct is base-generated in the same position as regular conditional clauses. According to Haegeman (2003), event-conditionals are merged "before the IP is completed",[15] hence I take them to be adjuncts to vP. Finally I assume that this adjunct TP is moved to the specifier of a coordination phrase which thus conjoins two TPs.[16] I conclude that the structure of CondCo in English looks as follows:

(25)
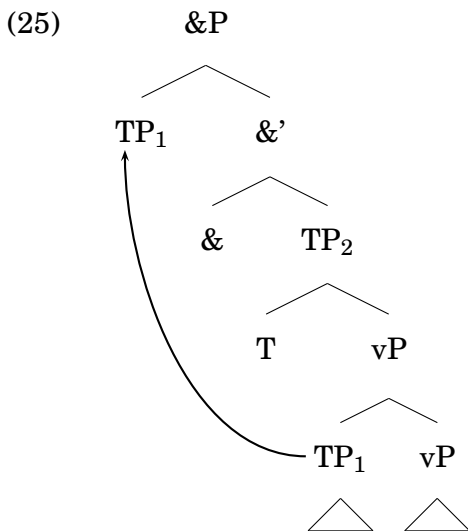
A TP is merged as an adjunct to vP just as any other conditional adjunct clause would.

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[15] See the discussion about the different kinds of conditional clauses in Weisser (2014)

[16] It has been claimed in the literature that TPs cannot be moved in languages like English or German because one never finds stranded complementizers. However, as Abels (2003) shows, there is no general prohibition against the movement of TPs. Instead, what Abels (2003) argues for is that TPs can be moved if they are not directly embedded under a C-head. And since the TPs we are dealing with here are not (immediately) headed by CPs, I take this kind of TP movement not to be problematic.

Then matrix T is merged building matrix TP (i.e. TP_2). In a next step, the coordination head & is merged taking TP_2 as a complement. Then, TP_1 moves out of TP_2 into the specifier of the coordination head. Following the semantic analysis by Keshet (2013), this coordination head itself is merged as a complement of the modal which is responsible for the generic or future conditional interpretation.[17] Syntactically however, the result of this derivation is superficially indistinguishable from regular coordination.[18]

4.3.2. Deriving the Properties of CondCo

In the previous section, we have seen how the analysis is supposed to work. The idea is simple: The conditional TP is base merged as a subordinate adjunct and then it is moved to the specifier of a coordination phrase, yielding a structure which is linearly practically indistinguishable from a coordination of two independent TPs. As we will see in the following sections, this will derive the peculiar properties of CondCo: The subordinate properties follow from operations or processes at an early stage of the derivation, and the coordinate properties follow from operations or processes at a later stage of the derivation or are a result from its output.

Let us have a look at the coordinate properties first. We have seen in Chapter 4.1 and 4.2 that CondCo constructions behave like cases of regular coordination with respect to

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[17]Intuitively speaking, the adjoined base-position of TP_1 reflects the idea that there is an underlying connection between conditional clauses and conditional conjunction constructions. And as far as I can see, it is not implausible that a more fine-grained analysis of the semantics of CondCo may reveal that a certain subcomponent of the meaning of CondCo is due to the subordinate base-position of the first conjunct. However, since the semantics I assume builds on the analysis of Keshet (2013), who showed that the semantics can be derived without the subordinate base position, I, for the time being, assume that the first conjunct is interpreted in its derived position (for exceptions see the following section)

[18]It should be noted that in Stroik and Putnam (2013), coordination is also derived by means of movement to derive binding asymmetries between the two conjuncts. However, crucially, Stroik and Putnam (2013) claim that *any* case of coordination is derived via movement. In my approach, regular coordination is still the result of base-generation. Thus, the binding examples Stroik & Putnam want to exclude (see (i)) must be due to some other mechanism.

(i)   *Mary read a poem to him_i and Susan a short story to Bob_i.

standard constituent tests. The present approach straightforwardly accounts for these facts: Here, *and* is not a subordinator. It is the normal coordinator and thus it must always appear between the two conjuncts. Second, it is clear how we may derive the fixed order of both clauses. We have seen that the conditional clause must always precede the main clause. The &-head used with CondCo is the exact same &-head we use with normal coordination. Hence, the first conjunct must always precede the second one because the specifier of the &-head is always on the left. Adjuncts may appear on the left as well as on the right of their hosts, specifiers may not. They obligatorily precede their respective heads, at least in English.

In other words: The coordinate properties of the CondCo construction derive from the fact that the coordinate head is linearized as follows:

(26)   Spec&P (i.e. first conjunct) > & > Comp&P (i.e. second conjunct).

Thus, this analysis correctly excludes sentences in which both conjuncts appear to the left of *and*, as would be expected if *and* was a subordinator. Furthermore, the present analysis also explains why the order of conjuncts is fixed, namely because the specifier of the &-head is always on the left of its complement.[19] Furthermore, the analysis also makes the right prediction with respect to constituent structure, i.e. *and* forms a constituent together with the second conjunct to the exclusion of the first one but not vice versa. So, to sum up, the coordinate properties of CondCo all involve phenomena which are related to the surface structure of a sentence, such as linearization and constituent structure. Hence, the present approach, in which the result of the derivation is a proper coordinate construction, makes the right predictions.

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[19]In fact, in the previous Chapter about ConsecCo constructions, we have seen that this need not be the case. Linearization is sensitive to external factors such as the *Temporal Iconicity Principle*. However, in the case of CondCo this principle also ensures that the conjuncts are linearized in this order because the moved conjunct expresses a condition for the matrix conjunct. Thus, the moved conjunct always precedes the second conjunct temporarily.

Second, we can take a look at the properties of CondCo which suggest a subordinate relation. We have seen in Chapter 4.1 that facts about licensing of anaphors and variable binding suggest that the first clause of CondCo constructions is in fact subordinate. It must be, at least in some sense, because, just as with subordinate conditionals, the first conjunct of a CondCo may contain an anaphor or a variable which is bound by an expression in the second conjunct. This is expected under the present analysis because the first conjunct is a proper subordinate clause at an early stage of the derivation.

It has been known at least since Belletti and Rizzi (1988) and much subsequent work that some elements such as anaphors and variable pronouns can be bound at any stage of the derivation, and that subsequent movement processes may conceal the original c-command relation which allowed for binding. Take the following example:

(27)   Which pictures of himself$_1$ do you think [that Bill$_1$ likes e best]?

<div align="right">(Belletti and Rizzi, 1988, p.314)</div>

In (27), the phrase *which pictures of himself* originates in a position below *Bill*, and in that position, *himself* can be bound. The fact that subsequent wh-movement of a phrase including the anaphor destroys the binding relation does not affect the binding relation.

This essentially derives why the first conjunct of a CondCo behaves completely identical to subordinate conditionals with respect to binding of anaphors and variables. Conditional clauses and CondCo are base-generated in the same position in the tree. In that position, all anaphors and variables can be bound. Once the binding relation is established, the anaphor (or the variable pronoun) is licensed for the rest of the derivation, regardless of whether the conditional clause stays in situ (as in if-clauses), or whether it moves higher up in the tree (as in CondCo). Take a look a the example in (28).

(28)   Another picture of himself appears in the newspaper and John will definitely go
         and get a lawyer.

As long as *Another picture of himself appears in the newspaper* is in its base position as an adjunct to the vP of the matrix clause, the anaphor can be bound by the matrix subject *John*.[20]

(29)
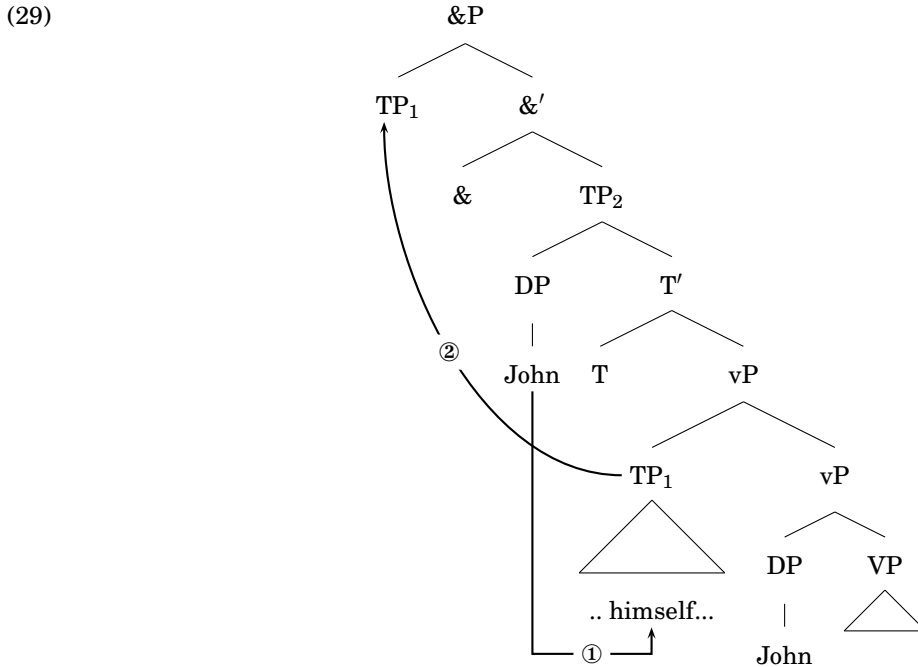
The fact that after binding has applied the whole TP$_1$ is moved to the specifier of the

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[20]In the example in (28) it looks as if mere c-command is sufficient to derive the data which show binding into a vP adjunct. However, it should be noted that this cannot be the whole story as there are examples where an embedded subject or even an object may also bind into a vP-adjunct.

(i)   a.   Another picture of him(self) appears in the newspaper and Susan thinks John will definitely be offended.

        b.   Another picture of him(self) appears in the newspaper and an early retirement will begin to appeal to John.   (Culicover and Jackendoff, 1997, p.202)

Culicover and Jackendoff (1997) speculate that there is an additional requirement of a logophoric relation to establish the binding relation. They take this as an argument that the whole binding theory should be dealt with in the semantics. However, this is not the only way to go, as Landau (2001) and Sundaresan (2012) have shown that logophoric relations can (and maybe even should) be dealt with in the syntax. I am taking a more moderate stance here by saying that the effects of binding theory are partly syntactic and partly semantic. If, however, it turned out that we are dealing with a case of semantic binding here, this would still be compatible with the present analysis. In this case, one would just have to assume that the binding relation is established after reconstruction has taken place.

&P does not change anything about the well-formedness of binding relation.[21]

Next, we turn to cases of extraction. We have seen in the preceding Chapters on SceCo and ConsecCo constructions that the Derived Coordination Account can nicely derive cases of asymmetric extraction between the two conjuncts. The idea behind that derivation was that, in the case of asymmetric coordination, extraction can apply *before* the coordinate structure is generated. This way, a violation of the Coordinate Structure Constraint is trivially avoided.

However, we have seen in Chapter 4.1 that there is a difference between SceCo and ConsecCo on one hand and CondCo on the other when it comes to asymmetric extraction. While SceCo and ConsecCo allow for asymmetric extraction from the matrix conjunct only, CondCo allows for extraction from both conjuncts (at least in the judgments of Culicover and Jackendoff (1997)).

(30)   a.   Who did you pick up the phone and call?   Lakoff (1986, p.156)

      b.   *Which phone did you pick up and call John?

SceCo

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[21]It should be noted at this point that this analysis of the binding data entails that the first conjunct is interpreted in two different positions. Its scopal properties are interpreted in its derived position since we have seen in Chapter 4.2 that the semantic analysis of CondCo that Keshet assumes presupposes an interpretation of the first conjunct immediately below the modal. With respect to the properties of binding of variables or anaphors, the first conjunct is semantically reconstructed to its adjoined base position. Once the first conjunct has reached its final position, elements within the first conjunct are no longer c-commanded by their hosts in the second conjunct. At first sight, this may seem like an undesirable result. However, quite a number of people have shown that reconstruction is more complex than just a simple yes/no-distinction. A certain movement step may be reconstructed for one property but not for another. Lebeaux (1990); Munn (1994); Chomsky (1995), for example, have shown that in wh-movement contexts in embedded clauses, reconstruction is obligatory for principle C but not for principle A. On a more general level, it has been argued since Jackendoff (1972) that many moved items (if not all) are interpreted in two different positions at the same time (for a historical overview see Fox (2000)). In the example from Belletti and Rizzi above (27), the dislocated wh-phrase is interpreted in its derived position with respect to its operator properties but it is interpreted in its base position with respect to properties like predicate-argument relations like θ-role assignment as well as for binding of the reflexive. Fox (2000), drawing on Longobardi (1987) and Heycock (1995), argues, for example, that the moved phrase in *How many people did Mary decide to hire?* can be interpreted above and below the scope-sensitive element *decide* even though for other properties, it must also be interpreted in its surface position. A, in a sense, similar argument is developed in Sauerland (2004) based on a complex comparison of different cases of *antecedent contained deletion*.

(31)   a.   ?This is the loot that you just identify _ and we arrest the thief on the spot.

        b.   ?This is the thief that you just identify the loot and we arrest _ on the spot.

CondCo

Interestingly, this correlates with the fact that conditional clauses remaining in situ seem to license extraction in some cases as well.[22]
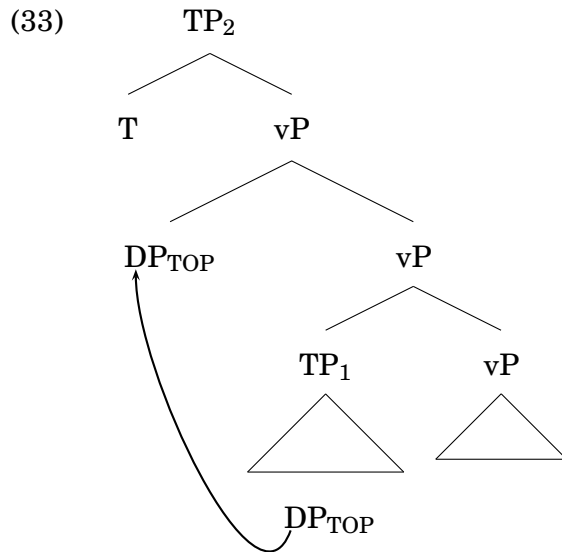
(32)   a.   [Which car]$_1$ does Michelle believe if she buys t$_1$, her insurance premium will increase?   Taylor (2007, p.189)

I take this as evidence that with conditional clauses, the CED seems to be less strict.[23] Since the base position of the first conjunct of a CondCo is identical to the position of a conditional clause, extraction seems to be acceptable. In other words: As long as the first conjunct is still in its base position (i.e. an adjunct to vP), elements may still be extracted from it. The intermediate landing site for this extraction is, of course, the matrix clause. In the tree below, this kind of extraction is shown for a DP that is to be topicalized in the course of the derivation.

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[22]The same has been shown in Etxepare (2002); Yoshida (2006); Alcalá (2014) for Spanish and Japanese.

[23]I admit that this is only tentative evidence for the assumption that, in the case at hand, the CED can be violated. The question that remains is still why it can. We have seen quite a number of different categories throughout this work that do allow for a CED violation and ones that do not. This issue is addressed more closely in Chapter 4 in Part III. There the different cases of transparent structures are compared to the opaque ones, and a concrete proposal is discussed of how to capture this differences with respect to extractability.

(33)

```
              TP₂
           ╱      ╲
          T        vP
              ╱        ╲
         DP_TOP          vP
           ↑        ╱        ╲
           ╎     TP₁          vP
           ╎    ╱  ╲         ╱  ╲
           ╎   ╱____╲       ╱____╲
            ╲__ DP_TOP
```

From this step on, the derivation for asymmetric extraction proceed identical with the one in Chapter 2 about SceCo. As long as the first conjunct stays in situ, elements from the right conjunct can extract sucessive-cyclically through intermediate specifiers of &Ps and other categories. The fact that the first conjunct moves to create a coordinate structure comes too late to prevent this movement step.

(34)

&P

TP₁ &′

DP$_{TOP}$ &′

③ & TP₂

② ①

TP₁ … DP$_{TOP}$
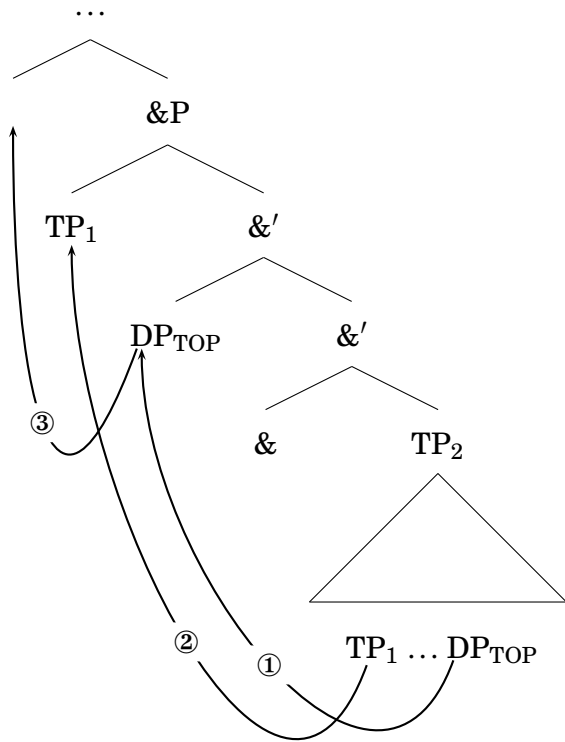
When the matrix clause is merged with the coordination phrase, the wh-phrase first moves into an intermediate position[24] (= step 1 in (34)), and only then subsequent movement of TP₁ applies(= step 2 in (34)). Since step 1 does not complete the &P (because the &-head contains another selectional feature to merge the first conjunct), the CSC does not yet apply. Hence step 2 is still licit. The final step now is to further move the wh-pronoun to a higher position in the tree (= step 3 in (34)). This step also does not violate the CSC because at that point the wh-phrase is no longer part of one of the conjuncts.

As with clause chains or SceCo constructions, it must be ensured that this kind of derivation is not available with regular coordination. This is achieved by invoking the Merge-over-Move Principle.[25]

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[24]I assume here that the wh-phrase must cyclically move through the specifier of the coordination phrase. This is basically equivalent to saying that &P is a phase (cf. Reich 2007 for the same assumption).

[25]For a more detailed description of how this principle works, see the discussion about extraction in the respective chapters about clause chains (Section 4.3.4 in Part I), or about extraction from SceCo constructions (Section 2.3.2 in Part II). See also Chapter 2 and Chapter 3 in Part III.

Finally, we have to face the third puzzle, namely the question of quantifier raising with adverbs. We have seen in Chapter 4.1, that a quantified adverb in the second conjunct of a CondCo behaved like it was able to take scope over the whole coordination, while an adverb in the first conjunct could not. The relevant examples are repeated in (35).

(35)   a.   You come early enough, and you sometimes get a seat.

              = Sometimes, you come early enough and you get a seat.

        b.   You sometimes come early enough, and you get a seat.

              ≠ Sometimes, you come early enough and you get a seat.

<div align="right">Keshet (2013, p.242)</div>

Usually, these kinds of scopal variabilities are derived via quantifier raising. *Sometimes* is an existential quantifier and thus undergoes quantifier raising to take scope over elements it follows in linear order. In (36), it is shown that *sometimes* can either modify the embedded verb or the matrix verb, even though it is located in the embedded clause.

(36)   Peter wishes he could call in sick sometimes.   wish > sometimes

                                                                        sometimes > wish

Coordinate structures, however, constrain the applicability of quantifier raising. If *sometimes* is contained within a conjunct, it cannot take scope over the whole coordination, at least not with ordinary coordination (see (37)). Hence, if CondCo were a case of regular coordination, the data in (35) would be unexpected.

(37)   Peter went to Canada and Mary sometimes visited him.

        ≠ Sometimes, Peter went to Canada and Mary visited him.

However, it is clear why the present approach may derive these facts without further ado. Above, in the course of the discussion about binding, it was already suggested that the movement process which turns the adjunct TP into a proper first conjunct must be reconstructed into its base position for at least some semantic purposes. Hence, it is not implausible to assume that for the issue of quantifier raising, the structure is reconstructed as well. Hence, for these purposes, the structure is a subordinate one. Thus, it is completely expected that a quantifier within the second conjunct may raise to take scope over the whole construction, while a quantifier within the first conjunct is trapped within that clause because it is an adjunct.

(38)
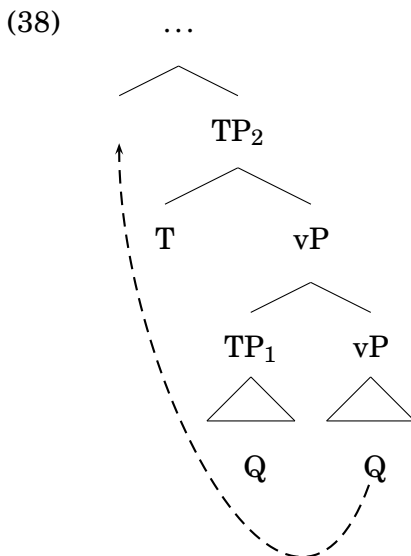
It should be noted that what we find here is an interesting asymmetry between quantifier raising and other kinds of movement, such as wh-extraction, as illustrated in the preceding section. We find that at least some speakers accept wh-movement out of a conditional adjunct but quantifier raising out of an adjunct seems to be uncontroversially ill-formed. At this point, I do not have an explanation for this asymmetry, but it seems that either the different kinds of movement (Ā-movement vs. QR) or the different levels of representation (syntax vs. LF) may be responsible for this asymmetry.

4.4. Combining Different Cases of Asymmetric Coordination

Before we proceed, I want to briefly focus on another example which figures prominently in the title of a recent article on recursion (Everett 2010). Although the article itself is not concerned with the syntactic properties of this example at all, it provides a clear case of a construction in which different patterns of asymmetric coordination have been combined.

(39)   You drink, you drive, you go to jail.

cf. Everett (2010, p.32)

Even though, we do not see a conjunction on the surface here for what I assume to be formulaic, prosodic reasons, we can tell that this is a construction like the ones we have been looking at throughout Part II of this thesis. With a different intonation, this construction can be rephrased as follows:

(40)   You drink and drive and you go to jail.

Also, we can tell from the underlying semantics that this is not just juxtaposition of clauses as claimed by Everett (2010). The first two conjuncts form a SceCo construction and the whole SceCo construction then functions as the first conjunct of a CondCo construction. The course of events described as drinking and driving is a condition for the third conjunct to occur. In other words, the construction may be paraphrased as follows:

(41)   If you drive after you drank, then you will go to jail.

This analysis presupposes that the whole coordination, which is a CondCo construction is a case of TP-coordination. The first conjunct consists of a T-head taking scope over two vP-conjuncts. This is confirmed by the fact that the first two conjuncts must necessarily share the same subject but the third one can have a different subject.

(42)   a.   You drink and drive and your father needs a new car.

       b.   #You drink and I drive and you go to jail.

(42-b) is not understood as a conditional coordination construction. The structure of (40) is thus as follows:

(43)
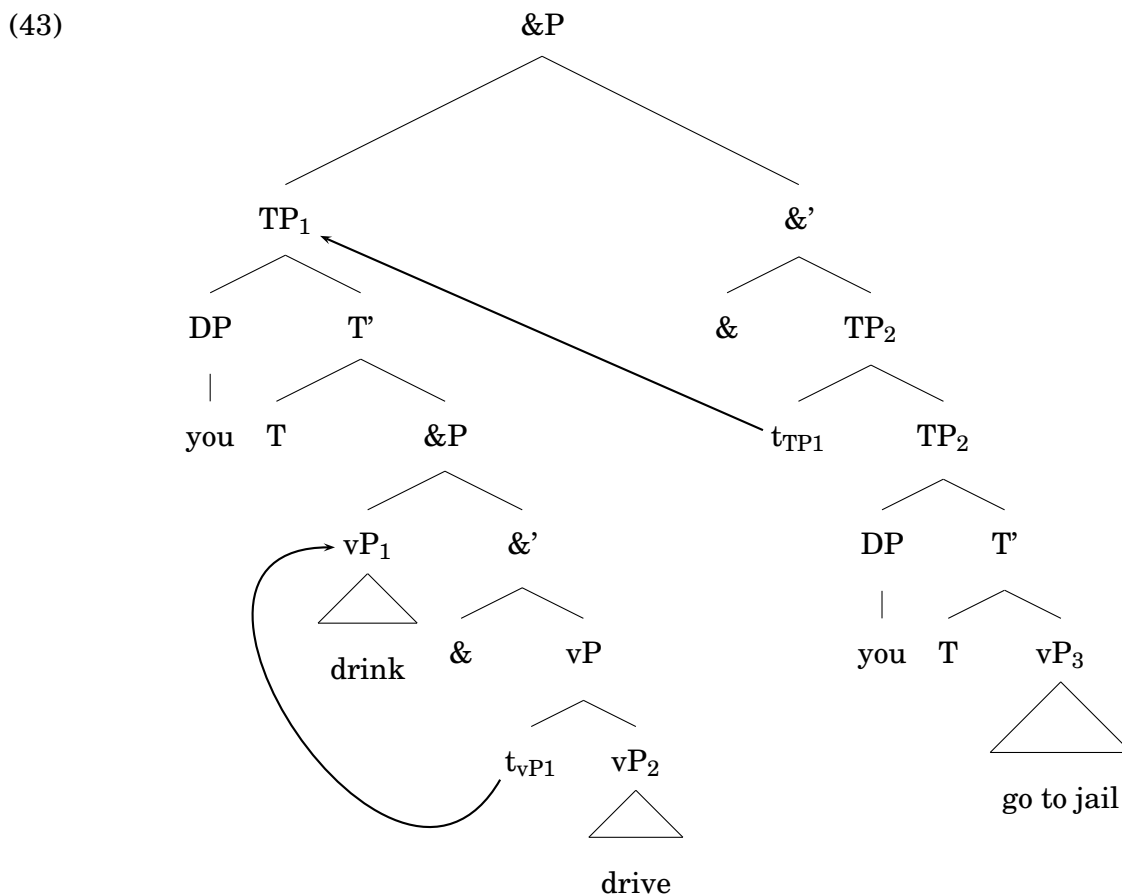
4.5. Summary

In this chapter, I proposed a new approach to the puzzling CondCo construction which has led Culicover and Jackendoff (1997) to question one of the fundamental assumptions of the Minimalist Program and related syntactic theories, namely that the semantics of an utterance is calculated on the basis of its syntactic structure. I have argued that it is possible to derive the syntax of CondCo including the most striking of its puzzling properties and still adhere to Minimalist assumptions. The analysis follows the same spirit as the ones for clause chaining, SceCo constructions and ConsecCo constructions. It is based on the novel idea that a phrase is base-generated as an adjunct and then moved to the specifier of a coordination phrase. In doing so, I am able to derive the fact that CondCo constructions combine subordinate and coordinate properties. Following the Derived Coordination Approach, the coordinate properties such as constituency and word order can be derived from surface-related properties of the construction. Subordinate properties such as the binding facts and the data about extraction and the scope of quantified adverbs follow from processes early on in the derivation, or from processes and operations which apply on LF after reconstruction has taken place.

5. Part Summary

The second part of this dissertation was concerned with various phenomena known as asymmetric coordination. These phenomena have troubled generativists for a long time, since the structural differences between symmetrical and asymmetrical coordination were not clear. Thus, it could not be explained why certain instances of coordination crucially differ from others with respect to some syntactic properties. Most notably, cases of asymmetric coordination seem to be able to violate the Coordinate Structure Constraint, an otherwise well-established principle of language and one of the few generative principles that is also widely accepted in both generative and typological works (see e.g. Haspelmath (2007)). The puzzling properties of asymmetric cases of coordination even lead some syntacticians to argue that the CSC should be abandoned at all since no syntactic distinction could be drawn between cases of coordination that obey the CSC and the ones that do not. However, as de Vos put it, "this seems to be throwing the baby out with the bath water" (de Vos (2005), p.78) since the noted exceptions to the CSC seem to fall into clearly identifiable classes. We have seen that this is indeed true. Of the five classes that seem to be able to violate the CSC, we have addressed three throughout this part: Scene-Setting Coordination, Consecutive Coordination and Conditional Coordination.

We have seen that the first two categories can be unified on syntactic grounds because they differ only with respect to the linearization of both conjuncts. With Scene-Setting Coordination, the specifier of the coordination head is linearized to its left whereas the

complement is linearized to the right. With Consecutive Coordination, the linearization is reversed. However, as has been shown in Chapter 3, there is no need to attribute this difference to some kind of construction-specific property. Rather, it can be derived from a meta-principle such as the *Temporal Iconicity Principle* which requires the order of conjuncts to reflect the order of events in real time. Thus, Scene-Setting Coordination and Consecutive Coordination are ultimately one and the same thing.

There are, however, a number of syntactic differences between Scene-Setting Coordination and Consecutive Coordination on the one hand, and Conditional Coordination on the other. But, crucially, it has been argued that these differences are due to the differences in categories (vP vs. TP), the unique focus structure of cases of CondCo or the differences between temporal and conditional adjunct clauses.

However, the important thing one has to remember from this section is that the syntactic mechanism that derives all these cases of asymmetric coordination is the same: Movement of an adjunct to the specifier of a coordination phrase. That is, for the first time, we are now in the position to identify the concrete structural difference between symmetric and asymmetric coordination. The former is base-generated coordination whereas the latter is derived coordination.
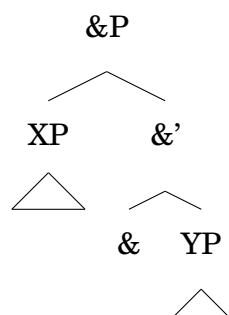
(1)   *Symmetric Coordination:*   (2)   *Asymmetric Coordination:*
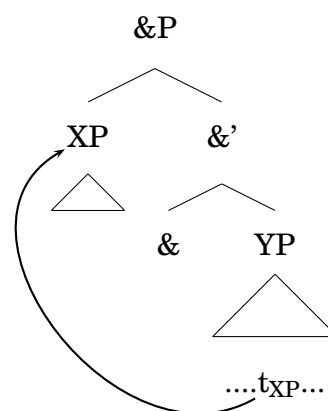
This difference in structure explains the differences in syntactic behavior. In cases of asymmetric coordination, we find asymmetric extraction, asymmetric quantifier raising and, in the case of Conditional Coordination, also asymmetric binding relations.[1] In the preceding chapters we have seen that all of these phenomena can be attributed to the one movement step early on in the derivation. Some syntactic processes (i.a. binding, extraction, etc.) can apply early on in the derivation if the context is given. Once the binding relation relation is established or the movement process has applied, subsequent movement of the adjunct into the specifier of the &P destroys the context for binding or extraction but that does not render the previous processes ungrammatical. Binding and extraction are counterbled by movement to Spec&P.

This has the important consequence that, contrary to what Lakoff (1986); Culicover and Jackendoff (1997) and others have claimed, the Coordinate Structure Constraint can be maintained as a strong syntactic principle. I take this as a very strong argument in favor of the Derived Coordination Approach.

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[1]Asymmetric binding is not found with SceCo or ConsecCo constructions because the small size of the respective conjuncts in these cases does not allow for a constructions in which binding could occur in the first place.

Part III.

Theoretical Discussion and Open Issues

1. Movement to Spec&P and its trigger

The one and only novel contribution of this thesis to syntactic theorizing of this thesis is the claim that movement to Spec&P should be explored as a theoretical possibility to derive phenomena between subordination and coordination. In this chapter, I want to discuss this movement step in more detail.

First, I want to focus on the fact that this crucial movement step neither differs from standard cases of movement in terms of its base position, nor of its landing site, nor with respect to the relation between these two positions. In all the cases we have looked at in this thesis, the moved elements were adjuncts. The fact that adjuncts can be moved is well-known. Clausal adjuncts can appear in a number of various positions: Clause-initially, clause-internally or clause-finally. Much of this variation is derived by means of movement. In German, for example, adjuncts can move to the prefield, which is usually taken to be the specifier of CP (or a corresponding head in a more fine-grained cartographic approach).

The landing site of this movement step is a regular one as well. Virtually any instance of phrasal movement targets specifiers. This is a standard assumption.

Finally, the relation between the landing site and the base position is also typical of a regular, garden-variety case of movement. Movement is generally taken to obey the c-command requirement, which means that the landing site c-commands the base

position. As the following structure in (1) shows, this is also true. In its landing site, XP c-commands ZP and thus, it also c-commands everything contained in ZP, which includes its own base position.

(1)

```
              &P
          ┌───────┐
        XP        &'
                ┌──────┐
              &       YP
                    ┌──────┐
                  Y        ZP
                        ┌──────┐
                      XP        ZP
                      △         △
```
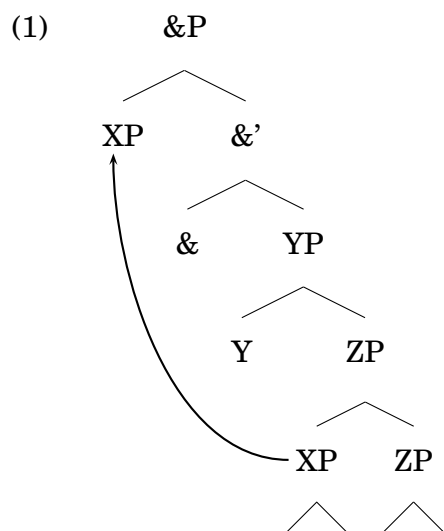
So, we may conclude that from the point of view of an abstract syntactic theory, there is nothing remarkable about this movement step. If the syntactic head in whose specifier the XP lands were any kind of syntactic head except for the &-head, this kind of movement would not be worth discussing. It would be completely uncontroversial.

The fact that, according to standard syntactic theory, basically *any* other syntactic head can license movement to its specifier may make a theoretical syntactician wonder whether one is not missing a generalization here. In other words: If *any* other head licenses movement to its specifier, then it would be a very undesirable stipulation to assume that the &-head cannot. In fact, te Velde (2005) takes the striking absence of movement to Spec&P in the literature as an argument for the fact that the conjunction is not a head. I, however, want to argue that before one makes these claims, one should investigate more closely whether movement to Spec&P is in fact not attested or merely not explored. Throughout this thesis, I hopefully have shown that movement to the

specifier is a theoretical possibility worth exploring, as it allows to account for a wide range of phenomena.

I briefly want to address the question what the formal trigger for the movement step in (1) is. I would like to give the easiest possible answer to this question. Namely that, as with the usual cases of movement in an attraction based movement theory, it is the head whose specifier the moved phrase targets that triggers the movement step. Thus, I would like to argue that it is the &-head that triggers movement of the adjunct to its specifier.

It is an uncontroversial property of &-heads that they select for two arguments. Thus, in addition to a complement, the &-head requires its specifier to be filled. In this respect, it resembles the English T-head which also requires a filled specifier. The English T-head also does not care whether its specifier is filled via movement of an element from SpecvP or via merge of an expletive. It is saturated either way. I would like to argue that the situation with the &-head is the same. In case of ordinary coordination, the &-head is satisfied because its specifier is filled by means of merge. The first conjunct is base-generated there. In the case of asymmetric coordination constructions or clause chaining, the &-head's need for a specifier is met by means of movement.

There are several ways to implement this idea. In the case of the English T-head, the standard solution is to assume an EPP-feature which ensures that the T-head's specifier is filled. One could assume the same thing for the &-head. A second possibility would be to assume that the &-head has a feature which requires the category it has as a complement to also appear in its specifier. This is, of course, more complicated, but it has the advantage of deriving the "Law of Coordination of Likes"-effects (cf. Williams (1978)). We may call this feature [uX] as it always takes form of the category merged as a complement. In the following structure, the [uX] has become an [uTP]-feature since the complement of & is a TP.

1. Movement to Spec&P and its trigger

(2)   *Saturation of [uTP] by external merge of a TP from the numeration:*

```
            &P
           /  \
        TP₁    &’[u̶T̶P̶]
         ↑      /  \
         |     &    TP₂
        ( NUM )      △
```
$\Rightarrow$ Symmetric Coordination
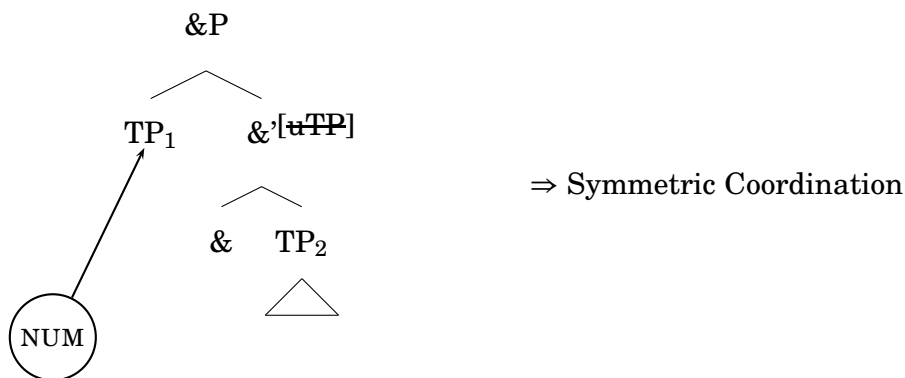
(3)   *Saturation of [uTP] by internal merge (movement) of a TP:*

```
            &P
           /  \
        TP₁    &′ [u̶T̶P̶]
         ↑      /  \
         |     &    TP₂
         |          /△\
          _____ TP₁
```
$\Rightarrow$ Asymmetric Coordination
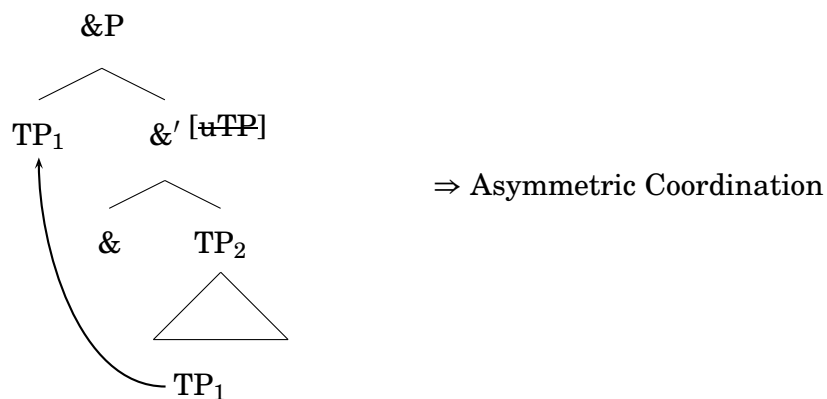
In both trees, the remaining [uTP]-features in the &'-cycle are deleted. In (2), it is deleted by merging an element from the numeration. The result is symmetric coordination. And in (3), the feature triggers movement of the adjunct to Spec&P and is therefore deleted as well. The result is asymmetric coordination.

2. The Coordinate Structure Constraint as a Derivational Principle

In the course of the last 55 years of linguistic research, Ross' (1967) Coordinate Structure Constraint proved to be one of the few principles that is accepted as a relatively robust principle of language by both typologists and generativists. Of course, there have been occasional claims in the literature that certain structures violate the CSC but, generally, it seems to be true that asymmetric extraction out of coordinate structures is ungrammatical in the world's languages.

Thus, apparent counter-examples to this principle should be investigated carefully. Premature claims that the CSC should be abandoned as a whole should be avoided. A major goal of this thesis was to reconcile the Coordinate Structure Constraint with several counter-examples found in the literature.

The strategy to achieve this goal pursued in this work is to argue for a syntactic difference between regular and asymmetric cases of coordination. While these two phenomena may look identical on the surface, they can be distinguished by looking at their derivational history. In other words, the identical surface structure is not the result of the application of the same rules and operations. Symmetric coordination originates

from applying the operation "(External) Merge" whereas asymmetric coordination originates from applying, amongst other things, "Movement" ("Internal Merge"). This difference in derivational history is taken to be the cause for the differences we observe with respect to the Coordinate Structure Constraint.

This means, however, that the Coordinate Structure Constraint must be sensitive to the derivational history of a certain construction. In other words: The Coordinate Structure Constraint must be a derivational constraint that applies at every single step of the derivation, ruling out operations that violate it. In (1), the concrete version of the Coordinate Structure Constraint I adopted is repeated:

(1)   Coordinate Structure Constraint (updated):

In a structure $[_{\&P}$ A $[_{\&'}$ & B $]]$, movement (out) of either A or B is prohibited.

If the CSC, as stated above, was a representational constraint that applies only at the very end of the derivation, then it would rule out all the examples in (2):

(2)   a. *Which beverage$_1$ did Sam order the pizza and t$_1$?

b. *This is the pizza$_1$ Sam ordered t$_1$ and Mary ask for the orange juice.

c.   Which beverage$_1$ did Sam go to the fridge and get t$_1$?

d.   How small a pizza$_1$ could Sam eat t$_1$ and still feel satisfied?

A representational version of the CSC correctly rules out the cases in (2-a) and (2-b), but it also predicts that the examples in (2-c) and (2-d) are ungrammatical. However, given the analysis for (2-c) and (2-d) that I propose, the derivational CSC is able to distinguish these structures. We have seen that there are possible derivations for (2-c) and (2-d), none of whose steps violate the CSC or other principles of grammar. In the case of (2-a) and (2-b), there is no such derivation. Hence, if one follows the analysis for asymmetric coordination, there is no other way than to adhere to a derivational version of the CSC.

However, a novel assumption such as the reinterpretation of the nature of the CSC can always affect other domains to which it is applied. The question that we must thus address is whether the assumption that the CSC is to be understood as a derivational principle rather than as a representational one has any negative side effects. As far as I can see, there is one complication. Two recent theories of ATB-movement (cf. Munn (1993, 1999*b*); Salzmann (2012)) adopt a representational version of the CSC for their purposes. In both analyses, ATB-movement is decomposed into two different operations. (i) Movement out of the first conjunct and (ii) licensing of an empty operator in the second conjunct in Munn (1993, 1999*b*). Or: (i) Movement out of the first conjunct and (ii) phonological deletion of an identical element in the second conjunct in Salzmann (2012). Importantly, both analyses must assume that there is something like the CSC to enforce the application of the respective second step. However, a derivational notion of the Coordinate Structure Constraint would rule out step (i) in the first place. Asymmetric movement out of the first conjunct of an established coordinate structure is not allowed. Thus, in a way, both analyses tolerate a temporary violation of the CSC that is repaired afterwards by licensing of the operator or phonological deletion.

In a sense, this is a highly interesting puzzle because it contrasts properties of derivational and representational ways to formulate constraints and, more generally, derivational and representational approaches to syntax. In both accounts, the central goal is to explain exceptions to the CSC. In the analyses put forward in Munn (1993, 1999*a*); Salzmann (2012), it is ATB-movement, and in my analysis, it is asymmetric extraction that is approached. In other words: Some exceptions can be derived under a representational notion of the CSC, and others can be derived under a derviational notion. However, it is not clear how both phenomena can be accounted for with the same machinery.

In principle, there are a number of possible solutions to this dilemma. One can either

abandon one of two approaches as a whole, which means that a different approach to ATB or asymmetric coordination is in order. Or one may try and reconcile one of the two analyses with the notion of the CSC of the other. The latter would, of course, be preferable since both types of analyses can capture an otherwise quite problematic phenomenon, but at this point, to be honest, I do not see how this can be done.

3. The Merge over Move-Principle

One major goal of this thesis was to explain the differences between symmetric and asymmetric coordination with respect to extraction patterns. Asymmetric Coordination allows for asymmetric extraction of out of only one conjunct, whereas symmetric coordination does not. As discussed in the previous chapter about the nature of the Coordination Structure Constraint, the solution was to reinterpret the CSC as a derivational principle.

By doing so, one can provide for the possibility to account for the asymmetric extraction pattern by means of a chain-interleaving-derivation (cf. Collins (1994)). Some specific extraction processes do not violate the CSC because they apply *before* the coordinate structure is established in the first place. Extraction out of the second conjunct *precedes* the movement of the first conjunct to Spec&P, and thus the first step is not affected by the CSC.

The question that remains is why this kind of derivation cannot apply in the same way with regular, symmetric coordination. In order to prohibit this derivation with regular coordination, I referred to the Merge-Move-Principle that restricts the order of operations at a certain step of the derivation.

(1)   Merge over Move (MOM):

        If, at some point of the derivation, Merge and Move can both apply, then Merge always applies first.

The MOM principle rules out the derivation in which movement out of the second conjunct of a regular symmetric coordination precedes merge of the first conjunct. As a consequence, asymmetric extraction from regular coordination violates either the MOM principle or the CSC. Hence it is ungrammatical.

One might object though that the MOM principle is far from uncontroversial. Indeed, there are a number of papers which criticize Chomsky's (1995,2000) accounts of expletive insertion (see e.g. Bošković (2002, 2007); Epstein and Seely (2006); Castillo et al. (2009)) and argue that, in lack of empirical evidence, the MOM principle should be abandoned.[1]

On the other hand, there are also a number of proposals which argue that there are other empirical domains in which the effects of a merge-over-move preference can be observed (see e.g.Hornstein (2001); Drummond (2011); Zeijlstra (2014); Assmann et al. (to appear)).

On a more technical level, Shima (2000) argues that, conceptually, we would rather expect a preference for Move over Merge rather than the opposite (see also Chomsky (2013)). However, this argument has been countered by Graf (2010) who argues to solve the conceptual problems raised in Shima's work and derive the MOM preference from abstract principles of the Language Faculty.

As far as I can see, this issue is not settled. In a sense, the work at hand can also be taken as an argument for the existence of a preference for Merge over Move. Nevertheless, if it turned out that such a preference does not exist (as a universal principle), then the proposal presented here does not necessarily break down as a consequence. As far as I can see, one should not rule out the possibility that the derivation in (1) is ungrammatical with external merge of the first conjunct because of independent reasons.

Another consequence that necessarily follows from the assumption of a preference for

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[1]See also Georgi (2014) for an argument that the MOM principle is not universal. In some languages, namely Wolof and Duala, evidence from reflexes of successive-cyclic movement suggests that Movement can precede Merge.

Merge over Move is, of course, that these two operations must be distinguished some-how. In the course of the general tendency to impoverish the inventory of operations that is necessary to guarantee correct syntactic structure-building, it has been repeat-edly proposed that Merge and Movement are instances of one and the same operation: Movement is to be reinterpreted as Internal Merge (see Chomsky (2000, 2001, 2008) and much subsequent literature). While it may be true, that these operations are, to a certain extent, related conceptually, there is quite some evidence that the two oper-ations can show different behavior with respect to a number of phenomena. In Georgi (2014), it is argued that there are certain cases in which instances of Movement and instances of Merge must be ordered differently with respect to Agreement. It is thus an open question whether a theory with fewer syntactic operations can be made to account for these asymmetries. As long as phenomena like these have not been derived success-fully, in my view, explanatory adequacy dictates that the two operations should be kept discrete.

4. Transparent Adjuncts, Opaque Adjuncts

The key to understanding why some elements can be extracted from asymmetric coordination structures without violating the Coordinate Structure Constraint was the assumption that this kind of extraction takes place *before* the coordinate structure is established in the first place. In this way, the application of the Coordinate Structure Constraint is trivially avoided because extraction does not apply to a coordinate but rather to a subordinate structure. However, we have seen some cases where an element is extracted from out of an adjunct. In Part I, we have seen that some medial or converb constructions seem to allow this kind of extraction. Similarly, in Part II, we have seen that some speakers of English seem to allow for extraction from the first conjunct of a conditional conjunction construction. Thus, one might object that the problem is not yet solved since extraction from adjuncts is also constrained in certain ways. Standardly, the ban on extraction out of adjuncts is attributed to the *Condition on Extraction Domains* (CED).

However, it seems that, whereas the CSC is virtually exceptionless (apart from the data that have been reanalyzed in this thesis), the CED is subject to a lot of variation.[1]

As for adjuncts, it seems that especially nonfinite adjuncts allow for extraction in a

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[1] See e.g. Lasnik and Saito (1991); Takahashi (1994); Rackowski and Richards (2007); Stepanov (2007) who discuss various exceptions to the CED, most of which are concerned with extraction from sentential subjects however.

number of languages. We have seen a couple of examples in the previous chapters, some of which are repeated below.

(1)   a.   wâtâ=n   ka   ∅-pyry   kêt=ne tẽ?
           what=FACT 2.NOM 3.ABS-take not=SS go
           'What is such that you didn't get it and went (away)?'

Kĩsêdjê: Nonato (2013, p.18)

   b.   Katah-oosh   taloowa-na John-at   hilhah?
        who-FOC.NOM sing-DS   John-NOM dance?
        'Who sang and then John danced?'

Choctaw: Keine (2013, p.40)

   c.   sonyen-i tᵢ namki-ki hakkyo-lo ttena-n   pheynciᵢ
        boy-NOM   leave-CVB school-to depart-REL letter
        'a letter that the boy left and went to school'

Korean: Kwon and Polinsky (2008, p.95)

   d.   mila   c'a j-all-alc   Ahwmad   irs   d-ol-ush
        who.NOM home J-come-UNTIL.CVB Ahmed.NOM happy D-be-CVB
        v-a-ra?
        V-AUX-PAST
        'Ahmed was happy until who came?'

Chechen: Good (2003)[2]

   e.   What did John arrive whistling?

   f.   What did John drive Mary crazy trying to fix?

English: Truswell (2007, p.1361)

However, as we have also seen examples from Korean, Tsakhur in Chapter 7 of Part I, as well as the SceCo and ConsecCo examples from English in Part II, Chapter 2 and 3, which indicate that not all types of nonfinite adjuncts are transparent for extraction. The question we must address is thus what the difference between the transparent types of adjuncts and the opaque ones is. Can we attribute the transparency for extrac-

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[2]D, J and V are Good's glosses for gender classes in Chechen.

tion to external, language specific factors so that the difference in syntactic behavior of these two classes of adjuncts is explained?

Bickel (2010) tries to find correlating variables of this type in a crosslinguistic survey of different clause linkage types. As one of his variables is *possibility for extraction*, we may take a closer look whether there are other variables correlated to that one.[3] Indeed, what Bickel (2010) finds, to a certain extent, confirms our intuition. The variable that is correlated to the possibility of extraction is the possibility of independent scope of illocutionary force. If the (alleged) adjunct clause has the possibility of independent illocutionary force, then extraction is banned. If there is no restriction on illocutionary force marking, then extraction is allowed. Since, in our theory, the possibility of independent illocutionary force is associated to the presence or absence of a C-head within the adjunct clause, and C-head is also closely associated with finiteness, we may take this as an argument for the intuition stated above: Finite adjuncts tend to be less transparent statistically than nonfinite ones. More concretely, adjuncts which do not involve a C-head are more often transparent than ones that do.

However, given the data from English in Part II, this is, of course not the whole story. The first conjunct in a SceCo construction, which is analyzed as a vP base-generated as an adjunct, is not transparent for extraction. Similarly, the second conjunct of a ConsecCo construction is also not transparent even though it is analyzed as a vP. The first conjunct in a CondCo construction analyzed as a TP is transparent (at least for some speakers). Thus, there is no simple one-to-one correlation between the size of the conjuncts and the transparency. CPs and vPs are not transparent where as TPs (sometimes) are. Given that the prototypical clause chaining construction which was also analyzed as a TP was sometimes also transparent for extraction, we can state that

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[3]To be more precise, in Bickel's survey, the possibility for extraction is divided into three distinct variables: Possibility of focussing, possibility of question formation and possibility of wh-extraction. Since chaining languages often allow for the wh-in situ, this is indeed a necessary distinction and as his data show, these different types of movement also behave differently to a certain extent.

4. Transparent Adjuncts, Opaque Adjuncts

TPs seem more likely to be transparent for extraction than vPs or CPs.[4] Even though this observation nicely correlates with the fact that vPs and CPs are generally taken to be phases whereas TPs are not, I do not know of a concrete theory that derives this asymmetry. At this point, it is not clear to me what prevents extraction out of phasal adjuncts but allows for extraction out of non-phasal ones.
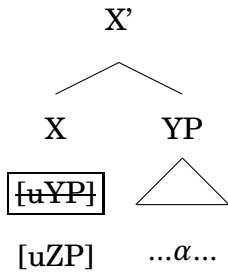
However, it may be that the observed dichotomy between phases and non-phases is merely a side effect of the real explanation. The explanation that I want to propose is that it is not the categorial head of the adjunct that determines whether it allows for extraction, but rather the features located on that head. In Part I of this thesis, I assumed that medial clauses are typically headed by a defective T-head which needs to have its tense feature valued. The tentative solution I want to sketch is that the existence of this unvalued probe on T is the reason for the transparency of the adjunct. Based on the theory of locality proposed in Müller (2010, 2011), the existence of an unvalued probe on the embedded T-head can keep the adjunct (and subsequently the matrix clause) active so that edge features in the sense of Chomsky (2000, 2001, 2008) can be inserted, and extraction from out of an adjunct can apply.

Müller proposes a theory of locality according to which all last-merged elements in a phase are islands. This yields the result that, among other things, specifiers and adjuncts are not transparent for extraction. Technically, this is derived by the assumption that edge feature insertion can only apply if the phase head is still active, i.e. if it has another structure-building feature left. Compare the following two derivations.

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[4] This observation also complies with the fact that the first conjunct in the German CondCo construction, which is not transparent for extraction, must be analyzed as a CP due to its V1 or V2 word order. See Weisser (2014) for discussion.

(2) *Successful Extraction from out of a non-final element (YP)*

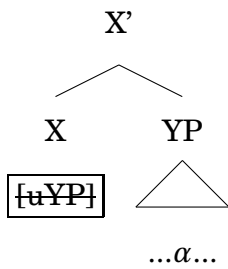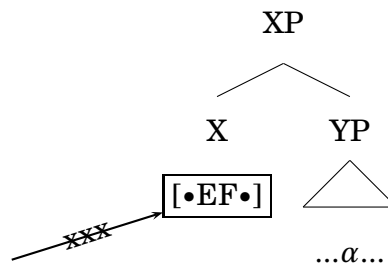A. *Merge*   B. *Edge-Feature Insertion*   C. *Extraction out of YP*

    X'   X'   XP

X   YP   X   YP   α   X'

[~~uYP~~]   [•EF•]   X   YP

[uZP]   ...α...   [uZP]   ...α...   [~~•EF•~~]

                                                    [uZP]   ...α...
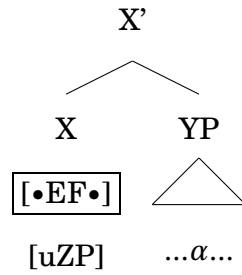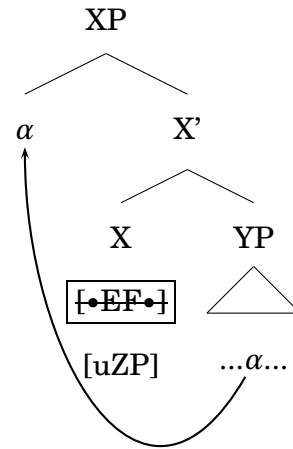
(3) *Impossible Extraction from out of a final element (YP)*

A. *Merge*   B. *Edge-Feature Insertion impossible*

    X'   XP

X   YP   X   YP

[~~uYP~~]   [•EF•]

   ...α...   xxx⟶   ...α...

The difference between the two derivations is that, in (3), merging the YP is the final step in the phase, whereas in (2) it is not. If the last operation in a phase has applied, the phase head becomes inactive and subsequent insertion of an edge feature is impossible. But since it is this very edge feature that can trigger extraction out of YP, YP is rendered opaque when the merge of YP is the last operation in the phase. This nicely derives the widely attested ban on extraction from specifiers and adjuncts since these are usually the last merged items in a phase.[5] However, as the theory stands so

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[5] An additional assumption made by Müller is that all phrases are phases. For our purposes, only the v-head is of interest since all adjuncts we discussed in this thesis are thought to be adjoined to vP. Since vP is generally assumed to be a phase anyway, I do not have to make any specific assumptions

far, it predicts that complements are not transparent either if they are the last element to be merged in the phase, i.e. if there is no specifier. Since this is arguably too strong a claim, Müller makes the additional assumption that AGREE operations can keep the phase active as well. When the final operation in a phase is an agreement operation, edge features can be inserted before that to enable extraction as well. In (4), the phase is active even though all structure-building features are deleted. The reason is that an agreement feature (probing for a feature [z]) is left on the head and keeps the phase active.[6] Hence, edge feature insertion can apply and subsequent extraction is possible.

(4)   Successful extraction from a last-merged element (YP)
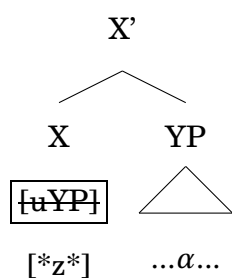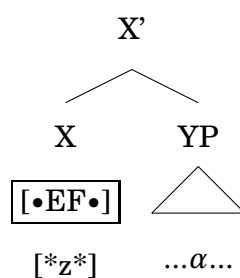
A. *Merge*   B. *Edge-Feature Insertion*   C. *Extraction out of YP*
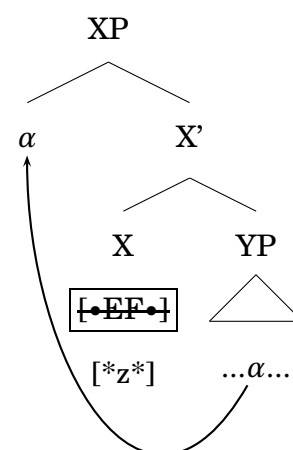
Thus, we conclude that agreement features can be responsible for the transparency of phrases. This is where the defectiveness of the adjunct with clause chains comes in. An integral assumption of the theory of clause chains was that, in a number of languages, the head of the medial clause is defective as it needs to receive the absolute tense feature from matrix T. This was encoded by locating a probe on embedded T which probes upward to find matrix T.[7] The additional assumption to derive the transparency

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about phases.

[6]In Müller's notation, features containing asterisks are agreement triggering features.

[7]Upward Agree and, more concretely, upward Agree across a distance is certainly not unproblematic from a theoretical perspective (see Baker (2008); Preminger (2012); Bjorkman (2014) for theoretical

of some medial and converb clauses is that this probe located on the adjoined T-head can keep the phase head active as well. The phase head can only be inactive if there are no active features in his domain, be it on its own feature stack or on another feature stack it is responsible for.[8]

(5)   *Extraction out of an adjunct TP:*[9]
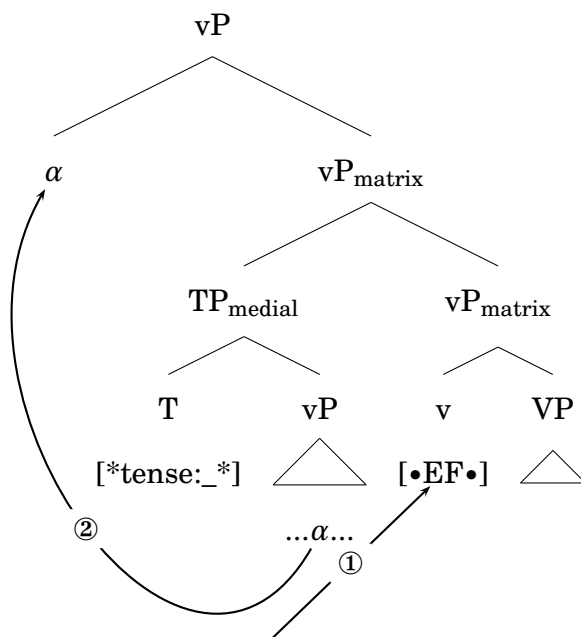
Matrix v is not inactive as there are still unvalued probe features in its domain, namely the agreement feature on medial T. Thus, one can insert an edge feature on it (step ①) which can trigger movement to its specifier and, in doing so, license extraction.

Under this view, the observation that TP-adjuncts seem to license extraction whereas

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discussion). However, as Wiklund (2007); Wurmbrand (2012); Zeijlstra (2012, 2014) have argued, some phenomena including negative concord, sequence of tense, etc. seem to require upward agree.

[8]I take this assumption to be unproblematic and compatible with Müller's theory if one subscribes to the concept of upward agree as marked option which is attested only with a small, well-defined set of phenomena, all of which involve some kind of unification of sequences of functional heads.

[9]The intermediate movement step of α to SpecTP that is necessary if TP is a phase (see discussion above) is omitted but entirely unproblematic

vP-, or CP-adjuncts do not, is merely a side-effect of the fact that T-heads can enter into upward agreement relations with matrix T whereas C or v cannot. These relations are then realized by what is known as *sequence of tense*. Phenomena like *sequence of mood* or *sequence of voice* are not attested, though.

Thus, we can now offer an explanation why some adjuncts allow for extraction while others do not. Adjuncts which do not allow for extraction do not contain upward probes that keep the matrix v-head active. The reason for that may be that they are either CPs or vPs which never occur with such probes or that they are TPs which are, in this language, not equipped with such a feature.

5. Constraining the Mechanism: Avoiding Overgeneration

Throughout this thesis, we have seen a number of different phenomena which seem to be somehow in between subordination and coordination. These were derived by the same underlying mechanism: Movement of an adjunct to Spec&P. The concrete syntactic XP that was moved was different from phenomenon to phenomenon. Prototypical clause chains were analyzed as TPs but in Chapter 8 (Part I), we have seen that some of them are probably analyzed more elegantly as vPs. Others were probably CPs. In Part II of this work, we have also seen that the underlying mechanism can apply to different kinds of categories. SceCo and ConsecCo constructions were analyzed as vPs whereas CondCo constructions were analyzed as TPs. This is by itself a very nice result because it shows that the whole structure building strategy is per se independent of a certain category it can apply to.

Nevertheless, it is clear that this mechanism must be constrained somehow. One cannot move any category to the specifier of a coordination phrase and expect the results to be grammatical. It seems to be the case that a wide range of categories can be moved to Spec&P in the world's languages, but it is definitely not the case that *all* categories can be moved to Spec&P in *all* languages. In English, which is the language we probably know most about, vPs or TPs can be moved to Spec&P. That leaves us with the question why VPs, CPs, DPs, etc. cannot. Also, we must state that not any kind of vP or TP can

5. Constraining the Mechanism: Avoiding Overgeneration

be moved.

In the following, I would like to propose some principles that seem to constrain the mechanism I argued for in this thesis. These principles prohibit most of the structures one could in principle generate but which do not seem to be attested.

The first principle that constrains the application of movement to Spec&Ps is the *Law of the Coordination of Likes* (Williams 1978). It says, among other things, that only identical categories can be conjoined, and thus prohibits derivations in which a XP moves to the specifier of an &P whose complement is anything but an XP. This excludes a number of ungrammatical derivations. In other words, derived coordination must obey the same syntacto-semantic restrictions as regular coordination. Generally, it is assumed that one cannot conjoin a VP with a DP or a NP with a CP. This principle is by itself far from fully understood, as the literature lists many cases in which the *Law of the Coordination* of Likes seems to be violated.

(1)   a.   Pat is a republican and proud of it.   [DP & AP]

  b.   Pat is healthy and of sound mind.   [AP & PP]

  c.   Pat remembered the appointment and that it was important to be on time.

                   [DP & CP]

               Sag et al. (1985, p.117)

  d.   Ich und vor   zwölf   nach hause gehen?
     I   and before twelve to   home go.
     'What? Me go home before twelve o'clock? No way!'   [DP & VP]

Irrespective of these examples, it is clear that there must be something like the *Law of the Coordination of Likes* which restricts coordination structures in general and thus constrains derived coordination structures as well.

Second, we find that, in all of the cases we saw throughout this thesis, only adjuncts

280

have moved to Spec&P but never arguments. Thus, as a working hypothesis, we must posit something like (2):

(2)   Axiom:

       Only adjuncts can move to Spec&P.

One would like to have a convincing explanation for (2) but, so far, I can only speculate. A general strategy to explain movement asymmetries between arguments and adjuncts is to attribute this difference to the nature of the traces (or copies) they leave behind. It has been claimed that adjuncts either leave no trace or they leave a trace of a different kind (see Rizzi (1990); Epstein (1992) and works in Tree-Adjoining Grammar for discussion.). This solution is complicated further by the fact that, as we have seen in the case of CondCo construction for example, a trace (or a copy) of the adjunct might be necessary for purposes of reconstruction. One would have to say, along the lines of Chung (1998, p.346), that adjuncts do leave traces, but that these traces differ from argument traces in a number of properties (for example in their licensing conditions). This assumption provides the possibility to distinguish adjuncts from other categories. Under the analysis I propose, asymmetric coordination is always the coordination of an XP containing a trace and one that does not. In a number of theories (see e.g. Munn (1993)), this is seen as problematic because then the conjuncts are no longer of the same type. But if adjuncts do not leave traces (or leave traces of a different type), then the axiom above would be derived.

   The final factor that constrains the applicability of movement to the specifier of the coordination head is the semantics interpreting the construction as a whole. In Chapter 4 (Part II), we have seen that, in order to get the correct interpretation for CondCo constructions, Keshet (2013) makes use of a modal operator that takes scope immediately above the conjunction. However, as Keshet (2013) extensively argues, such operators

are very restricted with respect to their position in the tree (i.e. the semantic type they select). In other words, the coordination height of CondCo constructions is predefined by the semantic type of the operator that is available. Thus, we cannot conjoin two VPs, for example, to create a CondCo construction, because their semantic type conflicts with the requirements of the operator. The operator seems to require TPs only. But, as argued in Weisser (2014) on the basis of solid syntactic criteria, CondCo constructions in German must be CPs instead of TPs. Thus, the operator that is at work in German seems to require a different kind of complement. This means that the availability of modal elements in a given language constrains the applicability of movement to Spec&P.

An immediate question I have not addressed so far is whether the other constructions we have investigated throughout this work require modal operators for the correct semantic interpretation as well. Unfortunately, I do not know. However, if we take a look at SceCo or ConsecCo constructions, for example, we find that they probably do. In Chapters 2 and 3 (Part II), we have seen that these constructions require a so-called one-event reading. That is why they are not compatible with the element *both*, which requires two distinct events:

(3)   *Here's the whiskey that John both went to the store and bought.

At this point, I do not see how the obligatory one-event interpretation can be accounted for without a modal element. Semantically, the number of event variables should be identical in derived vP-coordination and in non-derived base-generated vP-coordination. But derived vP-coordination obligatorily has a one-event interpretation, whereas non-derived vP-coordination does not. This is a non-trivial puzzle. However, by using a modal operator that is active in derived coordination contexts, the one-event interpretation can be derived.

Although I do not have any evidence for a hidden modal element in clause chaining

282

constructions at this point, the fact that many languages impose the same kind of one-event interpretation requirement for their clause chaining constructions may be taken as evidence for such an element.

To sum up, we can identify a number of different principles that seem to constrain the application of movement to Spec&P. But whether these principles suffice to avoid overgeneration remains to be seen.

6. Syntactic Evidence for Asymmetric Coordination Phrases

In the literature on coordination, there is still an ongoing debate on the concrete syntactic structure of coordination. Following Munn (1987, 1993), quite a number of people have argued that coordination is asymmetric in the sense that one conjunct asymmetrically c-commands the other (as in (1)). Symmetric, ternary (or, more generally, n-ary) structures as in (2) have been argued to be dispreferred for conceptual as well as for empirical reasons.

(1)   (2)

       B   A   &   B
          &   A
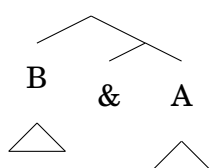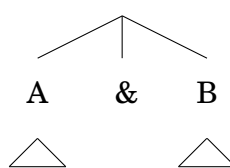
The conceptual arguments against the structure in (2) were mainly that the structure does not conform to the standardly assumed rules of structure building since the structure is (i) not binary branching and (ii) non-headed or multiply headed. The empirical arguments for (1) were diverse but the ones which are often cited had to do with binding

(3) or first conjunct agreement (4).

(3) a. Every man$_i$ and his$_i$ dog went to mow a meadow.

  b. *His$_i$ dog and every man$_i$ went to mow a meadow.   Munn (1993, p.16)

(4) Juče   su uništena   sva sela   i   sve varošice.
  yesterday are destroyed.PL.NEUT all villages.NEUT and all towns.FEM
  'All villages and all towns were destroyed yesterday.'

                              Serbo-Croatian, Bošković (2009, p.455)

In (3-a), a quantified element in the first conjunct can bind a variable pronoun in the second conjunct. Since binding is generally taken to be indicative of a c-command relation, this suggests that the first conjunct c-commands the second. The fact that a quantified element in the second conjunct cannot bind a variable pronoun in the first (cf. (3-b)) suggests that this c-command relation is asymmetric.

In (4), we find that only the first of two conjuncts can trigger agreement. Syntactic analyses of this phenomenon have suggested that this is due to the fact that the first conjunct is structurally higher and thus closer to the probe on the verb. The second conjunct is embedded too deeply and thus has no influence on agreement.

However, in the course of discussion about these phenomena, most of the arguments for asymmetric coordination structures have been called into question. As for binding, it has been argued by e.g. Williams (1994, 1997) that binding phenomena also occur when no c-command is given. Sometimes it seems that mere precedence is enough to establish some kind of binding relation. Indeed, this is also suggested by examples like the following from German:

(5) Jeder Spieler$_i$ gab sein Bestes und der Trainer dankte   es ihm$_i$.
  Every player$_i$ gave his   best   and the coach   thanked it him$_i$.

Here, the quantified element is embedded too deeply in the first conjunct to c-command

the variable pronoun in the second. Nevertheless, it can be bound. This suggests that, in the example (3), it is also linear precedence and not necessarily c-command that plays a role here.

Similarly for first conjunct agreement. It has been argued that in many cases in which an agreement asymmetry between the two conjuncts has been found, the asymmetry is sensitive to linear order rather than to structural relations such as c-command. Compare the following example with (4) above.

(6)   Sva sela   i sve varošice   su (juče)   uništene.
       all villages.NEUT and all towns.FEM are yesterday destroyed.PL.FEM
       'All villages and all towns were destroyed yesterday.'

<div align="right">Serbo-Croatian, Bošković (2009, p.455)</div>

In (4) above, we see that postverbal subjects trigger first conjunct agreement, but (6) shows that preverbal subjects trigger last conjunct agreement. Since it is implausible to assume that postverbal subjects have a different syntactic structure than preverbal ones, miminal pairs of this kind have been taken to suggest that it is rather linear order that plays a crucial role in the determination of agreement (see Benmamoun et al. (2009); Benmamoun and Bhatia (2010); Marušič et al. (to appear) but also cf. Bošković (2009) for a purely syntactic approach).

It has to be emphasized that these are no arguments for a symmetrical coordination structure. Rather, these discussions show that previous arguments for an asymmetrical structure are not as clear as they may seem. The question that arises is, thus, whether we can find new arguments for the asymmetrical coordination structure or not.

I want to argue that the present work can be taken as a novel kind of argument for an asymmetric coordination structure as in (1). Unlike the other empirical arguments discussed above and in the literature, the argument put forward by the Derived Coordination Account is purely syntactic. An asymmetric coordination structure provides, in

6. Syntactic Evidence for Asymmetric Coordination Phrases

principle, for the possibility that the coordination phrase may function as a landing site for syntactic movement. In a ternary structure, such a movement step could probably not be accounted for. As I have extensively argued throughout this thesis, we indeed find such cases of syntactic movement targeting a coordination structure. This is not compatible with symmetric analyses of coordination.

Furthermore, I want to argue that the Derived Coordination Account also provides an argument for a certain type of asymmetric coordination structure. Amongst the various proposals for coordination structures that have been made in recent years, two showed the most promising results. They are repeated below.

(7)   Adjunction Structure
       (as in Munn (1993)):
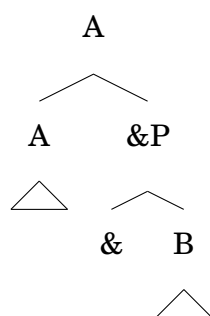
(8)   Coordination Phrase Structure
       (as in Munn (1987)):
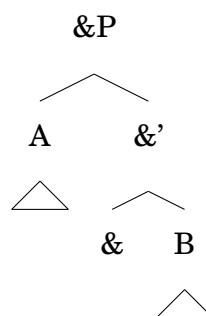
The one in (7) assumes that the second conjunct is merged with a coordination head which in turn is adjoined to the first conjunct. The resulting structure is reminiscent of comitative structures (see Zhang (2007)).[1] The alternative analysis of coordination structures is illustrated in the tree in (8). It assumes that both conjuncts are merged as arguments of a coordination head, one as a complement and one as a specifier.

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[1]This is not per se an undesirable result since it is known that comitative structures often grammaticalize into coordinate structures. See Stroh et al. (2006); Zhang (2007); Haspelmath (2007) for discussion. However, if comitatives and conjunction are structurally identical, one has to find an explanation for their differences in behavior. Comitatives, for example, usually trigger singular agreement and are not constrained by the Coordinate Structure Constraint.

The present work is the first one, to my knowledge, to provide direct syntactic arguments for the analysis in (8) which assumes that there is coordination head selecting two arguments; one as a complement and one as a specifier. Under that analysis, the movement step I have argued for is unproblematic. Movement of adjuncts to specifiers is found everywhere. Adjuncts can be wh-moved, topicalized, focussed etc. If one assumes the structure in (7), however, this kind of movement turns out to be more complicated. Movement of an element out of a category X into a position where it functions as an "adjunct host" for X has not been found to my knowledge. This thesis thus provides a novel kind of syntactic argument that coordination structures look like (8).

Conclusion

In this thesis, I discussed different types of clausal relations. I showed that the most reliable tests to distinguish clausal relations suggest that certain constructions cannot be captured by just assuming a simple dichotomy between subordinate constructions and coordinate ones. Some constructions are neither fully coordinate, nor fully subordinate. They show properties of both types of clausal relations at the same time. Given the standard assumptions about the grammatical architecture, this finding is highly problematic. Standardly it is assumed that clauses can either be conjoined symmetrically with equal rank and properties or that the relation between two clauses is such that one contains the other. The former relation is called coordination, the latter is called subordination.

However, as I showed throughout this thesis, this finding does not necessarily mean that the whole theory about clausal relations must be discarded. Recent theoretical analyses of coordination structures unanimously conclude that coordination structures are, to a certain extent, asymmetric as well and conform to the general rules of syntactic structure building. Coordination structures are regular syntactic heads which select for complements and specifiers just like any other syntactic head. As I showed, this entails that, given the standard assumptions about syntactic structure building, we expect a syntactic derivation to be possible which maps a subordinate structure to a coordinate one. This derivation does not make use of any new operations, rules or mechanisms. All we need is movement to the specifier of an &P.

(9)   Movement to Spec&P:

&P
XP   &'
&   YP
Y   ZP
XP   ZP
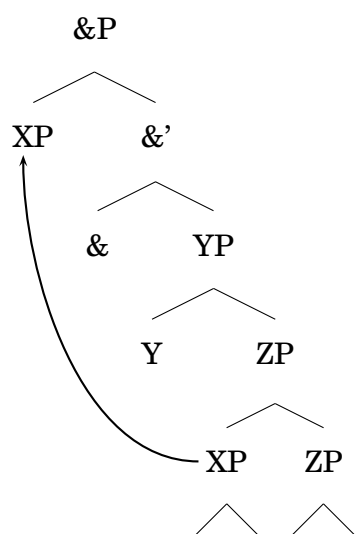
Some clause XP can be base-generated as an adjunct to another one and, in a later step of the derivation, be promoted to the specifier of a coordination phrase. Thus, at an early step of the derivation, XP is a subordinate clause and, at a later step of the derivation, it is a coordinate clause. This derivation explains why some constructions seem to exhibit properties of both subordinate and coordinate constructions at the same time. The subordinate properties are due to processes or operations that apply at an early stage of the derivation and the coordinate properties are the result of late operations or output-related processes.

This analysis was applied to a number of different empirical phenomena. In the first part of this thesis, I was concerned with the topic of clause chaining constructions. We have seen that, in many of these constructions, non-final clauses in a chain seem to behave like subordinate clauses with respect to some tests and like coordinate clauses with respect to others. These clauses are morphosyntactically dependent on the final clause of the chain. Also, the construction allows for asymmetric extraction. These are

characteristics of subordinate constructions. However, clause chaining constructions cannot undergo center embedding, extraposition or backward pronominalization. These properties suggest a coordinate relation between the clauses in a chain.

A detailed theoretical investigation of these clausal relation tests showed that those tests that suggest a coordinate relation are generally thought to be related to late syntactic processes or even output-related ones. Bans on center embedding and extraposition, for example, are statements about linearization, a late process which applies to completed syntactic structures. The subordinate properties on the other hand can be attributed to syntactic operations that can apply early in the derivation, namely MOVE and AGREE. These are two of the standardly assumed structure building operations and may thus apply at any stage throughout the derivation.

The analysis according to which a movement operation can map a subordinate structure to a coordinate one was supported by a number of different arguments. It was shown that the adjoined base position of clauses in a clause chain is not merely stipulated to make the system work. In many languages, these types of clauses surface in this position. In this case, these clauses are called converb clauses. Thus, the analysis predicts that converb clauses and medial clauses are derivationally related. This finding was supported by two case studies on clause chaining constructions in Tsakhur and Korean, two languages which have both, medial clauses and converb clauses. In both languages, certain syntactic features determine whether a clause surfaces as a converb clause or as a medial clause but apart from that these clauses look identical. Further evidence came from complex cases where up to twenty clauses form a clause chain. It was shown that the world's languages have the possibility of forming clause chains either recursively or iteratively. Under the analysis I propose in this thesis these findings can be incorporated directly into the theory and follow without further ado. Finally, it was shown that data from switch-reference marking also suggests that clause chaining

constructions are in fact subordinate and coordinate as well. Switch-reference marking in coordinate structures seems to differ substantially from switch-reference marking in subordinate structures. And since the respective markers in clause chains exhibit properties of both switch-reference strategies, we again find that there must be a way to have clause chains be coordinate *and* subordinate at the same time.

In the second part of this thesis, I showed that the same analysis can be applied to a number of asymmetric coordination constructions in English. These constructions have irritated generativists for more than fifty years since these structures look identical to regular coordinate constructions on the surface but behave like subordinate constructions in a number of respects. Based on the observation that asymmetric coordination constructions in English differ systematically from cases of regular symmetric coordination in terms of their semantics, I argued that one of the clauses that surfaces as a conjunct is actually base-generated as an adjunct and moved to the conjunct position in the course of the derivation.

Under this analysis, we were able to derive the puzzling properties of three different types of asymmetric coordination constructions: Scene-Setting Coordination, Consecutive Coordination and Conditional Coordination.
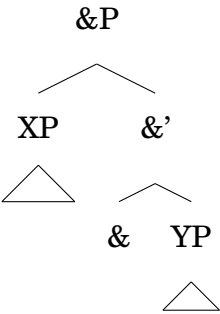
These three constructions all exhibit a certain number of subordinate properties. Most notably, just like clause chaining constructions, they all allow for asymmetric extraction from only a subset of the conjuncts. On the other hand, however, they also seem to be coordinate as well as, for example, indicated by the fact that the order of conjuncts cannot be changed. Thus, asymmetric coordination constructions share quite a number of properties with clause chaining constructions.

Hence, the derivation of these inconclusive properties was shown to follow in the same way as with clause chains. Some operations such as extraction or binding can apply at an early stage of the derivation as long as the construction is still a subordi-

nate one. This may lead to the impression that some conjunct has in fact subordinate properties. Other properties, however, are attributed to processes and operations late in the derivation and hence, the construction also shows coordinate properties.

Hence, under the Derived Coordination Approach that was proposed in this thesis, we are finally in the position to pinpoint the structural differences between symmetric and asymmetric coordination: Asymmetric coordination constructions are in fact coordinate but they are not base-generated as such. They are base-generated as subordinate constructions and transformed into coordinate ones by means of movement in the course of the derivation.

(10)   *Symmetric Coordination:*   (11)   *Asymmetric Coordination:*
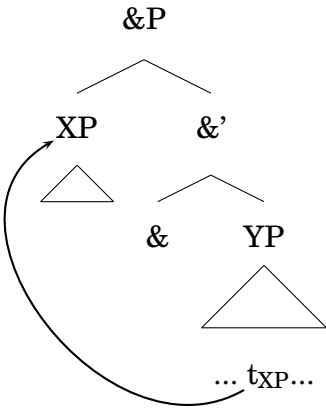
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