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Aspect and Argument Licensing in Neo-Aramaic

A dissertation submitted in partial satisfaction
of the requirements for the degree
Doctor of Philosophy in Linguistics

by

Laura Mennen Kalin

2014

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ABSTRACT OF THE DISSERTATION

Aspect and Argument Licensing in Neo-Aramaic

by

Laura Mennen Kalin

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 2014

Professor Anoop Mahajan, Chair

This dissertation explores interactions between grammatical/viewpoint aspect and argument licensing in several endangered Northeastern Neo-Aramaic languages. The most pervasive of these interactions are the aspect-based agreement splits attested across Northeastern Neo-Aramaic (Doron and Khan 2012), where the agreement pattern of the imperfective is partially or completely reversed in the perfective. There are two language types that are of core interest in the dissertation, which form a natural class in that they have a consistent nominative/accusative alignment across aspects and have a restriction on objects in the perfective: (i) partial agreement reversal, with objects that are specific banned in canonical perfective aspect (Senaya), and (ii) complete agreement reversal, with objects that are non-third person banned in canonical perfective aspect (Christian Barwar, Jewish Zakho, Telkepe, *i.a.*). The dissertation includes novel data and novel observations from languages of both types, namely Senaya (fieldwork by Laura McPherson, Kevin Ryan, and myself) and Jewish Zakho (my own fieldwork).

The two aspect splits described above are the topic of Chapter 2, where it is argued that such splits arise because imperfective Asp (in addition to finite T) can license an argument, while perfective Asp cannot (Kalin and van Urk To Appear); additionally, it is argued that *v* is not an argument licenser in these languages. There is therefore a fundamental distinction between the argument-licensing capacity of canonical perfective aspect (all licensing must come from T) and canonical imperfective aspect (licensing comes from both Asp and T).

The ban on specific objects in the perfective in Senaya (partial reversal) is a result of there only being one argument licenser in canonical perfective aspect, T, which will always license the higher argument, the subject. The ban on non-third person objects in the perfective in complete reversal languages is a result of person and number on T probing separately, with only the number probe reaching the object; this induces a Person Case Constraint effect: the object must be third person, because first/second person nominals require agreement with a person probe (Béjar and Rezac 2003). The analysis is couched in a Minimalist framework (Chomsky 2000, 2001), with argument licensing (Case valuation) resulting from φ -agreement. In Neo-Aramaic, argument licensing is spelled out on the probe as morphological agreement, not as morphological case on the nominal.

Having a complete picture of how these Neo-Aramaic aspect splits work depends also on understanding the languages' secondary strategy for expressing perfective aspect (whose argument-licensing pattern looks like that of the imperfective), which is taken up in Chapter 3. I propose that there are two adjacent high aspect projections in the clause. The Neo-Aramaic secondary perfective stacks perfective aspect on top of imperfective aspect, and thus has the additional licensing capacity of imperfective aspect (lower Asp is a licenser) while ultimately being perfective semantically. The lower aspect head, which is imperfective, combines with the verb root to determine the root-and-pattern verb base, while the higher aspect head, which is perfective, is spelled out as the prefix QAM-. I propose a compositional semantics for the secondary perfective and draw, in particular, parallels with the affixal aspect 'stacking' that is seen in Slavic languages (Babko-Malaya 2003, Svenonius 2004, Ramchand 2008, Gribanova 2013, *i.a.*).

A final crucial component of understanding these Neo-Aramaic aspect splits, taken up in Chapter 4, involves characterizing the pattern of Differential Object Marking (DOM) that arises in these languages—only specific objects trigger/require φ -agreement. I propose that differential marking arises from the interaction of two factors that can vary crosslinguistically: (i) where in nominal structure uninterpretable Case merges, and (ii) where in clause structure argument licensers (obligatorily or optionally) merge. I assume that unvalued features do not

need to be valued in the course of a derivation (contra Chomsky (2000, 2001) and following Preminger (2011)), and further, that it is possible for a feature to simply be unvalued (and not uninterpretable) (Pesetsky and Torrego 2007). I maintain (with Chomsky (2000, 2001) and Pesetsky and Torrego (2007)) that uninterpretable features *do* need to be valued in the course of a derivation.

My novel proposal for accounting for DOM is that (unlike in existing proposals) all nominals bear unvalued Case, but only some nominals additionally bear uninterpretable Case; all nominals, then, can be valued for Case (all have a Case feature), though only nominals with uninterpretable Case *require* licensing, i.e., Case valuation. In the Neo-Aramaic language Senaya, uninterpretable Case is introduced inside nominals on the projection that encodes specificity. In imperfective aspect, Asp is the obligatory Case locus (i.e., the obligatory argument licensing locus), while in perfective aspect, the obligatory Case locus is the one and only Case locus, namely, T. Nonspecific nominals in Senaya do not bear uninterpretable Case, and therefore only have their Case feature valued when they are the closest nominal to an obligatory Case locus, i.e., in subject position. Nonspecific nominals in object position do not get their Case feature valued, because they are not in the scope of an obligatory Case licenser, and can in fact surface in a position where Case/licensing is never available, namely, as the object in a canonical perfective. My claim, then, is that unmarked objects in DOM languages are unmarked precisely because their Case feature is unvalued (which does not cause a crash).

Overall, this dissertation contributes to our understanding of argument licensing and the aspectual middlefield: aspectual heads are potential argument-licensing loci and can effect agreement/Case-based aspect splits; aspect-based splits need not involve any ergativity; there are two high aspectual projections; and finally, all nominals have a Case feature, but not all nominals require licensing.

The dissertation of Laura Mennen Kalin is approved.

Yona Sabar

Carson Schütze

Tim Stowell

Anoop Mahajan, Committee Chair

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2014

For my mom and my dad

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LIST OF ABBREVIATIONS

1, 2, 3	1st, 2nd, 3rd person
I, III	nominal classes 1, 3
ABS	absolutive case
ACC	accusative case
AUX	auxiliary
CL	clitic
CMLT	cumulative
CONJ	conjunction
DAT	dative case
DEM	demonstrative
DFLT	default agreement
DOM	Differential Object Marking
DSM	Differential Subject Marking
DSTR	distributive
ERG	ergative case
F	feminine
FUT	future tense
GEN	genitive case
H.NEUT	high neutral aspect
H.PFV	high perfective aspect
IMPER	imperative
IMPF	imperfective aspect
INCP	inceptive
INDIC	indicative
INF	infinitival
ITV	intransitive verb suffix

L	agreement morpheme from the Neo-Aramaic L-suffix paradigm
M	masculine
M.IMPF	main imperfective aspect
M.PFV	main perfective aspect
NEG	negation
NENA	Northeastern Neo-Aramaic
NML	nominal
PART	participle
PASS	passive
PCC	Person Case Constraint
PERF	perfect aspect
PFV	perfective aspect
PL	plural
PLC	Person Licensing Condition
PRES	present tense
PROG	progressive aspect
PST	past tense
QAM	abstract Neo-Aramaic perfective prefix
REFL	reflexive
RPET	repetitive
S	agreement morpheme from the Neo-Aramaic S-suffix paradigm
S(G)	singular
S.IMPF	secondary imperfective suffix in Slavic
TV	transitive verb suffix
VAL	abstract value

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I'll begin with the person who sparked my interest in linguistics. Thank you to Máire Noonan, my first ever linguistics professor, at McGill University. I signed up for your introductory course thinking it would be my one and only course in linguistics before I went on to major in psychology or political science. But after literally two weeks you had already gotten me to fall so much in love with linguistics that I asked you how to go about getting accepted to the hono(u)rs linguistics program. You continued to be a mentor to me after the course ended, and I remember very clearly when, in my second year, you broke the news to me that syntax is a lot harder than it seems in the undergrad textbooks. You were totally right, but I have never regretted taking the leap.

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CHAPTER 1

Introduction

1.1 Overview of the dissertation

This dissertation explores interactions between aspect and argument licensing in several Neo-Aramaic languages. The most pervasive of these interactions are the aspect-based agreement splits that are attested across Northeastern Neo-Aramaic (Doron and Khan 2012), where the agreement pattern of the imperfective is partially or completely reversed in the perfective. In Chapter 2, I address two of these aspect splits: partial agreement reversal (Senaya), and complete agreement reversal with a third person restriction on objects in the perfective (Jewish Zakho, Telkepe, Christian Barwar, etc.). Two related puzzles involving aspect and agreement arise in Chapter 2 and form the impetus for the remainder of the dissertation. The first of these, taken up in Chapter 3, is a secondary strategy for expressing perfective aspect that employs the imperfective verb base, with agreement patterning as it would in imperfective aspect rather than canonical perfective aspect. The second of these, taken up in Chapter 4, is the effect of specificity on object agreement: all and only all specific objects trigger agreement, an instance of Differential Object Marking.

This dissertation contributes to our understanding of the role of aspect in the middlefield of the syntactic structure (there are two high aspect projections, Ch. 3, and aspectual heads can be argument licensors, Ch. 2) and to our understanding of argument licensing more generally (not all nominals need licensing, Ch. 4). In this introduction, I give a very brief history of Neo-Aramaic languages, §1.2, and lay out the core data and analyses contained in the dissertation, §1.3.

1.2 Neo-Aramaic languages

Neo-Aramaic languages are Semitic languages that developed from Old/Middle Aramaic vernacular dialects and survived to the modern day (Coghill 1999). Aramaic was the lingua franca of much of the Middle East until the 7th century AD, when Arabic gained prominence and overtook Aramaic. Some communities—mainly Jewish and Christian communities in (what are now) Syria, Turkey, Iraq, and Iran—continued speaking Aramaic. The relative isolation of these communities and the pervasive effects of language contact within the communities gave rise to the diverse group of Neo-Aramaic languages that are spoken today.

Over the past hundred years, most Neo-Aramaic speakers have left their homelands (much of this due to religious persecution) and have settled in communities in North America, Europe, Australia, and Israel. This diaspora has led to most Neo-Aramaic languages now being endangered or extinct. The largest surviving group of Neo-Aramaic languages are the Northeastern Neo-Aramaic (NENA) languages, comprising over 100 languages from different communities in Turkish Kurdistan, Iraqi Kurdistan, Iranian Azerbaijan, and Iranian Kurdistan (Coghill 1999, Doron and Khan 2012). Note that while these languages are often referred to as dialects, many are not mutually-intelligible and have differences at all grammatical levels; for this reason I call them languages throughout the dissertation.

There is one grammatical change from Old Aramaic to Neo-Aramaic that will be of particular interest in this dissertation. Old Aramaic was a nominative/accusative language with an active participle and a passive participle as the basic root-and-template verbal forms. In NENA, these participles have been reanalyzed: the Old Aramaic active participle is the NENA imperfective verb base and the Old Aramaic passive participle is the NENA perfective verb base (Doron and Khan 2012). The reanalysis of the passive as an active (perfective) verb led to an agreement split between the perfective and imperfective, facilitated by a morphological syncretism in Old Aramaic between dative case (found on the oblique (passivized) subject of the passive participle, which is now the perfective base) and accusative case (found on the object of the active participle, which is now the imperfective base). In some NENA

languages, this reanalysis led to split-ergativity, with an ergative alignment in the perfective and a nominative/accusative alignment in the imperfective. In others, including all those discussed in this dissertation, this reanalysis led to a nominative/accusative alignment in both the imperfective and perfective, but with the markers of subjects and objects switching partially or completely between the aspectual bases.

There is a rich and growing body of work on Neo-Aramaic languages from historical, philological, and documentation perspectives (see Krotkoff (1990) for an extensive annotated bibliography), but the study of these languages from a generative linguistics perspective is in its infancy. This dissertation contributes to our theoretical understanding of some of the basic morphology and syntax of NENA languages, and in turn shows that NENA languages can inform syntactic theory more generally.

I focus on the following languages, with data sources noted alongside each: Senaya (original fieldwork conducted by Laura McPherson, Kevin Ryan, and myself, as well as insight from the grammar sketch of Panoussi (1990)), Jewish Zakho (data from Cohen (2012) as well as my own original fieldwork), Telkepe (Coghill 2010, To Appear), Qaraqosh (Khan 2002), Christian Barwar (Khan 2008, Doron and Khan 2012), and Amədyā (Greenblatt 2011). I also draw general information on Neo-Aramaic from Maclean (1895), Krotkoff (1982), Hoberman (1988, 1989), Fox (1990), Pennacchietti (1997), Coghill (1999), and Doron and Khan (2012).

1.3 The puzzles

I address three interconnected data puzzles in the dissertation. I lay out a general picture of each puzzle and my solution for each here.

1.3.1 Chapter 2: Aspect splits

Across NENA, aspect splits abound (Doron and Khan 2012). Two of these aspect splits form the empirical core of the dissertation: partial agreement reversal and complete agreement reversal with a person restriction on objects in the perfective. Across both of these aspect

splits, transitive and intransitive subjects always pattern together to the exclusion of transitive objects; in other words, there is a consistent nominative/accusative alignment. Further, in both of these aspect splits, there is an asymmetry between perfective and imperfective aspect, in that object agreement is more limited in the perfective.¹

Partial agreement reversal, found only in Senaya, is an aspect split that (to my knowledge) has never before been discussed in a theoretical linguistics context. In canonical perfective aspect, (1a), the subject triggers agreement in the form of an L-suffix. In canonical imperfective aspect, (1b), the object triggers agreement in the form of an L-suffix, while the subject triggers agreement in the form of an S-suffix.

(1) *Perfective in Senaya:*

Mlep-**lan**.
 teach.PFV-**L.1PL**
 ‘We taught.’

(2) *Imperfective in Senaya:*

Molp-**aa-lan**.
 teach.IMPF-**S.3FS-L.1PL**
 ‘She teaches us.’

This is called “partial” agreement reversal because the function of the L-suffix reverses from the perfective (subject) to the imperfective (object), but there is no reversal for S-suffixes. The S-suffix series in fact never surfaces in canonical perfective aspect in Senaya, and no object marking is possible in (1). As a result, specific objects (which must trigger agreement) cannot occur in canonical perfective aspect in Senaya:

(3) *No object marking on perfective base in Senaya:*

*Axnii on talmiide mlep(-**ii**)-**lan**.
 we those students teach.PFV-**S.3PL-L.1PL**
 Intended: ‘We taught those students.’

Another aspect split, found in many NENA languages, is complete agreement reversal with a third person restriction on objects in canonical perfective aspect (Doron and Khan 2012). In (4), the canonical perfective, the subject is marked with an L-suffix (just as in

¹This chapter represents joint work with Coppe van Urk (Kalin and van Urk To Appear).

Senaya, (1)) and the object is marked with an S-suffix (impossible in Senaya, (3)). In (5), the canonical imperfective, agreement is completely reversed: the subject triggers agreement in the form of an S-suffix while the object triggers agreement in the form of an L-suffix (as in Senaya, (2)).

(4) *Perfective in C. Barwar:*

Qṭil-**í-le**.
kill.PFV-**S.3PL-L.3MS**
'He killed them.'

(5) *Imperfective in C. Barwar:*

Qatḷ-**í-le**.
kill.IMPF-**S.3PL-L.3MS**
'They kill him.'

This pattern is therefore called “complete” agreement reversal. Note, however, that the perfective and imperfective are not perfectly symmetrical. Non-third person nominals are impossible as perfective objects, (6), but possible as imperfective objects, (7).

(6) *Perfective in C. Barwar:*

*Qṭil-**ən-na**.
kill.PFV-**S.1SG-L.3FS**
Intended: 'She killed me.'

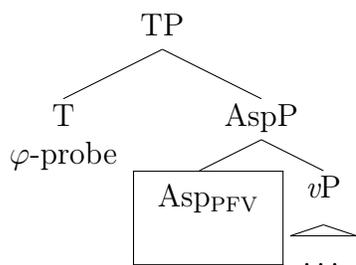
(7) *Imperfective in C. Barwar:*

Qatḷ-**a-li**.
kill.IMPF-**S.3FS-L.1SG**
'She kills me.'

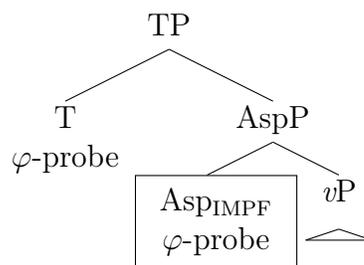
The example in (6) displays what I have been calling a third person restriction on objects in canonical perfective aspect, and it holds throughout this group of languages.

Chapter 2 proposes that these aspect splits can be derived from a basic difference between perfective and imperfective aspect in these Neo-Aramaic languages: the imperfective aspect head is an argument licenser (carries a φ -probe), while the perfective aspect head is not (does not carry a φ -probe):

(8) *Perfective aspect:*



(9) *Imperfective aspect:*



As such, there is additional agreement/licensing available in the imperfective (as a result of both T and Asp carrying a φ -probe), while in the perfective, all agreement/licensing must come from T. The difference between partial and complete agreement reversal languages lies in whether the person and number components of the φ -probe on T target different nominals (complete agreement reversal) or the same nominal (partial agreement reversal).

1.3.2 Chapter 3: Secondary perfective

As seen above, canonical perfective aspect in both partial and complete agreement reversal languages is defective in some sense. In partial agreement reversal languages, canonical perfective aspect cannot be used if there is a specific object, (3). In complete agreement reversal languages, canonical perfective aspect cannot be used if there is a non-third person object, (6). In both types of languages, there is a second way to express perfective aspect that allows such objects to appear in the perfective. This secondary perfective strategy uses the imperfective verb base, plus the prefix QAM- (phonologically variant across NENA).

In Senaya, for example, QAM- surfaces as *tm-*.

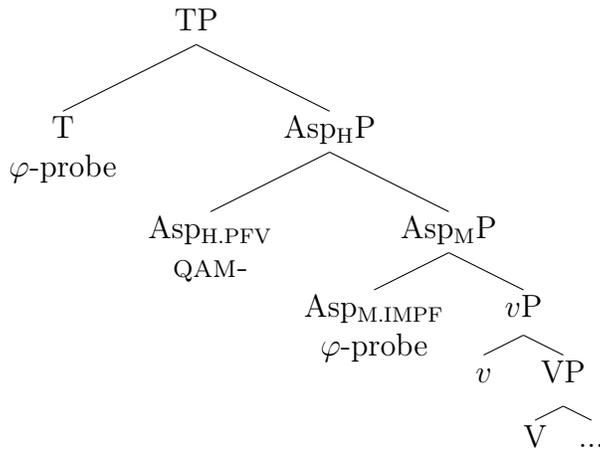
(10) *Secondary perfective in Senaya:*

Ooya on talmiide **tm**-molp-aa-luu.
 she those students **QAM**-teach.IMPF-S.3FS-L.3PL
 ‘She taught those students.’

Despite the use of the imperfective verb base, the sentence in (10) is semantically perfective, as can be seen by comparing the canonical imperfective, canonical perfective, and secondary perfective across various syntactic and semantic contexts. However, the agreement profile of (10) is imperfective, cf. (2), with the S-suffix marking subject agreement and the L-suffix marking object agreement.

Chapter 3 proposes that (10) derives from perfective aspect stacking on top of imperfective aspect, in a second high aspectual projection. This is schematized in (11).

(11) *Secondary perfective in Northeastern Neo-Aramaic:*



QAM- (perfective Asp_H) selects for an imperfective aspectual complement (imperfective Asp_MP). The verb base in a secondary perfective is morphologically imperfective precisely because main aspect is imperfective in a secondary perfective. Imperfective main aspect as usual introduces a φ -probe (cf. (9)), and so in the secondary perfective (just like a canonical imperfective), both T and Asp are argument licensers. As a result, agreement in the secondary perfective appears as it would in a canonical imperfective. Chapter 3 also proposes a compositional semantic account of the secondary perfective and explores the similarities between the aspect stacking seen in Neo-Aramaic in (10) and superlexical prefixes in Slavic.

1.3.3 Chapter 4: Differential Object Marking

Finally, I turn to the question of why it is that only specific objects trigger (and require) agreement in NENA.² The contrast between specific and nonspecific objects can be seen in (12a-b) for Senaya:

(12) *Object agreement in Senaya:*

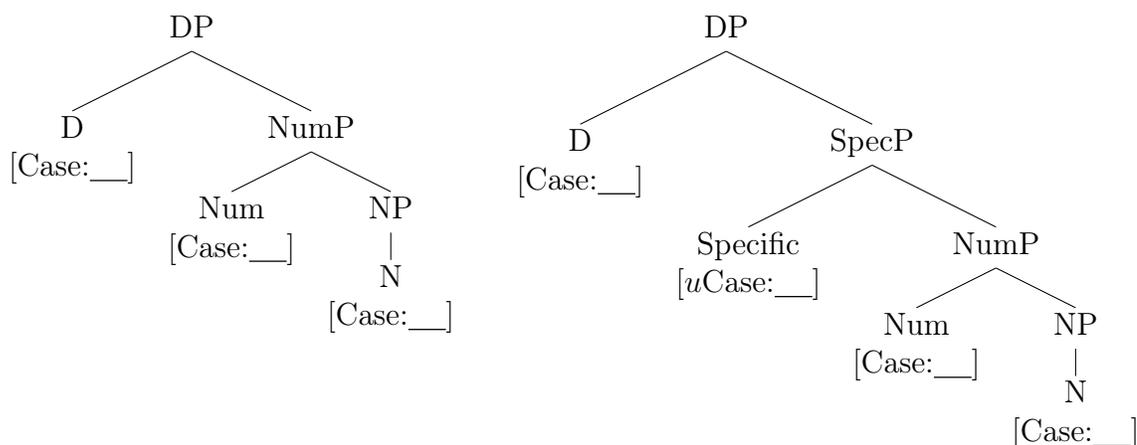
- a. Aana **ksuuta** kasw-an.
I **book** write.IMPFF-S.1FS
'I will write a book.'
- b. Aana **oo ksuuta** kasw-an*(-aa).
I **that book** write.IMPFF-S.1FS-L.3FS
'I will write that book.'

This pattern fits within a broader characterization of Differential Object Marking (DOM) crosslinguistically, where objects high on a certain scale (e.g., animacy, definiteness) get marked while objects low on that scale do not (Silverstein 1976, Moravcsik 1978, Comrie 1979, Croft 1988, Bossong 1991, Aissen 2003, *i.a.*).

My proposal, in brief, is that Case (like φ -features and other nominal features) is distributed across nominal structure. In all languages, Case is unvalued throughout the nominal, but languages differ as to where in nominal structure Case is uninterpretable (as well as unvalued). In Senaya, for example, uninterpretable Case is introduced by the Specific head. As a result, nonspecific nominals do not have uninterpretable Case, (13a), while specific nominals do, (13b).

²This is somewhat of a simplification, as across other NENA languages, factors like animacy, alienability, and topicality play a role as well (Coghill To Appear).

- (13) a. *Nonspec. nominal in Senaya:* b. *Spec. nominal in Senaya:*



The Case feature is shared throughout the nominal via feature-sharing (Pesetsky and Torrego 2007), and only nominals that have an instance of uninterpretable Case will require licensing (overtly realized as agreement in Senaya). However, all nominals may still enter into Case and agreement relations, since even when they do not require licensing (by virtue of having an instance of uninterpretable Case), they still carry φ -features (not shown above) and an unvalued Case feature. I do not posit any basic difference between subjects and objects.

In my account, a given language’s DOM profile derives from (i) where in nominal structure Case is uninterpretable in the language and (ii) the language’s inventory of nominal licensers (i.e., Case-licensors), and which of these merge obligatorily and which merge optionally. Under my proposal, unmarked objects in DOM languages are unmarked precisely because they are not (Case-)licensed, which has previously been argued to be true for Hebrew (Danon 2006) and Spanish (Ormazabal and Romero 2013).

1.3.4 Overall picture

This dissertation contributes to our overall understanding of aspect and argument licensing crosslinguistically. I examine novel aspect splits in NENA, which provide empirical evidence that aspect can act as an argument licenser, and show that the secondary perfective strategy in these languages reveals the existence of two aspectual projections, which can combine com-

positionally despite seeming to be contradictory semantically. Finally, I offer a new account of Differential Object Marking, in which argument licensing is compelled by uninterpretable Case on nominals, but not all nominals have uninterpretable Case, and those that do not can nonetheless enter into Case and agreement relations. This dissertation also contributes to our understanding of several endangered Neo-Aramaic languages from a theoretical linguistics perspective, and shows that they have significant insights to contribute to linguistic theory.

CHAPTER 2

Two Aspect Splits in Neo-Aramaic

2.1 Introduction

This chapter examines two related aspect-based agreement splits in Northeastern Neo-Aramaic languages—*partial agreement reversal* and *complete agreement reversal*—and proposes that they arise from an additional locus of agreement/argument licensing introduced by imperfective aspect. The content of this chapter represents joint work with Coppe van Urk (Kalin and van Urk To Appear), and much of the chapter comes verbatim from this work (though there are numerous minor modifications). The following chapters address two puzzles that are left outstanding in Kalin and van Urk (To Appear) and in this chapter: (i) the secondary perfective verb form, which builds on the imperfective verb base (noted in §2.3.1 and taken up in Ch. 3), and (ii) the fact that specific objects trigger agreement while nonspecific objects do not (noted in §2.3.2 and taken up in Ch. 4).

2.1.1 Overview of the phenomenon

Previous work on aspect splits has tended to focus on languages with ergativity on one side of the split (Mahajan 1990, Dixon 1994, Laka 2006, Salanova 2007, Aldridge 2008, Legate 2008, Coon 2010; *i.a.*). Little work has been done on aspect splits that are not ergative in any aspect. As will be shown in this chapter, however, there are indeed languages that display aspect splits of this kind.¹

¹The rarity of such systems is probably due to the fact that aspect splits tend to have little impact on surface case and agreement relations in nominative-accusative languages. (See Coon 2010, 2012 and Coon and Preminger 2011, 2012 for discussion of this point.)

The languages discussed here belong to a group of northeastern Neo-Aramaic languages that appear to have developed aspect-based agreement splits through contact with split-ergative Kurdish languages (Doron and Khan 2012). The way in which aspect affects agreement in these languages varies significantly. The focus of this chapter is on two different aspect splits in this group, which stand out because they display an asymmetry between perfective and imperfective aspect, but do not involve any ergativity. Instead, these systems manifest a pattern which we call *agreement reversal*. Rather than switching from a nominative-accusative system to an ergative-absolutive one, the markers for subjects and objects simply switch functions between aspects, while retaining a nominative-accusative alignment, i.e., the transitive subject and intransitive subject always pattern together to the exclusion of the transitive object.

The two systems that this chapter focuses on have slightly different properties. The first type of split, found in Senaya, is characterized by *partial agreement reversal*: some agreement markers switch functions between aspects, others do not. This is illustrated in (1) and (2), with the agreement markers bolded.

(1) *Perfective in Senaya:*

Axnii mlep-**lan**.
 we teach.PFV-**L.1PL**
 ‘We taught.’

(2) *Imperfective in Senaya:*

Ooya molp-**aa-lan**.
 she teach.IMPF-**S.3FS-L.1PL**
 ‘She teaches us.’

As these examples show, the morpheme that marks (transitive and intransitive) subject agreement in the perfective, *-lan* (L.3PL), marks object agreement in the imperfective. A unique series of agreement suffixes surfaces to mark (transitive and intransitive) subjects in the imperfective, *-a* (S.3FS) above. In addition, the perfective verb base can only host one agreement marker, while the imperfective verb base can host two agreement markers.²

The second type of split, found in Christian Barwar, Christian Qaraqosh, Telkepe, Jewish Zakho, and several other languages, involves *complete agreement reversal* (Khan 2002,

²This asymmetry is the reason for our choice of examples above (intransitive perfective in (1), transitive imperfective in (2)): the perfective verb base simply cannot appear with a specific object, as there is only one agreement slot, always occupied by subject agreement; this is discussed at length in §2.3.1.

Coghill 2003, Khan 2008, Cohen 2012, Doron and Khan 2012).³ We exemplify this pattern with data from Christian Barwar (Khan 2008:167,282):

(3) *Perfective in C. Barwar:*

Qṭil-**í-le**.
kill.PFV-**S.3PL-L.3MS**
'He killed them.'

(4) *Imperfective in C. Barwar:*

Qatḷ-**í-le**.
kill.IMPF-**S.3PL-L.3MS**
'They kill him.'

As can be seen in (3) and (4), the same sequence of agreement markers (*i-le*, S.3PL-L.3MS) conveys opposite grammatical relations in the perfective and imperfective. As in Senaya, the (transitive and intransitive) subject marker of the perfective, *-le* (L.3MS), is treated as an object marker in the imperfective. Unlike in Senaya, however, the same happens with the (transitive and intransitive) subject marker of the imperfective, *-i* (S.3PL), which functions as object agreement in the perfective. As a result, agreement reversal is largely (but not entirely) symmetric in these languages; the asymmetries that do arise will feature prominently in our analysis.

2.1.2 Overview of the analysis

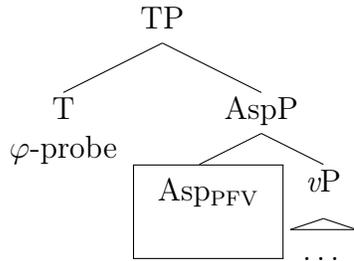
The main goal of this chapter is to provide a unified analysis of these two aspect splits. We will show that, despite surface differences, both splits are characterized by the availability of additional agreement in the imperfective. As such, we propose that these splits arise because there is an aspectual predicate in the imperfective that carries a φ -probe.⁴ Such a predicate

³This chapter looks only at complete agreement reversal languages that are not split-S in the perfective and that exhibit an asymmetry between the perfective and the imperfective in the form of a Person Case Constraint (PCC) effect. There are, however, a number of other types of systems that we will not discuss (see Doron and Khan 2012). Most notably, there are varieties with complete agreement reversal that do not exhibit a PCC effect in the perfective. For these, it may be that a morphological analysis of the aspect split is more appropriate, as argued in detail by Baerman (2007). We leave it as the task of future work to determine whether a syntactic account of these symmetric aspect splits along the lines of our current proposal is tenable.

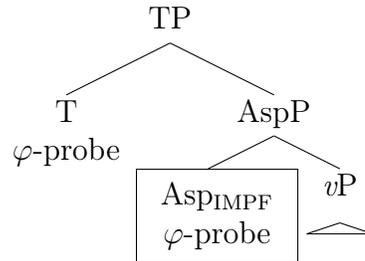
⁴We take a “ φ -probe” to be a set of unvalued person/number/gender features on a functional head. We also assume that when a φ -probe finds and agrees with a goal (i.e., a nominal with a set of valued φ -features), a reflex of this Agree relation is that the nominal is abstractly (Case-)licensed (Chomsky 2000, 2001). See Chapter 4 for more on argument licensing.

is absent in the perfective, so that the syntax of the perfective and imperfective differ as seen in (5) and (6), respectively.

(5) *Perfective aspect:*



(6) *Imperfective aspect:*



Given this syntax, the differences between partial and complete agreement reversal will be shown to fall out from lexical variation in the probes on T.

Striking evidence for this approach comes from the fact that it sheds light on a puzzling pattern of object agreement in ditransitives. In particular, in some complete agreement reversal languages, it is possible to host agreement with a second object on an enclitic auxiliary, though only in the imperfective aspect. Intriguingly, it is the direct object that is referenced in this way, such that the *highest* agreement (on the enclitic auxiliary) marks the *lowest* argument (the direct object). We will demonstrate that this puzzling constellation of facts follows from our approach to these aspect splits, given a view of auxiliaries in which they are inserted to host features that cannot be unified with the verb (Bjorkman 2011).

In addition, this proposal can be related to recent work on split ergativity by Laka (2006) and, in particular, Coon (2010, 2012). These authors propose that aspect-based split ergativity arises because nonperfective aspects (perfective, imperfective, prospective) have the semantics of locative predicates (in locating the assertion time *before*, *within*, or *after* the event time) and so may be expressed as independent predicates such as verbs. The additional structure associated with these aspectual verbs can disrupt a language's underlying ergative alignment, giving rise to an accusative pattern on the surface.

Our analysis makes use of the same idea, namely, that nonperfective aspects include an aspectual predicate that is absent in the perfective. For the Neo-Aramaic languages that we discuss, however, we show that this predicate does not bifurcate the clause into separate case/agreement domains, but instead must be treated as a restructuring predicate, i.e., one that does not create a new case/agreement domain. In addition, we propose that the Neo-Aramaic imperfective predicate retains one of the syntactic features associated with predicates, that of being able to introduce a φ -probe (and therefore license an argument). This results in an aspect split in which there is no additional clausal domain in imperfective aspect, but there is an additional φ -probe. The consequence of this extra locus of agreement in the syntax is agreement reversal. In this way, our proposal provides support for the view that aspect splits arise because of the locative (or, at least, predicative) nature of nonperfective aspects (Laka 2006, Coon 2010, 2012, Coon and Preminger 2011, 2012), because it enables us to give a unified treatment of the non-ergative aspect splits in Neo-Aramaic and canonical aspect-based split ergativity.

An important contribution of this chapter is showing that, at least for the two particular cases we examine, diversity in aspect splits across languages may be able to be reduced to lexical variation in the properties of aspectual predicates. How such predicates affect a language's syntax follows from familiar and independently motivated syntactic notions, such as probe-goal relations and Relativized Minimality. For Neo-Aramaic, for example, the choice of expressing imperfective aspect as a restructuring predicate with a φ -probe results in agreement reversal. Specifically, the imperfective Asp head is merged before T, and so takes over the role of licensing the subject. This leaves T in the imperfective (but not the perfective) free to instantiate agreement with an object, resulting in apparent agreement reversal.

2.1.3 Roadmap

The chapter is structured as follows. §2.2 presents some background information on verbal morphology in Neo-Aramaic. §2.3 examines *partial agreement reversal* in Senaya and derives

it from the presence of an additional φ -probe in the imperfective. §2.4 looks at the somewhat more complex properties of *complete agreement reversal* and extends our analysis to this pattern. We also discuss a complex pattern of object agreement in ditransitives, which we show provides strong support for our approach. Finally, in §2.5, we relate our account to recent work on split ergativity (Laka 2006, Coon 2010, Coon and Preminger 2011) and the idea that nonperfective aspects may be expressed as independent locative predicates (Demirdache and Uribe-Etxebarria 2000, Coon 2010).

2.2 Agreement and verbal bases in Neo-Aramaic

Verb bases and verbal morphology work largely the same way in all of the Neo-Aramaic languages discussed in this dissertation. In this section we introduce some of the properties that will be constant across these languages and the terminology that will be used to describe them. Much of this description is adapted from earlier theoretical work on Neo-Aramaic, in particular that of Doron and Khan (2012).

2.2.1 Agreement

The template in (7) schematizes the Neo-Aramaic perfective or imperfective verb:⁵

(7) *Verbal template in Neo-Aramaic languages*

Verb base - S-suffix - L-suffix

The terms *S-suffix* and *L-suffix* refer to different sets of agreement markers, and we adopt them from the literature (e.g., Khan 2002, 2008). The term S-suffix stands for simple/subject-suffix; this series of suffixes was historically subject agreement and is still most frequently used in this function.⁶ The term L-suffix derives from the fact that all these markers start

⁵One exception to this template is that in Senaya, S-suffixes cannot co-occur with the perfective base.

⁶These agreement markers are also sometimes referred to as the A-set suffixes (e.g., Hoberman 1989).

with *l-*, historically a dative/accusative preposition, reflecting the origin of these morphemes as oblique pronominals (Doron and Khan 2012).

The term *L-suffix*, however, is somewhat of a misnomer, as L-suffixes are more properly characterized as clitics (Doron and Khan 2012). This is motivated by the fact that L-suffixes, but not S-suffixes, can appear outside of other enclitic material. In Christian Barwar, for example, we see that L-suffixes may be separated from the verb by other material that is clearly enclitic. Specifically, in perfects and progressives, an enclitic auxiliary surfaces between the verbal base and the L-suffix, (8).⁷

(8) *Christian Barwar perfect:*

q̄t̄il-t-ɛla- le .	(Christian Barwar; Khan 2008:284)
kill.PART-FS-AUX.3FS- L.3MS	
‘She has killed him.’	

The cliticness of the L-suffixes will play a crucial role in our analysis of complete agreement reversal, §2.4.⁸ Note that we will continue to refer to both S-suffixes and L-suffixes informally as agreement markers.

⁷That the auxiliary is enclitic is evidenced by the fact that, in interrogative clauses, the auxiliary may behave as a second position element, encliticizing to fronted *wh*-words, e.g., (i):

(i) q̄ày-ilə k-áxəl	(Christian Qaraqosh; Khan 2002:332)
why-AUX.3MS INDIC-eat.IMPF.S.3MS	
‘Why is he eating?’	

The auxiliary also serves as a copula, encliticizing to predicate adjectives and nominals (Khan 2002:322).

⁸In Senaya, the language that exhibits partial agreement reversal, there is actually very little evidence as to the status of L-suffixes as true agreement or as a clitic series. The L-suffixes are not phonological clitics in Senaya: adding an L-suffix to a verb triggers stress shift (like all true affixes do in Senaya) whereas adding the enclitic auxiliary does not trigger stress shift, suggesting a division between these two elements, with the L-suffix not being a phonological clitic but the auxiliary being a phonological clitic. But, the status of L-suffixes as syntactic clitics in Senaya is extremely unclear from the data. For the purposes of this chapter, we will consider L-suffixes to be clitics in order to unify Senaya with the other Neo-Aramaic languages, but nothing in our analysis of partial agreement reversal hinges on this. (See also Fox (1990) for a discussion of the challenges of categorizing L-suffixes as clitics vs. agreement across NENA.)

The S- and L-suffixes mark person, number, and sometimes gender. The paradigms for both in Senaya are in Tables 1 and 2.

Table 1: *S-suffixes in Senaya*

	Singular	Plural
1st p.	-en(m.)/-an(f.)	-ox
2nd p.	-et(m.)/-at(f.)	-iiton
3rd p.	-∅(m.)/-aa(f.)	-ii

Table 2: *L-suffixes in Senaya*

	Singular	Plural
1st p.	-lii	-lan
2nd p.	-lox(m.)/-lax(f.)	-looxon
3rd p.	-lee(m.)/-laa(f.)	-luu/-lun

As noted above, all the Neo-Aramaic languages we are concerned with have these two sets of agreement markers, though there are numerous slight differences in the phonological forms of particular suffixes (see Hoberman 1988 for an overview and discussion). The paradigms for these suffixes in one of the *complete agreement reversal* languages we will analyze, Christian Barwar, are given in Tables 3 and 4 as an example.

Table 3: *S-suffixes in Barwar*

	Singular	Plural
1st p.	-ən	-əx
2nd p.	-ət	-itu
3rd p.	-∅(m.)/-a(f.)	-i

Table 4: *L-suffixes in Barwar*

	Singular	Plural
1st p.	-li	-lən
2nd p.	-lux(m.)/-ləx(f.)	-léxi
3rd p.	-le(m.)/-la(f.)	-lə/-la

There is one detail of the forms of these suffixes that will be important to us. The default S-suffix, 3rd person masculine singular, has a null spell-out in both Senaya and Christian Barwar. This in fact holds across all of the languages we are concerned with in this chapter (Hoberman 1988). This will be crucial in our analysis, as we will argue that the locus of S-suffix agreement is systematically present in certain places, but cannot initiate successful agreement and so surfaces in its default null form.

The agreement markers in Tables 1 through 4 combine with a number of different verbal bases, discussed in the following section.

2.2.2 Aspectual bases

In Neo-Aramaic languages, verbal bases are formed by means of root-and-pattern morphology, where the ‘pattern’ determines aspect, tense, and/or mood. The bases we will primarily be concerned with in this chapter are aspectual, namely, the imperfective and perfective bases. That the choice of base correlates with aspect in Neo-Aramaic has been argued extensively (Krotkoff 1982, Hoberman 1989, Coghill 1999).⁹

Note that, unlike what is generally claimed for Semitic (see, for instance, Benmamoun 2000, Ouhalla and Shlonsky 2002), the imperfective verb base is not simply a ‘default’ verb form, free of imperfective semantics. In other Semitic languages, the so-called imperfective verb base is also used in non-finite clauses and in the imperative. In Neo-Aramaic, non-finite verb forms are very rare, but have a unique base form where they are found, and imperatives also have their own base form.

The plain imperfective base is canonically used to express habitual events and/or durative events in the present or future, (9a). To express habitual/durative events in the past, the past tense morpheme *-waa* is suffixed to the verb, (9b).

- (9) a. Axnii (kod yooma) xelya shaat-ox. (Senaya)
 we each day milk drink.IMPV-S.1PL
 ‘We drink milk (every day).’
- b. Aana ‘el suusii rakw-an-waa.
 I on horse ride.IMPV-S.1FS-PST
 ‘I used to ride horses.’

⁹In Neo-Aramaic grammars and other documentation, the perfective and imperfective bases are often referred to as the “past” (or passive) base/participle and the “present” base/participle, respectively. However, following Coghill (1999) and Doron and Khan (2012), we take the aspectual terms to be more accurate. As will be seen later, tense morphology (past, future) is affixal on these stems, while bare stems receive default tense interpretations (past for perfective, present for imperfective).

The perfective base, on the other hand, is canonically used to describe completed events as a whole, (10a). When the past tense marker is added to a perfective, (10b), the result is a distant past interpretation (or, in some Neo-Aramaic languages, a past perfect).

- (10) a. Aawa (temal) mpel-ee. (Senaya)
 he yesterday fall.PFV-L.3MS
 ‘He fell (yesterday).’
- b. Aana ‘el suusii rkuu-waa-ii.
 I on horse ride.PFV-PST-L.1SG
 ‘I rode a horse (a long time ago).’

Some examples of the perfective and imperfective bases in Senaya are given in Table 5, followed by Christian Barwar in Table 6.

Table 5: *Senaya verbal bases*

Root	Imperfective base	Perfective base
r-k-w (‘to ride’)	rakw	rkuu
q-t-l (‘to kill’)	qaṭl	qṭel
sh-t-y (‘to drink’)	shaty	shtee

Table 6: *Barwar verbal bases*

Root	Imperfective base	Perfective base
p-θ-x (‘to open’)	paθəx	pθix
m-š-l-x (‘to strip’)	mšaləx	mšoləx
m-p-l-x (‘to use’)	mapləx	mupləx

These bases take S-suffixes and L-suffixes in accordance with the template in (7).

In all the languages we will look at, the verbal base that is used (imperfective or perfective) determines which agreement morphemes (S-suffixes or L-suffixes) will surface and what

arguments they will agree with. Most of the information about argument alignment, then, is contributed by this agreement marking, as there are no morphological case distinctions on DPs in these languages.

In the following sections, we discuss two patterns of *agreement reversal* in Neo-Aramaic, both involving agreement morphemes swapping their functions across perfective and imperfective aspect: partial agreement reversal, §2.3, and complete agreement reversal, §2.4.

2.3 Partial agreement reversal: Senaya

This section discusses an aspect split in the Neo-Aramaic language Senaya, originally spoken in the city of Sanandaj in Iran, now spoken in several small communities in the United States, Australia, Europe, and Iran (though there are no native speakers left in Sanandaj). We will refer to Senaya’s system as *partial agreement reversal*, and we will argue that this system comes about as the result of an additional locus of agreement in the imperfective. All Senaya data comes from original fieldwork compiled as McPherson, Ryan, and Kalin (2013).

2.3.1 The data

Agreement in Senaya tracks both subjects and specific¹⁰ objects obligatorily, and has a consistent nominative-accusative alignment in both the perfective and imperfective: the same set of suffixes marks both transitive and intransitive subjects, while transitive objects are treated uniquely. Recall from §2.2.1 that despite the label “L-suffix,” we are taking these agreement markers to be clitics across Neo-Aramaic; though see also fn. 8.

As mentioned in §2.2.2, the aspect of the verb base determines which set of agreement markers—S-suffixes or L-suffixes—is used to cross-reference the subject and the object. In the perfective, there is only one slot for agreement, an L-suffix slot, which marks subject (transitive or intransitive) agreement, (11a-c):

¹⁰In Kalin and van Urk (To Appear), we say that it is definite objects that obligatorily trigger agreement in Senaya. Subsequent research, however, has shown specificity to be the relevant criterion for agreement.

(11) PERFECTIVE *No S-suffix; L-suffix = subject:*

- a. Axnii dmex-**lan**.
we sleep.PFV-**L.1PL**
'We slept.'
- b. Axnii pleq-**lan**.
we leave.PFV-**L.1PL**
'We left.'
- c. Axnii xa ksuuta ksuu-**lan**.
we one book write.PFV-**L.1PL**
'We wrote a book(fem).'

The single argument of an unergative, (11a), or unaccusative, (11b), patterns with the transitive subject, (11c): all trigger agreement in the form of an L-suffix, *-lan* (L.1PL) above. Nonspecific objects do not trigger agreement, (11c).

Specific objects, unlike nonspecific objects, require agreement, as we will see in our description of the imperfective. Since there is only one slot for agreement on the perfective verb base (always occupied by subject agreement), it follows that a specific object cannot appear with the perfective base:

(12) *No specific object with the perfective base:*

- *Axnii oo ksuuta ksuu(-**laa/-a**)-**lan(-laa/-a)**.
we that book write.PFV(-**L/S.3FS**)-**L.1PL(-L/S.3FS)**
'We wrote that book(fem).'

We see in (12) that object agreement (as an L-suffix or S-suffix) cannot appear before or after subject agreement in the perfective. Further, it is not possible to simply omit object agreement when there is a specific object in the perfective. Instead, the perfective base is completely ungrammatical with a specific object. (We return to the language's strategy for marking specific objects in the perfective at the end of this section, (15), and this is also the topic taken up in Ch. 3.)

In the imperfective, on the other hand, there are two slots for agreement, an S-suffix slot for subject agreement followed by an L-suffix slot for object agreement, as shown in (13a-d):

- (13) IMPERFECTIVE *S-suffix = subject; L-suffix = object:*
- a. Axnii damx-**ox**.
we sleep.IMPF-**S.1PL**
'We sleep.'
 - b. Axnii palq-**ox**.
we leave.IMPF-**S.1PL**
'We leave.'
 - c. Axnii xa ksuuta kasw-**ox**.
we one book write.IMPF-**S.1PL**
'We write a book(fem.).'
 - d. Axnii oo ksuuta kasw-**ox-laa**.
we that book write.IMPF-**S.1PL-L.3FS**
'We write that book(fem.).'

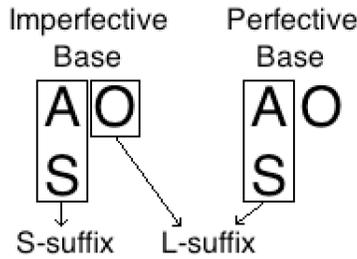
Again, the single argument of an unergative, (13a), or unaccusative, (13b), patterns with the transitive subject, (13c-d), but this time all trigger agreement in the form of an S-suffix, *-ox* (S.1PL) above (cf. subject agreement as the L-suffix *-lan* (L.1PL) in (11)). Nonspecific objects do not trigger agreement, (13c), while specific objects trigger an L-suffix following subject agreement, *-laa* (L.3FS) in (13d).

In sum, we observe the following aspect split in Senaya: L-suffixes mark subject agreement in the perfective but object agreement in the imperfective, while subjects in the imperfective are marked uniquely with S-suffixes. This is schematized in (14).^{11,12}

¹¹This way of representing the agreement alignment was originally conceived by Kevin Ryan.

¹²The transitive perfective thus construed looks like an antipassive (since the object must be nonspecific and cannot trigger agreement), while the transitive imperfective is the regular transitive configuration. However, this cannot be so, since the agreement configuration changes from the imperfective to the perfective in intransitives as well as transitives, but intransitives should not be able to be antipassivized.

(14)



This is an unusual aspect split since both sides of the split have an accusative alignment, and there is a partial reversal of agreement markers between the aspects.

As mentioned earlier in this section (in the discussion surrounding (12)), it is impossible to express a specific object with the perfective base; we attributed this restriction to the fact that the perfective base only has one agreement slot (always taken up by subject agreement), whereas a specific object requires agreement. Senaya does, however, have a strategy for expressing a specific object in the perfective: the language allows for the use of the imperfective verb base with a perfective prefix on it, and agreement appears just as it does in the imperfective (S-suffix marking the subject and L-suffix marking the object), (15), cf. (13d).

- (15) Axnii oo ksuuta tm-kasw-ox-laa.
we that book PFV-write.IMPV-S.1PL-L.3FS
'We wrote that book(fem).'

This construction, which I call the “secondary perfective”, is the topic of Ch. 3, and so will be put aside for the remainder of this chapter. I note only that there is evidence that *tm-* is located on a higher aspectual head than the typical perfective marker, so that this does not seem to involve the same structure as a canonical perfective.¹³ This phenomenon will not

¹³The strategy for expressing perfective aspect seen in (15) (*tm-* prefixed on the imperfective verb base) can only be used when object agreement is required, i.e., for a perfective transitive with a specific (agreeing) object. We therefore do not consider this strategy to be the canonical way of expressing perfective aspect more generally; it would be difficult if not impossible to explain why the perfective strategy in (15) cannot be used for an intransitive perfective (or a transitive perfective with a nonspecific object), given that the imperfective verb base (used as the basis of the construction in (15)) is perfectly capable of hosting just

play a role in our analysis, though see fn. 30 for how complete agreement reversal languages handle a similar expressivity limitation on the perfective base.

In §2.3.2 and §2.3.3, we present our analysis of Senaya, in which we derive Senaya’s aspect-based split by positing that imperfective Asp in Senaya carries a φ -probe, while perfective Asp does not.

2.3.2 Agreement in the perfective

We begin with the perfective. Recall that there is only one agreement marker in the perfective, the L-suffix (which we will assume is a clitic; see §2.2.1, but also fn. 8), which always agrees with the subject, as in (16).

- (16) PERFECTIVE *No S-suffix; L-suffix = subject:*
- Axnii dmex-**lan**.
 we sleep.PFV-**L.1PL**
 ‘We slept.’

Since there is exactly one agreement slot, and agreement with a second argument is impossible, (12), we propose that there is a single φ -probe in the perfective. Further, since the availability of this agreement slot does not vary based on aspect or transitivity, we locate the φ -probe on T. (See also fn. 16 and fn. 24 for why we do not locate the φ -probe on *v*.)

Further, given that we’re taking L-suffixes to be clitics and L-suffixes may appear in a clause along with the full nominal whose φ -features they encode, we propose that the φ -probe on T is a “clitic-doubler”.¹⁴ Informally, then, we can say that φ -agreement between the

a single agreement morpheme, as in (13a)-(13c). If the perfective verb base, on the other hand, is taken to be the canonical way of expressing perfective aspect, then it is easy to see why (15) would surface as a secondary perfective strategy in Senaya: specific objects must be marked on the verb, and the imperfective verb base can host object agreement while the perfective verb base cannot. This line of reasoning extends to the languages discussed in §2.4, since they, too, have restrictions on object agreement in the perfective (though the restrictions are different from those in Senaya).

¹⁴Syntactic analyses of clitic-doubling are vast and varied in the literature (see, for example, Kayne 1991, Uriagereka 1995, Sportiche 1996, Alexiadou and Anagnostopoulou 1997, Nevins 2011, Kramer 2014). We do not commit to any one of these being the “right” analysis. Minimally, what we assume is involved in clitic-doubling is agreement of the probe with the nominal and subsequent raising of some D element that encodes

φ -probe on T and a nominal results in a pronominal-like D element (the clitic, which reflects the φ -features of the nominal) adjoining to T (Béjar and Rezac 2003, Anagnostopoulou 2005, Preminger 2009, Nevins 2011, Kramer 2014, Harizanov To Appear, *i.a.*). This can be contrasted with true φ -agreement, which is the morphological spellout of valued φ -features on a head bearing a φ -probe. The φ -probe on T thus “clitic-doubles” (triggers clitic-doubling of) the argument that it agrees with, resulting in an L-suffix adjoined to T. In the perfective, this means that the subject nominal is clitic-doubled by T, and the L-suffix adjoined to T reflex the features of this nominal.¹⁵ In contrast, we posit that in Senaya *v* is inactive (in both imperfective and perfective aspect) and does not assign Case, register agreement, or trigger spell out of a VP phase, though it does (as usual) introduce the agent argument. The fact that it is not a phase head results in the object inside VP remaining accessible to agreement and Case processes higher in the clause.¹⁶

In this proposal, perfective intransitives look just like intransitives in other nominative-accusative languages (with the addition of clitic-doubling), where T agrees with the subject. When unergative, perfective intransitives have the structure in (17b). When unaccusative, they have the structure in (18b). We represent clitic-doubling in the syntactic structure by showing a movement dependency (solid line) between the clitic (CL) and its associate nominal (see fn. 14). (φ -probes are labeled throughout for the sort of morphological agreement marking that they result in.)

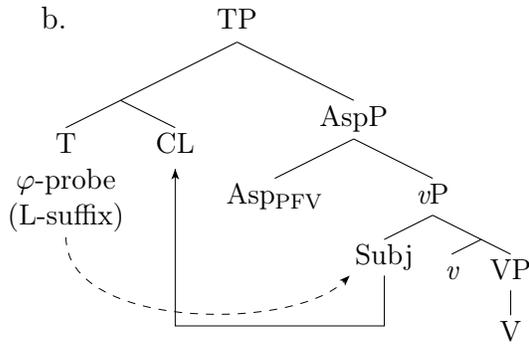
the φ -features of the nominal to a position adjoined to the probing head. The crucial and well-documented effect of clitic-doubling (however one wants to achieve this syntactically) is that it voids intervention effects, namely, the clitic-doubled nominal no longer acts like an intervener for further A-movement/agreement processes. We return to this in more detail in §2.4.2.

¹⁵Note that we will still refer to the operation as “clitic doubling” even when there is no overt DP associate, i.e., when there is a null pronominal object. We assume that in this situation, the operation of clitic-doubling is basically the same except that the nominal at the bottom of the A-movement chain is a null *pro*.

¹⁶One might wonder whether L-suffixes might be the result of agreement with *v*. This would work in the perfective, so long as we stipulate that *v* tries to agree with its specifier first (so that it will agree with transitive and unergative subjects), and if this fails, it is able to probe downwards (so that it will agree with an unaccusative subject). This is the inverse of Béjar and Rezac’s (2009) Cyclic Agree. However, such an approach would crucially fail in imperfective intransitives; see fn. 24.

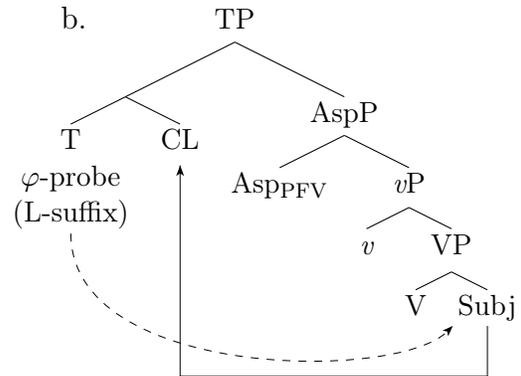
(17) PFV. UNERGATIVE

- a. Axnii dmex-**lan**.
we sleep.PFV-**L.1PL**
'We slept.'



(18) PFV. UNACCUSATIVE

- a. Axnii pleq-**lan**.
we leave.PFV-**L.1PL**
'We left.'

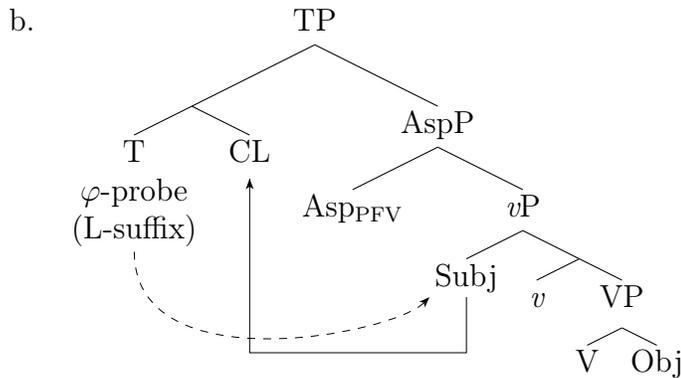


In both, the single argument enters into an Agree relation with the single φ -probe in the structure, which is on T. This agreement relation results in clitic-doubling of the subject, as an L-suffix.

The Senaya perfective (and imperfective, as will be seen below) differs from the standard transitive nominative-accusative syntax because *v* does not initiate φ -agreement or assign Case. As a result, no additional agreement locus appears in transitive structures, resulting in the syntax in (19b).

(19) PERFECTIVE TRANSITIVE

- a. Axnii xa ksuuta ksuu-**lan**.
 we one book write.PFV-**L.1PL**
 ‘We wrote a book(fem.).’



The φ -probe on T agrees with the highest argument, the subject.

There is only one source for agreement in the perfective—the φ -probe on T. It follows from this that only one argument that requires licensing (e.g., in the form of Case-assignment as a reflex of φ -agreement (Chomsky 1995, 2000, 2001)) can appear in the perfective. A question that arises here is how nonspecific objects (which do not trigger agreement) are able to appear in the perfective, (11c)/(19a), when specific objects (which do trigger agreement) are not able to, (12). The Senaya data here fit within a larger characterization of Differential Object Marking, a crosslinguistically robust phenomenon where certain objects get marked while others do not, as determined by the object’s location on an animacy or definiteness hierarchy. This phenomenon will be the topic of Ch. 4, and so I will defer a detailed discussion of the discrepancy between specific and nonspecific objects in Senaya until then. A simplified explanation that will suffice here is to say that nonspecific objects lack some relevant functional structure that would require them to be licensed.¹⁷ As a result, nonspecific objects can appear in positions where they are not able to be licensed (e.g., in the perfective), while

¹⁷In Kalin and van Urk (To Appear), we propose a Massam (2001) type approach to solve this puzzle: nonspecific objects are NPs, and so, lacking a D layer, they cannot and do not enter into Case or agreement relations. However, the account offered in Ch. 4 is somewhat different from this: nonspecific objects are able to enter into Case and agreement relations, but do not require such relations in order to be licensed, and (precisely in Differential Object Marking contexts) fail to get Case or trigger agreement.

specific objects cannot. See Chapter 4 for a full account, including an explanation for why subjects always trigger agreement, regardless of their specificity.

2.3.3 Agreement in the imperfective

The imperfective differs from the perfective in two crucial ways: (i) object agreement is possible, and (ii) this object agreement in the imperfective takes the form of subject agreement in the perfective (L-suffixes), while subject agreement in the imperfective is marked uniquely (S-suffixes), (20).

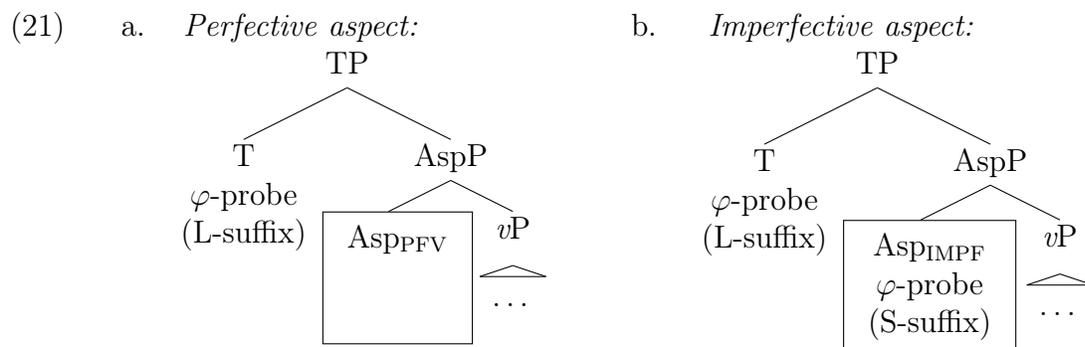
(20) IMPERFECTIVE *S-suffix = subject; L-suffix = object:*

Axnii oo ksuuta kasw-**ox-laa**.
 we that book write.**IMPF-S.1PL-L.3FS**
 ‘We write that book(fem).’

To derive the differences between the perfective and imperfective, we propose that an additional φ -probe is introduced on the imperfective Asp head.¹⁸ We posit that S-suffixes, which result from agreement with the φ -probe on Asp, are true agreement rather than a clitic; in other words, the S-suffix spells out valued φ -features on Asp, and is not a D head adjoined to Asp (as would be the case for a clitic). Note that this distinction between T (clitic-doubler) and Asp (true agreement) is not crucial for Senaya, but will become important when we discuss complete agreement reversal, §2.4. The resulting syntax is represented in (21a-b).¹⁹

¹⁸Other recent research has also located an argument licenser on a head between T and *v*. First, Deal (2011) argues that subject agreement in Nez Perce is located on Asp, and further that “the choice of aspect/mood determines the form of subject number agreement” (11). Second, Halpert (2012) proposes that in Zulu, a licensing head L is situated directly above *v*P and structurally licenses the highest nominal in *v*P.

¹⁹An alternative to taking imperfective and perfective to be different values for Asp in the same AspP would be to take perfective AspP and imperfective AspP to be independent projections, along the lines of Cinque (1999). As far as I can tell, this alternative would not make any different empirical predictions here.



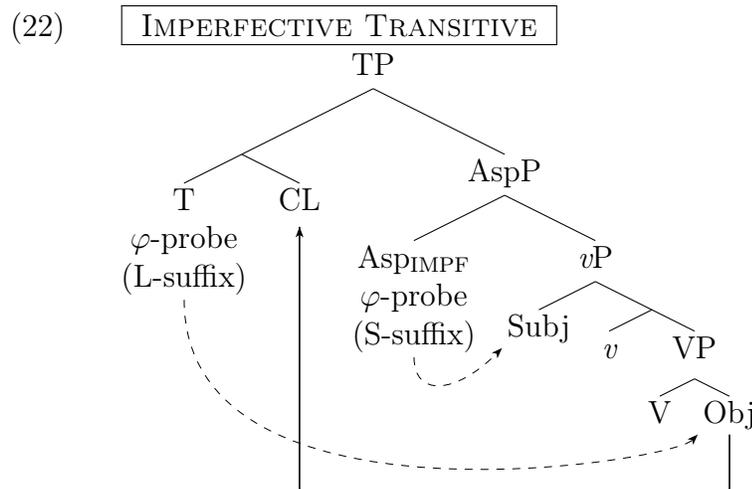
There is a φ -probe on T in both the perfective and the imperfective. However, while Asp_{PFV} in (21a) is empty, Asp_{IMPF} in (21b) carries a φ -probe.

Crucially, because Asp is merged before T (but after a transitive or intransitive subject), the imperfective subject is always targeted by the φ -probe on Asp instead of the φ -probe on T. This explains why the imperfective subject does not get clitic-doubled (the result of agreement with T) but is instead cross-referenced with an S-suffix (the result of agreement with Asp). In addition, since the subject is licensed by Asp, this leaves the φ -probe on T free to target/clitic-double a different argument. This is exactly what we see empirically: in the imperfective, the L-suffix, always associated with clitic-doubling T, encodes the features of the object.

The question that arises now is how T comes to be able to target the object, as the subject is still the closest DP to T. To resolve this, we assume that the subject becomes *inactive* after its Case features have been valued (via agreement with Asp), such that it is no longer an intervener for A-processes. (See Ch. 4 for more about activity and licensing.) As a result, when T probes for valued φ -features, the subject is invisible to the probe and the object may be targeted.²⁰

²⁰An alternative to this would be to allow the subject to *move around the probe*, to Spec-TP, before T probes the object, as has been suggested for some ergative languages in which T assigns absolutive (Anand and Nevins 2006, Legate 2008; see also Holmberg and Hróarsdóttir 2003). We would then posit an EPP feature on T, which is activated before the φ -probe on T and serves to attract the subject so it no longer acts as an intervener. Note that because word order in Senaya is SOV and relatively flexible, establishing the precise location of the subject is difficult, and so we simply leave it in spec-*vP* in our derivations.

An imperfective transitive functioning as described above is schematized in (22). Asp merges before T, and so when Asp probes, it finds (and agrees with) the subject, resulting in true agreement with the subject, which is morphologically spelled out with an S-suffix. Next, T is merged, and T’s φ -probe encounters the object and clitic-doubles it, resulting in object-marking in the form of an L-suffix.²¹ Recall that T is able to probe the object precisely because (i) *v* is not a phase head in Senaya²² and (ii) the subject already has Case.²³



Finally we turn to imperfective intransitives. As imperfective Asp is merged before T, Asp is responsible for subject agreement in these derivations as well, regardless of whether we are dealing with an unergative, (23), or an unaccusative, (24).

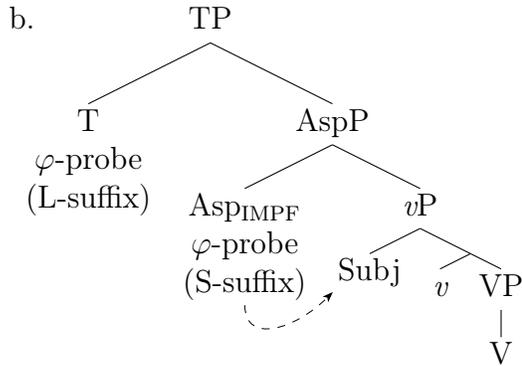
²¹This configuration—where T establishes agreement with the object—is reminiscent of the high absolutive case found in (some) ergative systems (Legate 2008).

²²An alternative approach would be to say that all specific objects move to Spec-*v*P (Diesing 1992), thus putting all such objects within range of T. However, there does not seem to be evidence of such movement in Senaya, so we leave the object *in situ*.

²³Note that if we were to adopt an analysis of clitic-doubling that involves A-movement of the clitic-doubled nominal to spec-TP (Nevins 2011, Kramer 2014, Harizanov To Appear), then we would have to posit that the subject occupies a higher spec-TP position, so that the subject still c-commands the object in the imperfective.

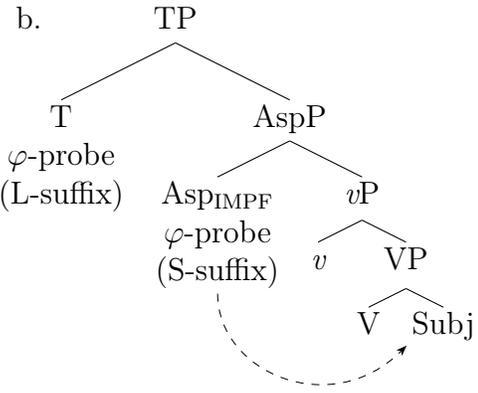
(23) IMPF. UNERGATIVE

- a. Axnii damx-**ox**.
we sleep.IMPF-**S.1PL**
'We sleep.'



(24) IMPF. UNACCUSATIVE

- a. Axnii palq-**ox**.
we leave.IMPF-**S.1PL**
'We leave.'



In both unaccusatives and unergatives, the single argument present enters into an Agree relation with imperfective Asp, resulting in true agreement in the form of an S-suffix.²⁴

Since the subject is unavailable for further agreement at the point when T probes, T does not find an appropriate goal. We adopt the idea here that a failure of agreement does not give rise to ungrammaticality, following Preminger (2011). Preminger argues that a probe must attempt to Agree (i.e., a probe will always search its c-command space for a goal), but that the derivation does not crash if there is no goal for the probe to value its features from (contra, e.g., Chomsky 2000).²⁵ For Senaya, this means that T in imperfective intransitives can consistently fail to enter into an Agree relation (thus failing to trigger the concomitant clitic-doubling) without inducing ungrammaticality. Another option, which I

²⁴Fn. 16 mentioned the logical possibility that *v* is the locus of L-suffixes in Senaya. As noted, in order to make this work in the perfective, we needed to add the stipulation that *v* probes upwards to its specifier first, and then (if it fails to find a goal) probes downwards. However, in the imperfective, this proposal would fail outright. In particular, having a *v* that is associated with L-suffixes (as this is the agreement that appears for perfective subjects) and probes upwards then downwards predicts intransitive subjects to be marked with an L-suffix in the imperfective, since *v* is a lower head than Asp. This is false empirically—intransitive subjects in the imperfective are marked with an S-suffix, whereas L-suffixes surface only to mark transitive objects. We therefore reject the hypothesis that *v* is an agreement locus in Senaya.

²⁵Assuming a movement account of clitic doubling (see fn. 14), it falls out naturally that when the φ -probe on T does not Agree with a goal nominal, there is no clitic, resulting in the absence of an L-suffix in imperfective intransitives.

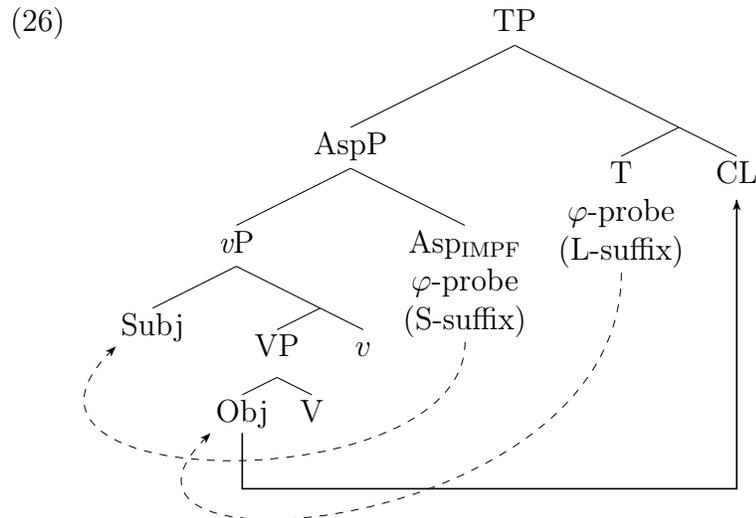
argue is the correct account in Ch. 4, is that T simply does not bear a φ -probe in imperfective intransitives.

To conclude this section, we note that our proposal sheds light on the order of morphemes in the verbal complex. L-suffixes appear further from the verb than S-suffixes do, and S-suffixes appear before the past tense marker (*-waa*, underlined below), whereas L-suffixes appear after the past tense marker:

(25) *Order of agreement morphemes relative to tense marker:*

Ooya molp-**aa**-waa-**luu**.
 she teach.IMPF-**S.3FS**-PST-**L.3PL**
 ‘She used to teach them.’

Our analysis for Senaya provides an explanation for this fact, since L-suffixes appear on a higher head (T) than S-suffixes do (Asp). If agreement with the subject takes place below T, then we expect the resulting agreement morpheme to appear closer to the verb root than a tense morpheme, which is precisely what we find.²⁶ To make this precise, in (26) we show a head-final version of (22), which we take to derive Senaya’s SOV word order:



²⁶It is somewhat rare for subject agreement to appear inside of object agreement crosslinguistically. We assume this is because the typical nominative/accusative alignment involves object agreement originating in a position below subject agreement, e.g., with the former coming from *v* and the latter coming from T.

It is easy to see in (26) that the order of morphemes (assuming that some version of the Mirror Principle holds (Baker 1985)) will be V-*v*-S-suffix-Tense/L-suffix. For ease of visual exposition, we have not drawn our trees as head-final previously in this section, and we continue to draw our trees as head-initial in the remainder of the chapter.

In this section, we have proposed that imperfective aspect in Senaya introduces an additional φ -probe on Asp, as compared to the perfective, whose only φ -probe is on T. Due to the position of Asp in the clause, this φ -probe disrupts the way arguments are licensed and results in Senaya’s unusual aspect split, in which imperfective objects and perfective subjects are marked alike—both are clitic-doubled by T.

In the following section, we turn to *complete agreement reversal*. We will see that, despite surface differences, this pattern involves the same basic syntax we have proposed for Senaya: imperfective Asp introduces an additional φ -probe.

2.4 Complete agreement reversal

This section discusses the second aspect split that this chapter is concerned with, *complete agreement reversal*. This pattern surfaces in a wider range of Neo-Aramaic languages, including Alqosh, Telkepe, Christian Barwar, Christian Qaraqosh, and Jewish Zakho (Khan 2002, 2008, Coghill 2003, Doron and Khan 2012).²⁷ The data presented here mainly comes from Christian Barwar and Christian Qaraqosh, as these languages are particularly well-described (Khan 2002, 2008, Doron and Khan 2012).

²⁷As noted in fn. 2, we only take into consideration complete agreement reversal languages which have a PCC effect in the perfective. For non-PCC varieties, we refer the reader to Baerman (2007), who argues for a morphological analysis of such agreement reversal.

- c. Brat-i qim-la.
 daughter-1SG.GEN rise.PFV-L.3FS
 ‘My daughter rose.’

(Christian Barwar; Doron and Khan 2012:230)

Another property of these languages is that first and second person objects in the perfective are banned, a point we return to in detail below:

- (29) a. *Griš-an-ne.
 pull.PFV-S.1FS-L.3MS
 ‘He pulled me.’
 b. *Griš-at-te.
 pull.PFV-S.2FS-L.3MS
 ‘He pulled you.’

(Christian Barwar; adapted from Doron and Khan 2012:232)

As such, we are dealing with a different aspect split pattern, which we call *complete agreement reversal*: the function of the two types of agreement markers reverses completely between aspects, such that the subject agreement of one aspect is the object agreement of the other.

Like the Senaya pattern, however, this aspect split is remarkable in that both sides of the split have a nominative-accusative alignment. Agreement in the perfective and in the imperfective groups the single argument of unergatives and unaccusatives with transitive subjects, while reserving a special form of agreement for transitive objects. This pattern then presents the same puzzle as Senaya: there is an agreement split sensitive to the same aspectual distinction as is familiar from aspect-based split ergativity, yet the split does not involve any ergativity.²⁸

Complete agreement reversal seems to present an additional puzzle, as it does not at first glance appear to involve an agreement asymmetry. However, we will see that, like in Senaya, agreement is actually more limited in the perfective than it is in the imperfective.

²⁸It is not true that all Neo-Aramaic languages with aspect-based agreement splits lack ergativity in the perfective. See Doron and Khan (2012) for a discussion of a broader range of Neo-Aramaic languages than we include here.

Specifically, a Strong PCC effect obtains in the perfective, restricting perfective objects to 3rd person. We will argue that this PCC effect holds because, like in Senaya, there is only one φ -probe in the perfective and so it has to do all of the licensing work in this aspect.

We propose that the difference between complete agreement reversal languages and Senaya lies just in properties of the φ -probe on T. To be precise, we derive the appearance of two agreement morphemes in the perfective, (29a), from the idea that, unlike in Senaya, it is only the person probe on T (one component of the φ -probe) that is a clitic-doubler, leaving a separate number probe free to instantiate object agreement. This syntax also derives the existence of a Strong PCC effect, as it implements Béjar and Rezac’s (2003) structural account of the Strong PCC.

2.4.2 The perfective and the PCC

We will start by developing our account of the perfective. As noted above, we will argue that, as in Senaya, there is only one φ -probe in the perfective, which is on T. However, in complete agreement reversal languages, this probe is responsible both for clitic-doubling the subject (\rightarrow L-suffix), while registering true agreement with the object (\rightarrow S-suffix), resulting in two separate agreement morphemes despite there only being one φ -probe. The motivation for this way of viewing the perfective will come from the presence of a Strong PCC effect in the perfective, §2.4.2.1-§2.4.1.2, and our syntax for the perfective mirrors exactly the Béjar and Rezac (2003) account of this effect, §2.4.2.3.

2.4.2.1 The Person Case Constraint

It is common for languages to place person restrictions on configurations that involve two arguments that are sufficiently syntactically local to each other. One such effect is the strong version of the PERSON CASE CONSTRAINT, or the *Strong PCC* (Perlmutter 1968, Bonet 1991). This constraint, as originally formulated, prohibits a “weak” direct object (e.g., a clitic) from being non-3rd person when there is also a “weak” indirect object. For example,

in Greek, direct object clitics in the context of indirect object clitics are only grammatical if the direct object is 3rd person (30a-b) (Bonet 1991, Anagnostopoulou 2003, 2005).

(30) *Direct object clitic of Greek ditransitives has to be 3rd person:*

a. Tha tu **to** stilune.
 FUT CL.GEN.3SG **CL.ACC.3SG** send.3PL
 ‘They will send it to him.’

b. *Tha tu **se** stilune.
 FUT CL.GEN.3SG **CL.ACC.2SG** send.3PL
 ‘They will send you to him.’

(Greek; adapted from Anagnostopoulou 2005)

Notice that (30a) (3rd person direct object) is grammatical, but (30b) (2nd person direct object) is ungrammatical.

Interestingly, as observed by Doron and Khan (2012), a Strong PCC-like effect also obtains between the subject and object of the perfective in the complete agreement reversal languages under discussion: the perfective object is only grammatical if it is 3rd person. There is no effect of number.²⁹ The following examples from Christian Barwar demonstrate, (31a-d).

(31) *Object has to be 3rd person in the perfective:*

a. *Griš-**an-ne**.
 pull.PFV-**S.1FS-L.3MS**
 ‘He pulled me.’

b. *Griš-**at-te**.
 pull.PFV-**S.2FS-L.3MS**
 ‘He pulled you.’

c. Griš-**í-le**.
 pull.PFV-**S.3PL-L.3MS**
 ‘He pulled them.’

²⁹Though the subject and object are not “weak” themselves, they both trigger agreement (which is “weak”), and so this can be taken to be essentially the same effect seen in (30).

We will take the existence of a PCC effect in complete agreement reversal languages to suggest that, as in Senaya, there is only one φ -probe in the perfective of complete agreement reversal languages. We propose then that Christian Barwar, Christian Qaraqosh, and related varieties underlyingly really have almost the same syntax as Senaya. The question that arises is why, in complete agreement reversal languages, a limited form of object agreement is able to appear. What we will argue is that, unlike in Senaya, T in these languages is able to license a 3rd person object in addition to a subject, because it is only the person probe on T that is a clitic-doubler, leaving the number probe free to agree with an object. Before we outline how this works exactly, we need to introduce the theory of the Strong PCC on which this syntax is based, namely, the account developed in Béjar and Rezac (2003).

2.4.2.2 Béjar and Rezac (2003) on the PCC

As in other accounts of the Strong PCC (e.g., Anagnostopoulou 2003; Nevins 2007), Béjar and Rezac (2003) assume that PCC effects arise when one φ -probe Agrees with multiple arguments. The first question they address is why one φ -probe can come to Agree with more than one argument. They propose that φ -probes are more properly characterized as consisting of separate person (π) and number ($\#$) probes, which probe separately.³² In a typical situation, the person and number probes will Agree with the same nominal (thereby looking like a unified φ -probe), but it is also possible for them to probe different nominals. In particular, these probes can then end up targeting different nominals if the one that probes first, which Béjar and Rezac stipulate to be the person probe, triggers a change in the syntax, so that, when it is time for number to probe, the set of available goals has been altered.

For Béjar and Rezac, the change induced by the person probe is *clitic-doubling* of the goal DP. Clitic-doubling affects the conditions on subsequent Agree relations because (under their analysis) it displaces the head of an A-chain to a position from which it no longer intervenes: the clitic adjoins to the probe and so is no longer in a position from which

³²Béjar and Rezac ignore gender for the sake of simplicity, as number and gender generally pattern together. We will do the same here.

it c-commands other arguments.³³ This means that cliticization can “rescue” constructions that would otherwise involve intervention by clitic-doubling the intervener (Anagnostopoulou 2003, Preminger 2009). For example, Anagnostopoulou (2003) observes that, in Greek unaccusative ditransitives (two internal arguments, no external argument), a genitive indirect object may only surface if it is clitic-doubled (33a–b), even though clitic-doubling is otherwise not obligatory.

(33) *Clitic-doubling voids intervention in Greek unaccusative ditransitives:*

- a. I thea parusiastike (*tu Pari) ston ipno tu.
 the goddess.NOM presented.PASS.3SG the Paris.GEN in.the sleep his
 ‘The goddess appeared (*to Paris) in his dream.’
- b. I thea **tu** parusiastike (tu Pari) ston ipno tu.
 the goddess.NOM **CL.GEN** presented.PASS.3SG the Paris.GEN in.the sleep his
 ‘The goddess appeared to Paris/him in his dream.’

(Greek; Anagnostopoulou 2003:23)

The genitive indirect object *tu Pari* can only grammatically surface in (33b), where it is referenced by the clitic *tu* preverbally. The analysis of this data is as follows. The indirect object is base-generated in a higher position than the direct object, and therefore the indirect object intervenes in an Agree relation between T and the direct object, such that the direct object cannot raise to subject position (spec-TP) when there is an indirect object. This intervention is obviated by T first clitic-doubling the indirect object and subsequently targeting the direct object; clitic-doubling makes the indirect object invisible for intervention, so movement to subject position is possible for the direct object.

³³This implies that only the head of the A-chain counts for intervention (Chomsky 2000, Béjar and Rizzi 2003, Anagnostopoulou 2003, Holmberg and Hróarsdóttir 2003, Sigurðsson and Holmberg 2008). Note that under one precise analysis of clitics (Nevins 2011, Kramer 2014, Harizanov To Appear), this non-intervention is because the clitic actually occupies a specifier position of the head that the probe occupies, and only later undergoes m-merger with the head.

Similarly, cliticization of the experiencer in French raising constructions voids intervention, such that an embedded subject is able to raise to matrix subject position only when the experiencer has cliticized to the verb, (34a-b).

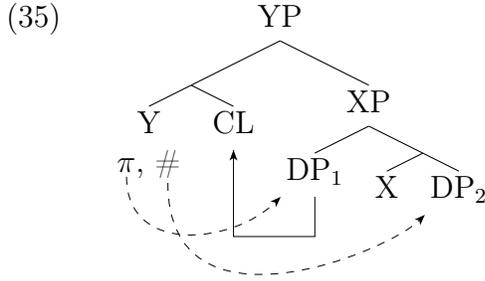
(34) *French raising across experiencer requires cliticization:*

- a. Nelson semble (*à Mari-Jo) être intelligent.
Nelson seems to Mari-Jo be.INF intelligent
'Nelson seems to Mari-Jo to be intelligent.'
- b. Nelson **lui** semble être intelligent.
Nelson **her.DAT** seems be.INF intelligent
'Nelson seems to her to be intelligent.'

(French; Béjar and Rezac 2003:50–51)

In (34), the experiencer is base generated in the matrix clause, above the embedded subject. The embedded subject can only raise to matrix subject position when the intervening experiencer is expressed as a clitic, (34b), rather than a full DP (inside of a PP), (34a). Note that French does not generally allow clitic-*doubling* of objects (i.e., pronunciation of both the clitic and its associate nominal), and so the experiencer cannot be overtly expressed in its base position in (34b) in addition to the clitic. For discussion and a range of other examples, see Anagnostopoulou (2003:ch. 2) and Preminger (2009).

Assuming then that clitic-doubling removes the doubled DP as an intervener, clitic-doubling by a person probe will cause the number probe to target a different DP (since the clitic-doubled argument is now syntactically invisible). To see this in action, consider the tree in (35), which represents this configuration.



In this tree, Y is a φ -probe consisting of a separate person (π) and number ($\#$) probe. Person probes first, by stipulation, and has the property of triggering clitic-doubling of the highest argument, DP₁. Number then probes, unable to see DP₁, and agrees with DP₂. In this way, different components of one φ -probe can Agree with multiple arguments.

Having established what kind of configuration involves one φ -probe agreeing with multiple arguments, we can now turn to the question of why the Strong PCC effect should emerge in this environment, as Béjar and Rezac (2003) propose. Béjar and Rezac argue that the factor behind this is a special licensing need that holds universally of 1st and 2nd person DPs. To be precise, they propose that 1st and 2nd person DPs *must* be in a person agreement relation, a requirement they call the PLC, stated in (36).

(36) *Person Licensing Condition (Béjar and Rezac 2003:53):*

Interpretable 1st/2nd-person features must be licensed by entering into an Agree relation with an appropriate functional category.

The PLC means that, in a situation like (35), only the higher argument can be 1st or 2nd person, since only the higher argument, DP₁, enters into person agreement.³⁴ In contrast, the lower argument in (35), DP₂, only agrees with a number probe and so the PLC will be violated if DP₂ is 1st or 2nd person. The lower argument in such configurations, DP₂, is then effectively restricted to 3rd person, which does not require person agreement.

³⁴Note that for (35) to hold, we must assume that the higher DP enters into person agreement even if it is 3rd person. It is also assumed here that 3rd person DPs, gender features, and number features, do not have any additional licensing needs apart from the regular need for Case valuation. As such, these nominals do not *need* to agree with a person probe (unlike 1st/2nd person nominals).

A final note here is that clitics, despite arising as a consequence of agreement just with a person probe, bear full φ -features. This is because we take clitics to be properly analyzed as a pronominal-like D element in a movement chain with its associate nominal, not the spellout of valued φ -features on a probe. This is discussed again in the following section, in the context of L-suffixes and their role in complete agreement reversal.

In sum, taken together, the PLC and the idea that one φ -probe may split its agreement between multiple arguments derive the existence of the Strong PCC effect in environments in which two arguments enter into an Agree relation with (separate components of) a single φ -probe. In Neo-Aramaic, we will see that this situation arises because both the subject and object in the perfective are licensed by the single φ -probe on T.

2.4.2.3 Agreement in the perfective

What we suggest now is that the perfective of complete agreement reversal languages instantiates exactly the configuration described by Béjar and Rezac (2003), the tree in (35). This is why two separate agreement(-like) morphemes occur in the perfective (as opposed to Senaya's one agreement morpheme) and why a Strong PCC effect obtains. These languages are then really just like Senaya underlyingly. There is a single φ -probe in the perfective, on T. Unlike in Senaya, however, it is only the person probe on T that is a clitic-doubler, so that the number probe on T is able to license certain objects (namely, 3rd person objects) in addition to the subject being probed (and, we assume, licensed) by the person probe on T. Like Senaya, complete agreement reversal languages have an inactive v , which does not assign Case or trigger agreement. As a result, there is no head dedicated to licensing objects and this job falls to T in the perfective.³⁵

³⁵It has to be T that is active and not v , because otherwise this alignment would not map straightforwardly onto a PCC configuration. Specifically, if the φ -probe were on v , then we would have to make an additional stipulation about the directionality of probing (upwards then downwards) in order to account for the fact that the PCC affects objects and not subjects. In addition, while the perfective could be accounted for with this stipulation, it does not allow imperfective Asp to interfere in the desired way in the imperfective, as is needed to derive agreement reversal; see §2.4.3.

The φ -probe on T, however, has different lexical properties than in Senaya. In languages like Christian Barwar and Christian Qaraqosh, only the person probe on T is a clitic-doubler, which clitic-doubles the DP it agrees with. The reflex of this is an L-suffix, just as in clitic-doubling Senaya. So, the difference between Senaya and these languages resides in whether it is just the person probe on T that triggers clitic-doubling (deriving complete agreement reversal) or the person and number probe together (deriving partial agreement reversal). This account explains the presence of object agreement in the perfective in complete agreement reversal languages: the number probe on T remains free (after the person probe agrees with and results in clitic-doubling of the subject), and so may agree with an object, if one is present.

Finally, we hold two things (basically) constant across our accounts of partial and complete agreement reversal. First, we draw a similar distinction between clitic-doubling and true agreement as in Senaya. True agreement (the spell-out of valued uninterpretable φ -features on a probe) for the number probe on T and the bundle of φ -features on Asp is represented by the S-suffix series, while clitics are represented by the L-suffix series. Second, we again assume that nonspecific objects do not require agreement/Case licensing, while specific objects do. (See note at the end of §2.3.2 and Chapter 4 for a full account.)

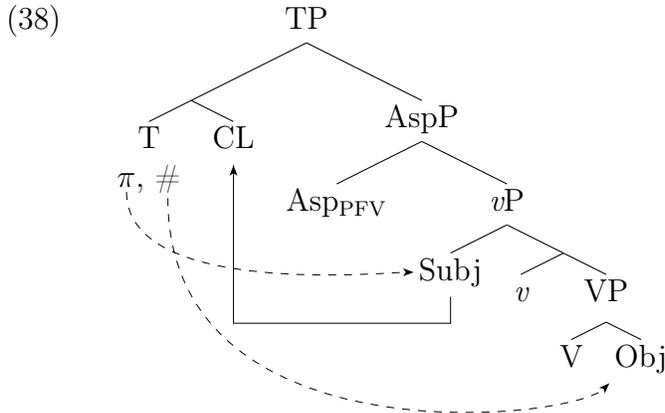
The proposal outlined above allows us to account for the syntax of agreement in the perfective. Consider, for example, a perfective transitive with a specific object, in which an L-suffix cross-references the subject and an S-suffix the object, (37).

(37) PERFECTIVE TRANSITIVE *S-suffix = object, L-suffix = subject:*

Xawr-ăwaθ-i brat-i griš-**a-la**.
 friend-PL-1SG daughter-1SG pull.PFV-**S.3FS-L.3PL**
 ‘My friends pulled my daughter.’

(Christian Barwar; Doron and Khan 2012:231)

The account that we outlined above produces the following structure, (38):



In this tree, only T carries a φ -probe, not Asp, since Asp is perfective. The person probe on T probes first, agrees with the subject, and triggers clitic-doubling. This clitic-doubling spells out a clitic adjoined to T as an L-suffix, since L-suffixes are the clitic series. Number on T now probes. It ignores the subject because the subject is clitic-doubled, and agrees with the object instead. Just as in Senaya, the object is accessible for probing, since v is not a phase head. This agreement with the object is spelled out as an S-suffix, the result of true agreement. Because the object of the perfective only agrees with a number probe, this structure will crash due to the PLC, (36), if the object is 1st or 2nd person. As a result, the perfective object is restricted to 3rd person.³⁶

Note that (as mentioned previously), even though L-suffixes are created by agreement with only a person probe, the full set of φ -features of the goal end up reflected on the verb. This is because clitic-doubling, unlike true agreement, is the spell-out of a reduced form of the associated nominal (see fn. 14). Thus both the person and number features of the subject are reflected in the L-suffix, even though the subject is only targeted by a person probe. Preminger (2011) calls this property the *featural coarseness of clitic-doubling*. True agreement, on the other hand, cannot spell-out features that are not Agreed with.³⁷

³⁶We then take the 3rd person forms of the S-suffixes to encode the absence of valued person features on the probe, such these S-suffixes spell out only number and gender features in these cases. Also note that we do assume there is an actual Agree relation between the person probe on T and the subject, but that these features are not spelled out overtly, following Nevins (2011), Kramer (2014), Harizanov (To Appear).

³⁷This assumption is implicit in Béjar and Rezac (2003) also. See Preminger (2011:2.4.2) for extensive discussion.

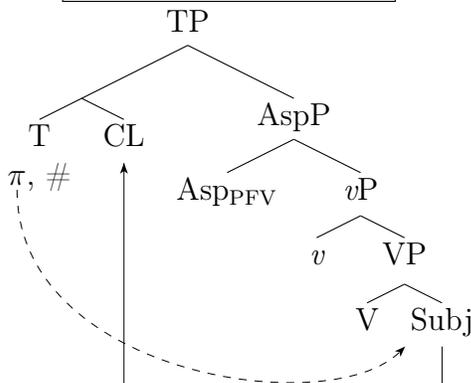
The current proposal also explains the behavior of perfective intransitives. Recall that intransitives in these languages, regardless of whether they are unergative or unaccusative, use L-suffixes to mark subject agreement, (39).

(39) PERFECTIVE INTRANSITIVE *L-suffix = subject:*

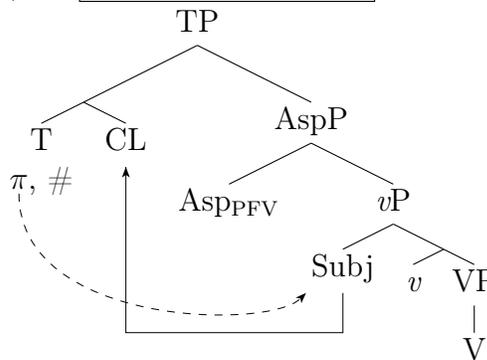
Brat-i qim-la.
 daughter-1SG rise.PFV-L.3FS
 ‘My daughter rose.’ (Christian Barwar; Doron and Khan 2012:231)

For an unaccusative like (39), we propose the derivation in (40). Unergatives have the structure in (41).

(40) PFV. UNACCUSATIVE



(41) PFV. UNERGATIVE



In both structures, person on T probes the subject and triggers clitic-doubling. This clitic spells out as an L-suffix. Number on T now probes. Since the subject has been clitic-doubled, it is not accessible for Agree. As such, number will not find a licit agreement target and so will fail to Agree. The default (3rd person masculine singular) S-suffix is null, as it is in all of the relevant languages, and so no agreement appears.³⁸

³⁸Another possibility is that failed agreement just has a null spell-out, assuming that a failure of agreement may be associated with a distinct morpheme (Preminger 2011, Halpert 2012). Yet another possibility is that the number probe on T does not merge in these instances.

We therefore have derived the profile of agreement in the perfective. We now turn to the question of how these assumptions translate to the imperfective. We will show that we can make use of the same mechanism as in Senaya: the addition of a φ -probe on imperfective Asp.

2.4.3 Agreement in the imperfective

The imperfective in complete agreement reversal languages looks empirically identical to the imperfective in Senaya. S-suffixes mark subject agreement, while L-suffixes cross-reference specific objects. In addition, there is no PCC effect, so the object may be a 1st or 2nd person pronoun, (42):

(42) *No PCC effect in the imperfective:*

'u-bṭ-amr-ə̃n-nux. CONJ-FUT-say.IMPF-S.1SG-L.2MS 'And I shall say to you.'	(Christian Barwar; Khan 2008:175)
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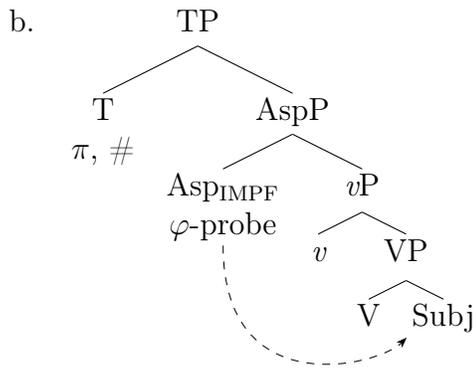
We propose that, as in Senaya, the imperfective involves an additional φ -probe, introduced by imperfective Asp. In addition, as in Senaya, Asp's φ -probe is not a clitic-doubler, so it registers true agreement with the subject. There is no PCC effect precisely because the subject and object are now agreeing with distinct φ -probes.

Crucially then, we have the same asymmetry between T and imperfective Asp as in Senaya: only T has clitic-doubling potential. Recall also that both agreement that is triggered by imperfective Asp and agreement triggered by number on T is spelled out as an S-suffix. Imperfective subjects (which agree with Asp) and perfective objects (which agree with number on T) are thus marked with the same suffix not because they agree with the same head, but because both are the result of spelling out valued φ -features on a probe and not the result of clitic-doubling.

This proposal derives agreement in the imperfective in much the same way as in Senaya. For example, an intransitive like (43a), an unaccusative, will have the structure in (43b). We represent the φ -probe on Asp as undifferentiated into person and number because neither component of the φ probe is a clitic-doubler and so both probes will always Agree with the same nominal.

(43) IMPERFECTIVE INTRANSITIVE *S-suffix = subject:*

- a. 'ána mɛθ-**en** 'aʃə̀rta. (Christian Barwar; Khan 2008:132)
 I die.IMPF-**S.1SG** evening
 'I shall die in the evening.'

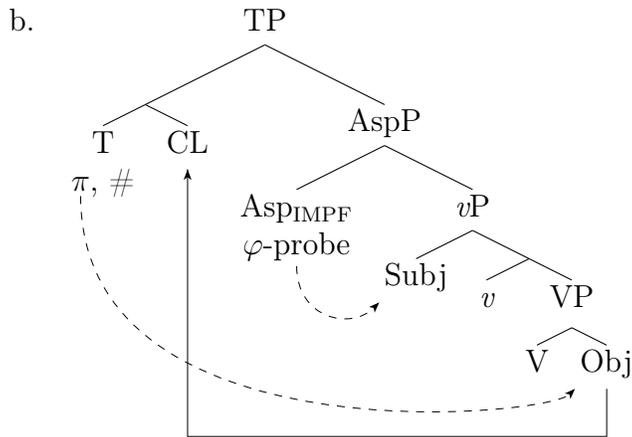


In this structure (as in unergatives, though we do not show this above), the φ -probe on imperfective Asp is merged before T and so agrees with the subject. Because S-suffixes spell out agreement both on T and on Asp, this spells out as an S-suffix. Now, T probes, but, because the subject has already been agreed with (and therefore is licensed/inactive), it is no longer a possible target for agreement. As such, there is nothing for T to Agree with. (Alternatively, T may merge without a φ -probe in such derivations.)

Transitives are subtly different from Senaya. Recall that on the surface, these look the same as in Senaya, (44a). We assume the underlying structure in (44b), however.

(44) IMPERFECTIVE TRANSITIVE *S-suffix = subject, L-suffix = object:*

- a. 'u-bṭ-amr-ə̃n-nux.
 CONJ-FUT-say.IMPV-S.1SG-L.2MS (Christian Barwar; Khan 2008:175)
 'And I shall say to you.'



This derivation initially proceeds just as in Senaya, §2.3.3. The φ -probe on imperfective Asp agrees with the subject, and this agreement spells out as an S-suffix; the subject is thereby rendered inactive, allowing the object to be agreed with without the subject intervening. The second part of the derivation diverges slightly from Senaya: the person probe on T agrees with the object (not the whole φ -probe on T), clitic-doubling it. As a result, the object is marked with the L-suffix series. The number probe does not find an argument to agree with, because the available arguments have either been clitic-doubled or made inactive. We return to this unused probe in the following section.

In this way, we can give a very similar account of complete agreement reversal as we gave for Senaya's partial reversal. The difference is purely lexical in nature: in complete agreement reversal language, only the person probe on T is a clitic-doubler, whereas, in Senaya, the person and number probes jointly trigger clitic-doubling. All of these languages have the same inventory of probes, but the properties of the probes on T are subtly different, and this has syntactic repercussions. The common thread that emerges is the presence of additional agreement in the imperfective.

2.4.4 Independent evidence for this account

This section discusses some independent support for the analysis outlined above, specifically from complete agreement reversal languages. We first present an argument for our proposal from an intriguing pattern of auxiliary insertion in ditransitives in Christian Qaraqosh, which we show provides evidence for our account. We then briefly demonstrate that we make the right predictions for the properties of the perfect and the progressive in Christian Barwar.

2.4.4.1 Auxiliary insertion in ditransitives

Our proposal for the syntax of complete agreement reversal languages makes an interesting prediction about ditransitives that we will show is borne out, at least in some of these languages. In our analysis of the imperfective transitive, as schematized in (44), the number probe on T remains free, unlike in perfective transitives, (38). As a result, if we were to add an extra argument, as in a ditransitive, we predict that it can be agreed with in the imperfective, and not in the perfective. In addition, since it is only the number probe that is agreeing with the third argument, the Strong PCC should resurface in the imperfective under these conditions and affect the lowest argument of a ditransitive, the direct object.

This pattern is indeed found in a number of the relevant languages, including Telkepe, Christian Qaraqosh, and Alqosh (Coghill 2010, Khan 2002, Coghill 2003), though with a complication that we will show argues strongly for our theory. Other agreement reversal languages, like Christian Barwar, always express the indirect object in a PP in ditransitives (Khan 2008), and so the requisite environment is never found for testing our prediction. (We assume the indirect object DP is licensed inside PP in these cases, by P.)

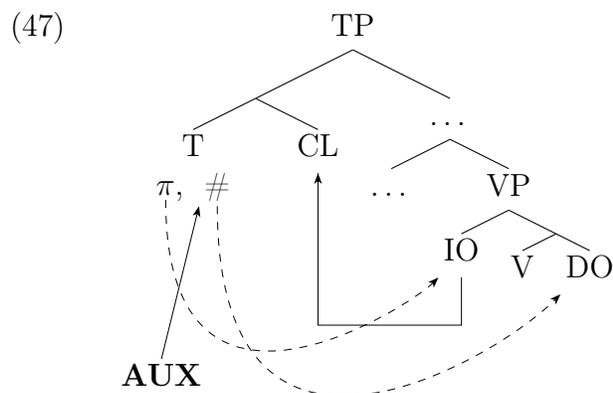
As Coghill (2010) shows, in Telkepe ditransitives, multiple object agreement is indeed possible in imperfective ditransitives, (45). Strikingly, the perfective base (unlike the imperfective base) cannot appear with agreement representing both the direct and indirect object (plus the subject) in a ditransitive. Additional agreement for a third argument is thus only available on the imperfective base.

and clitic-doubled; it is then referenced with an L-suffix, the clitic series. The number probe then agrees with the direct object, as the indirect object is no longer a licit goal. In this way, multiple object agreement is possible, but, because the direct object only agrees for number, it is restricted to 3rd person by the PLC. The result of these three agreement relations is the verbal complex in (45).

There is a complication, however. The agreement used to reference the direct object is not an S-suffix, as we might expect from agreement with the number probe on T. Instead, as (45) shows, the enclitic auxiliary *-i* is inserted, and it is this auxiliary that hosts agreement with the direct object; the enclitic auxiliary has its own inflectional paradigm, resulting in the unique inflection that we see.

We propose that this pattern arises because there is only one position for true agreement on the verbal base, and the verbal base is already carrying an S-suffix (agreeing with the subject) in ditransitives. As such, there is no place on the verb to host additional agreement with the indirect object. To fix this, an enclitic auxiliary is inserted, which serves as a host for these stranded agreement features. We thus adopt a view of auxiliaries in which they are inserted to host inflectional material that would otherwise be stranded. (See Bjorkman 2011 for extensive argumentation in favor of a last-resort post-syntactic insertion account of auxiliaries.)

Under this proposal, ditransitives in Telkepe and related varieties have the structure in (47) (with subject agreement with Asp omitted for ease of exposition).



This derivation proceeds as follows. Imperfective Asp agrees with the subject (rendering the subject inactive), creating an S-suffix (Asp and S-suffix omitted above). Person on T then probes and clitic-doubles the indirect object, which therefore surfaces as an L-suffix. Number on T now probes and agrees with the direct object, since the subject is inactive and the indirect object is clitic-doubled. However, this number agreement cannot attach to the verb, as the verb already has an S-suffix, and so an enclitic auxiliary is inserted to host this affix.

Note that our account of this pattern of auxiliary insertion is made possible by a non-trivial feature of our analysis of the syntax of complete agreement reversal: the assumption that object agreement is established in a structurally *higher* location than subject agreement. Without this assumption, we would make the wrong predictions for the profile of ditransitives. If subject agreement were established later than object agreement, then it would be subject agreement that ends up stranded and that requires insertion of an auxiliary. Instead, this pattern of auxiliary insertion shows on independent grounds that we are correct in assuming that the head that hosts subject agreement combines with the verb before the head that hosts object agreement does (again assuming some version of the Mirror Principle holds).

In addition, observe that our analysis provides a principled explanation of the asymmetry between perfectives and imperfectives: derivations with the perfective base cannot instantiate

agreement with an indirect object at all (there is no number probe left over on T after single object agreement), whereas derivations with the imperfective base can instantiate agreement with an indirect object (there is a free number probe on T left over after single object agreement). This is further confirmation of our general claim that agreement is more restricted in the perfective in these languages.

Our analysis thus straightforwardly derives an otherwise puzzling constellation of facts about how agreement is realized in ditransitives. First of all, we explain the presence of a strong PCC effect, restricting the lowest argument (the direct object) to 3rd person. More strikingly, our analysis explains why it is the *highest* verbal element (the enclitic auxiliary) that expresses agreement with the *lowest* argument (the direct object). Finally, our proposal provides a natural account of the fact that this strategy is available only with the imperfective base and not with the perfective base.

2.4.4.2 The perfect and progressive in Christian Barwar

There are a number of more complex constructions that also make use of S- and L-suffixes in some of these languages, like in Christian Barwar.³⁹ In this section, we show that our analysis extends straightforwardly to cover these and correctly predicts the surface order of the various elements in the verbal complex.

We will focus specifically on the perfect⁴⁰ and progressive in Christian Barwar, as described in Khan (2008). Both of these constructions make use of a special verb base. In the

³⁹In others, like Qaraqosh, the perfect and progressive make use of a nominalized participle or infinitive which inflects for object agreement with the same agreement that is found on nouns (Khan 2002). These then appear to involve a different structure. In Senaya, the perfect results simply from prefixing the perfective base with *gii-*, and there are otherwise no morphological changes; similarly, the progressive results from adding an auxiliary directly onto the imperfective base.

⁴⁰Note that perfect aspect and perfective aspect are formally distinct: whereas perfective aspect views an event as a whole, perfect aspect relates two times, “on the one hand the time of the state resulting from a prior situation, and on the other the time of that prior situation” (Comrie 1976:52). The sentence “It has snowed”, for example, is perfect: it indicates that there is a time (in this case, the present) at which a state holds (there is snow on the ground) that resulted from a prior situation (it snowed). The sentence “It snowed”, on the other hand, simply asserts that prior to some time (in this case, the present), there was a complete event of snowing; the sentence does not make a statement about a point in time at which a state holds (of snow being on the ground) that resulted from this event.

perfect, the verb shows up in a participial form, (48a). In the progressive, the verb is in its infinitival form, (48b).

(48) *Christian Barwar perfect and progressive:*

a. Qṭíl-t-**ɛla-le**.
kill.PART-FS-AUX.**3FS-L.3MS**
'She has killed him.'

b. Qṭál-**etu-le**.
kill.INF-AUX.**2PL-L.3MS**
'You are killing him.'

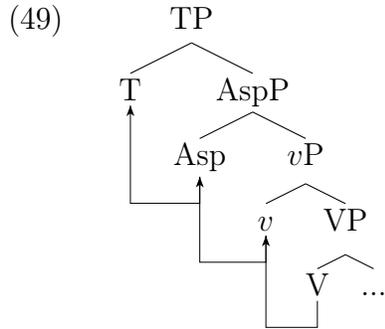
(Christian Barwar; Khan 2008:284)

These verb forms combine with an enclitic auxiliary (which otherwise serves as the copula and has its own inflectional paradigm) that expresses the φ -features of the subject and an L-suffix that references the object.⁴¹

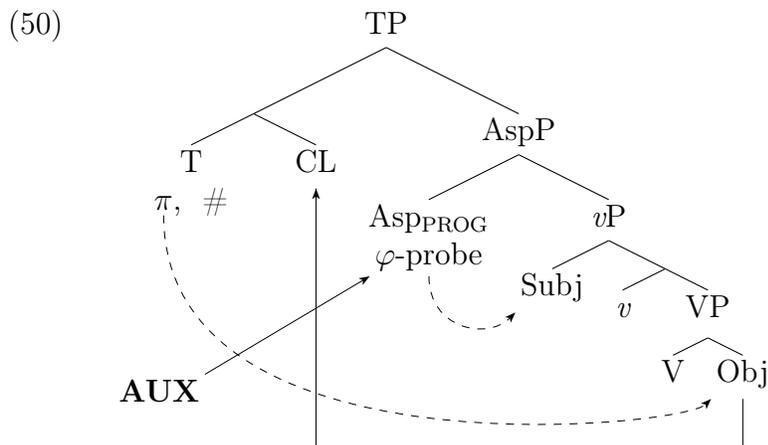
We assume that perfect aspect and progressive aspect in Barwar involve the same clausal structure that we gave for the imperfective, with a φ -probe on Asp that agrees with the subject. The question that arises then is why these Asp heads use an enclitic auxiliary to spell out subject agreement, when imperfective Asp uses an S-suffix. We propose that this difference arises because of a lexical property of perfect and progressive Asp, which is that these Asp heads do not allow head movement of the verb into/through them. Following Bjorkman's (2011) proposal that auxiliaries are inserted whenever the verb is not available to host a given inflectional feature, the result of this is that an auxiliary is required to spell out the agreement features on Asp (mirroring our account of auxiliary insertion in ditransitives outlined above).

Let us spell this out. Our suggestion is that, in the derivations sketched thus far in the chapter, the verb raises to T (stopping off at *v* and Asp on the way), as in (49).

⁴¹In addition, the participle associated with the perfect inflects for the number and gender of the subject. We will not be too concerned here with the question of where this participial agreement is located. Presumably, perfect Asp is somehow associated with a bit of additional structure, like a PartP, which carries a number probe with it.



We propose that, in the perfect and the progressive, this verb raising does not happen, so that the verb stays in situ (or raises just to *v*). We treat this just as a lexical difference between certain Asp heads as allowing movement through them (imperfective and perfective Asp) or not (perfect and progressive Asp). As a result of this, the φ -agreement on Asp cannot be hosted on V in the perfect and progressive. To avoid stranding the inflectional features on Asp, an enclitic auxiliary is inserted at Asp, as shown in (50).



After the subject agrees with Asp, the person probe on T triggers clitic-doubling of the lower argument, as usual, resulting in an L-suffix outside of the enclitic auxiliary. Because this is an instance of clitic-doubling, not of spelling out of true agreement (valued φ -features on T), no inflectional features are stranded and no second auxiliary needs to be inserted.

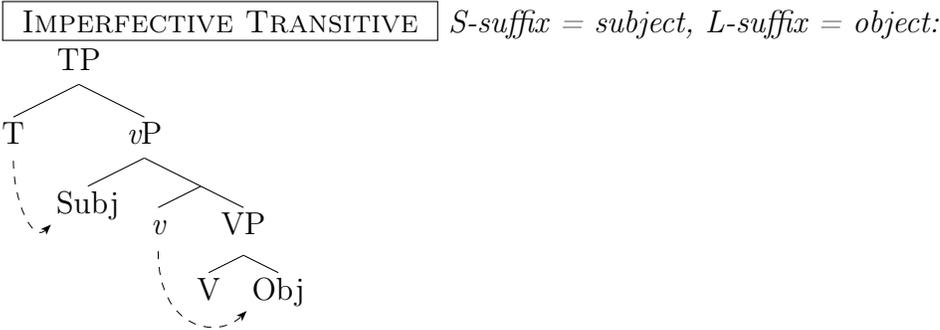
In this way, our account allows us to explain the surface differences between imperfective aspect (V followed by S-suffix encoding subject agreement and L-suffix encoding object agreement) and the perfect and the progressive (V followed by Aux bearing subject agreement and L-suffix encoding object agreement) in Barwar. Since imperfective, perfect, and progressive Asp heads all bear a φ -probe, the subject agrees with Asp in all three aspects, but needs to be supported by an Aux in perfect and progressive (because V-movement is not possible in these aspects). Further, the L-suffix, adjoined to T, appears outside of subject agreement regardless of the aspect.

2.4.5 Doron and Khan (2012)

To finish off our discussion of complete agreement reversal languages, we turn to the account of this pattern in Doron and Khan (2012), the first analysis of this phenomenon in generative terms. Doron and Khan also analyze several other split-ergative Neo-Aramaic languages, but since our focus here is on (surface) nominative/accusative-patterning languages with perfective/imperfective asymmetries, a discussion of the other languages lies outside of the scope of this chapter. The current proposal follows Doron and Khan’s treatment of languages like Christian Barwar, Qaraqosh, and Telkepe (which they call “extended ergative”) in a number of ways. They too take S-suffixes to be the product of agreement and L-suffixes to represent a clitic series. They too consider the subject in the perfective to be a PCC intervener in the agreement relation between T and the object, and as such view the perfective as in some sense deficient in its licensing potential relative to the imperfective.

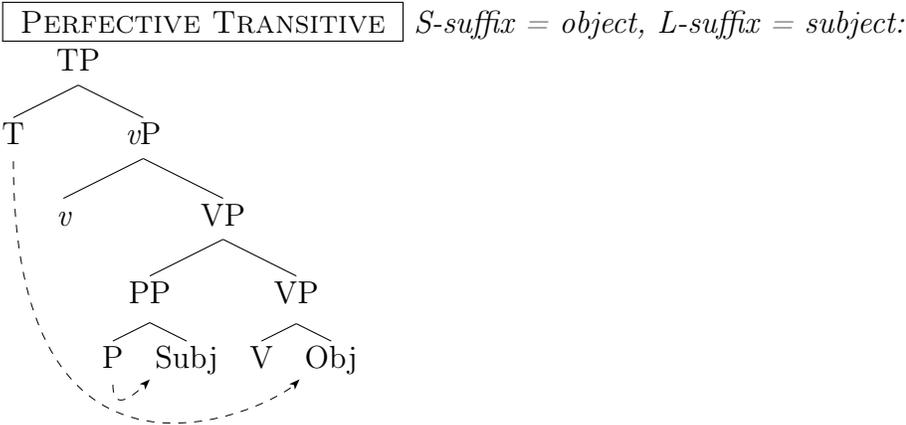
There are significant differences, however. To appreciate these, let us consider first their treatment of the imperfective in complete agreement reversal languages that have a PCC effect in the perfective. Doron and Khan propose that the imperfective instantiates a standard nominative-accusative pattern, in which T agrees with the subject (leading to an S-suffix) and *v* agrees with the object (leading to clitic-doubling and an L-suffix), as in (51).

(51) Adapted from Doron and Khan (2012:238,(33a)):



For the perfective in extended ergative languages that have a PCC effect, Doron and Khan propose that perfective (transitive and unergative) subjects must be expressed as an adjunct to VP, like a *by*-phrase in a passive. The P that introduces the perfective subject (note: not *v*) assigns the subject ergative Case and causes it to be clitic-doubled, so that the perfective subject is referenced by an L-suffix. This leaves the (transitive) object to be probed by T, resulting in object agreement expressed with an S-suffix. This derivation is schematized in (52).

(52) Adapted from Doron and Khan (2012:238,(33b')):



Finally, to derive the fact that unaccusative subjects pattern with transitive and unergative subjects, they propose that perfective *v* in unaccusatives can exceptionally assign (ergative) Case to the internal argument; this results in clitic-doubling of the subject. The idea here

is that, in the perfective in this type of language, perfective *v* assigns ergative case, to its specifier if it has one and to an internal argument otherwise.

Though similar in a number of ways to our analysis, this proposal runs into a couple of technical problems. First of all, the analogy between perfective subjects and *by*-phrases breaks down in unaccusatives (in this instance the perfective subject is introduced as the complement of V), and the mechanism they propose to ensure that unaccusative perfective subjects are treated like other perfective subjects (*v* can assign ergative Case downwards) seems too powerful. In particular, it is not obvious how this mechanism can be prevented from overgenerating: it is unclear why *v* does not assign structural Case to objects in perfective transitives, given that *v* is not responsible for assigning ergative Case in such derivations (the P introducing the subject is where ergative for the subject comes from).

A second issue is that Doron and Khan’s account does not fully derive the PCC effect found in the perfective. *By*-phrases typically do not count as interveners for A-movement, e.g., as seen in passives in French:

- (53) J’ai été embrassée par Luc.
 I’have.PRES.1SG be.PART kissed.PART.FS by Luc
 ‘I have been kissed by Luc.’

Passivization of the (non-3rd person) object in (53) is not inhibited by the presence of an overt *by*-phrase subject. Similarly, in canonical PCC environments, it can be demonstrated that adjuncts, e.g., ethical datives, do not count for the PCC (Rezac 2011). As such, if the subject is truly an adjunct to VP in Neo-Aramaic, nothing should block full agreement between the object of the perfective and the φ -probe on T that licenses it in (52), contrary to fact.

A third problem is that perfective subjects are not empirically on a par with *by*-phrases in other languages. As Doron and Khan themselves note, the perfective subject behaves as a true subject. For example, the perfective subject may antecede an anaphor in object position, (54), which suggests a c-command relation between them.

roles of the perfective and imperfective are exactly reversed. On these grounds, our proposal also fares better.

2.4.6 Interim summary

We have now concluded our main data presentation and analysis. Table 7 below summarizes the main facts regarding the data:

Table 7: Data Summary

	Partial reversal (Senaya)	Complete reversal with PCC in PFV (J. Zakho, Telkepe, etc.)
Restriction on object in IMPF	No restriction	No restriction
Restriction on object in PFV	Nonspecific object only	Third person object only
Subject agr in imperfective (S or L)	S	S
Object agr in imperfective (S or L)	L	L
Subject agr in perfective (S or L)	L	L
Object agr in perfective (S or L)	none	S

Partial reversal differs from complete reversal in that the latter allows specific objects in the perfective so long as they are third person, and the morphology that surfaces to agree with such objects is the S-suffix. Table 8 below summarizes the main components of our analysis (using Senaya to stand in for partial agreement reversal and Zakho to stand in for complete agreement reversal):

Table 8: Analysis Summary

	Is this an argument-licensing locus?			Morphological spellout?	
	No	Yes, π &# bundled	Yes, π &# not bundled	S-suffix (agr)	L-suffix (clitic)
T		Senaya	Zakho	Zakho (#)	Senaya, Zakho (π)
Asp_{IMPF}		Senaya, Zakho		Senaya, Zakho	
v	Senaya, Zakho			n/a	n/a

Across partial and complete reversal, *v* is inactive, and Asp bears an undifferentiated φ -probe (person and number are bundled) that triggers agreement that spells out as an S-suffix. Where the languages differ is in the properties of T. In Senaya, person and number are bundled and so jointly trigger clitic-doubling (L-suffix). In Zakho, person and number probe separately, with person triggering clitic-doubling. As a result, in Zakho (complete agreement reversal), the φ -probe on T can Agree with two separate nominals: the first for person (triggering a clitic, i.e., an L-suffix) and the second for number (spelled out as true agreement, an S-suffix).

In the next section we turn to the crosslinguistic picture.

2.5 Relating Neo-Aramaic to split ergativity

The central claim of this chapter is that the Neo-Aramaic aspect splits under discussion arise because agreement is more limited in the perfective than in the imperfective. We have fleshed out this intuition by proposing that imperfective Asp introduces an additional locus for agreement.

In this section, we address the issue of why this situation should hold. We will try to provide an answer to the question of why it should be the imperfective, and not the perfective, in which we find additional material. In addition, we will develop an account that attempts

to give a principled reason for the fact that additional agreement comes with imperfective aspect in the first place in these languages.

What we will suggest is that our analysis merely posits a special instance of a general difference between nonperfective and perfective aspects. In particular, we will adopt the proposal that nonperfective aspects involve an additional, locative predicate that is absent in the perfective (Demirdache and Uribe-Etxebarria 2000, 2007, Coon 2010). We follow recent work on split ergativity in assuming that this extra predicate may in some languages give rise to an aspect split if it bifurcates the clause into multiple case/agreement domains (Laka 2006, Coon 2010, Coon and Preminger 2011, 2012).

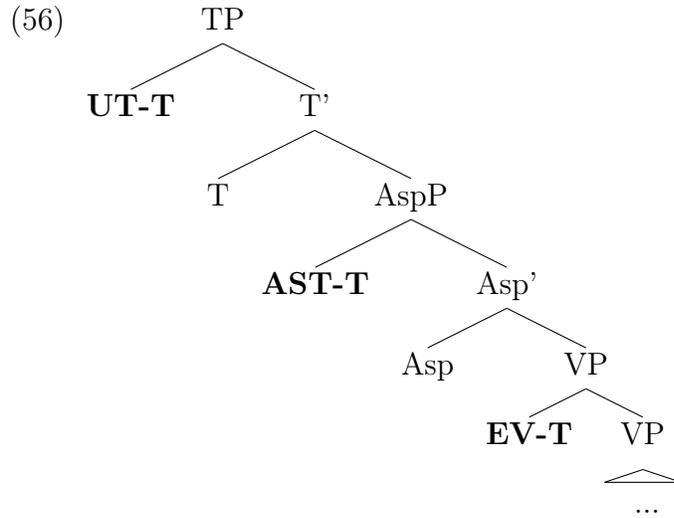
However, we will show that such a biclausal analysis does not work for the Neo-Aramaic splits discussed here, as there is no evidence for biclausality and these splits do not have the same alignment as the systems discussed in these contexts. As such, we propose that, for Neo-Aramaic, the aspectual predicate found in nonperfective aspects does not bifurcate the clause, but rather is a *restructuring predicate*, i.e., it does not introduce an additional clausal domain. Instead, we propose that this restructuring predicate introduces an additional φ -probe, in this way triggering the system of agreement reversal.

2.5.1 A universal structure for tense and aspect

We begin with the question of how nonperfective and perfective aspects differ. We adopt the proposal that nonperfective aspects involve a prepositional predicate absent in the perfective (Coon 2010), an idea that has its origins in a universal structure for the syntax of tense and aspect proposed by Demirdache & Uribe Etxebarria (2000, 2007). In this section, we briefly outline this approach and then turn to Coon's (2010) observations regarding its relevance for the syntax of aspect splits.

Demirdache and Uribe-Etxebarria (2000) (henceforth D&U-E) propose that tense and aspect are universally encoded using prepositional, spatiotemporal relations—namely, BE-

FORE, AFTER, and WITHIN—and provide a universal syntactic structure for establishing these relations, (56).



The crucial heads in (56) are T and Asp, which may contain one predicate each (BEFORE, AFTER, or WITHIN). There are three relevant times, which are introduced as temporal arguments in (56): (i) the Utterance Time (UT-T) in Spec-TP, encoding the time at which the proposition is uttered; (ii) the Event-Time (EV-T) adjoined to VP, encoding the time of the event (or state) in the proposition; and (iii) the Assertion Time (AST-T) in Spec-AspP, encoding “the time for which . . . [an] assertion is confined; for which the speaker makes a statement” (Klein 1995:687).⁴²The AST-T can be thought of as acting like a camera lens, mediating between the UT-T (the camera itself) and the EV-T (the object/scene at which the camera is pointed); the AST-T focuses some part of the event or state in the proposition, e.g., a subpart of the event in the progressive (D&U-E:160–161). (For more on the semantics of aspect (with example sentences clarifying some of these notions), see Ch. 3.5.)

⁴²D&U-E’s Assertion Time corresponds to Klein’s (1994) Topic-Time and Reichenbach’s (1947) Reference-Time.

Most importantly for us, the aspect of an utterance is established by the predicate on Asp, which relates Asp’s external argument (AST-T) to the time of the event (EV-T). Crucially, the relation WITHIN on Asp establishes imperfective and progressive aspect, (57).

$$(57) \quad \text{---} \left[\text{EV-T} \text{---} \left[\text{AST-T} \text{---} \right] \text{---} \right] \text{---} \rightarrow$$

In (57), the AST-T picks out a subpart of the EV-T, with the temporal boundaries of the event outside of the AST-T; the AST-T is contained wholly WITHIN the EV-T.

Relationally, this is what perfective aspect looks like:

$$(58) \quad \text{---} \left[\text{AST-T} \text{---} \left[\text{EV-T} \text{---} \right] \text{---} \right] \text{---} \rightarrow$$

The event time (EVT-T) is contained wholly within the assertion time (AST-T), since the event (including the fact that it began and ended) is viewed as a whole. What is crucial about the fact that the perfective has this semantics is that none of the spatiotemporal prepositional predicates used by D&U-E (BEFORE, AFTER, WITHIN) encode this relation. Given that the merge positions of the temporal arguments in (56) are fixed,⁴³ what is needed for perfective aspect is something like AST-T PROPERLY CONTAINS EV-T. But BEFORE, AFTER, and WITHIN do not express a superset relation. As such, D&U-E assume that the perfective is a default interpretation that arises when Asp is empty and does not contain a prepositional predicate.⁴⁴

D&U-E note that we can also observe a subset/superset asymmetry with adverbial PPs. There are a number of temporal prepositions with a meaning analogous to the imperfective, in that they situate a time interval within a second, larger time interval. Examples include *during* and *on* (59a-b).

⁴³This corresponds to the hypothesis that the universal structure of prepositions is [Figure [P Ground]] (e.g., Svenonius 2007), taking the AST-T to be the Figure and the EV-T to be the Ground.

⁴⁴A different mechanism, in which perfective aspect arises when temporal arguments undergo a process of coevaluation, is explored in Demirdache and Uribe-Etxebarria (2007). For our purposes, nothing hinges on the choice between these proposals, since in both accounts there is no prepositional predicate in perfective aspect.

(59) *Temporal prepositions can express a subset relation:*

- a. I ate an apple on Sunday.
- b. I was reading a book during class.

But there does not seem to exist a temporal preposition that expresses a superset relation, like the perfective does. This again suggests that imperfective and progressive aspect may be encoded using a locative predicate but perfective aspect cannot.

Coon (2010) points out that we may also expect a syntactic asymmetry between the nonperfective and perfective aspects,⁴⁵ in that the semantics of the former may be expressed with a prepositional predicate that is absent in the latter. Even if we were to expand our inventory of prepositional predicates beyond D&U-E's, to all natural language prepositions, there is none that encodes the relation “superset of”/“properly containing,” and so perfective aspect can still not be established relationally in (56).⁴⁶ It is this asymmetry that Coon proposes lies behind aspect-based split ergativity.

2.5.2 The directionality of aspect splits

Coon (2010) observes that the asymmetry between aspects in D&U-E's proposal sheds light on a generalization regarding aspect-based split ergativity made by Dixon (1994). Dixon observes that, looking at the attested cases of aspect-based split ergativity, a consistent directionality is observed, (60).

(60) **Dixon's observation:**

“... If a split is conditioned by [...] aspect, the ergative marking is *always* found [...] in perfective aspect” (Dixon 1994:99).

⁴⁵Nonperfective aspects include the perfect, the progressive, and the imperfective (the perfect results when Asp contains AFTER), so that these should all pattern together to the exclusion of the perfective (cf. §2.4.4.2).

⁴⁶Note that the Ps *around*, *outside*, and *with* do not truly convey a superset relation; see Coon (2010:174-5) for extensive discussion.

More specifically, Coon schematizes the directionality of aspect splits as in (61).

(61) (ERG/ABS) perfective < imperfective < progressive (NOM/ACC/neutral)

If a language has aspect-based split ergativity, the perfective side of the spectrum will be ergative, and this ergativity will be lost in the progressive side of the spectrum. The imperfective may pattern either with the perfective or the progressive.⁴⁷ Coon develops a proposal in which this universal directionality of aspects splits follows from the asymmetry between aspects in the D&U-E theory of tense and aspect. Specifically, Coon argues that the key to understanding aspect splits is the extra prepositional predicate that is present in nonperfective aspects.

Coon notes first of all that, in many languages, progressive meaning is expressed by an independent predicate that is locative in nature. In Dutch, for example, the progressive is expressed using the locative preposition *aan* ('at'), which embeds a nominalized verb (62).

(62) *Dutch progressive involves additional predicate:*

Hij is aan het fietsen.
he is at the cycle.INF
'He is biking.'

Similar constructions are found in many other languages, including Welsh (63a) and Middle English (63b), for example.

(63) *Progressive uses locative forms:*

a. Mae Rhiannon yn cysgu.
is Rhiannon in sleeping
'Rhiannon is sleeping.'

(Welsh; Laka 2006:188)

⁴⁷As Coon discusses, an implicational relationship seems to hold between the progressive and the imperfective, such that the progressive is always nominative-accusative if the imperfective is. See Coon (2010:169–170) for discussion of this and how to derive it.

- b. He is on hunting.

(Middle English; Laka 2006:188)

Indeed, as Coon observes, surveys of tense and aspect crosslinguistically reveal that the majority of languages form a progressive by means of a locative element (Bybee, Pagliuca, and Perkins 1994). Perfective aspect is virtually never expressed as such.

In addition to this, there is a well-documented grammaticalization path according to which locative verbs or prepositions develop into progressive forms and then into imperfective markers, while forms for perfective aspect typically develop out of resultatives or anteriority markers (Bybee and Dahl 1989; Bybee, Pagliuca, and Perkins 1994). This all suggests a tight connection between locative syntax and progressive/imperfective aspect.

Coon argues that this prepositional side of nonperfective aspects is the key to understanding aspect splits. The idea here is that aspect splits arise because this prepositional predicate may be expressed as an independent verb, embedding the lexical verb. If this is how a language expresses nonperfective aspect, then such constructions contain multiple verb phrases and, potentially, multiple case/agreement domains. If this is true, then argument alignment will not look like it does in simple clauses (i.e., as in the perfective).

As an example, consider the split ergative system in Tsez. Tsez ordinarily has an ergative pattern, (64a). There is a special imperfective construction, however, called the *biabsolute construction*, in which both the subject and the object surface in the absolutive, (64b).

- (64) a. Uḷ-ā čorpa b-iš-xo
 boy(I)-ERG soup(III).ABS III-eat-PRES
 ‘The boy is eating soup.’
- b. Uži čorpa b-iš-xosi Ø-ič-āsi yoł
 boy(I).ABS soup(III).ABS III-eat-PART I-stay-PART be.PRES
 ‘The boy is eating soup.’

(Tsez; Maria Polinsky, p.c. in Coon 2010:156)

This pattern seems to arise because (64b) really involves two predicates, with the aspectually imperfective matrix verb embedding the lexical verb. As such, the matrix subject in (64b) is not the surface subject of the transitive embedded verb *iš*, ‘eat’ (as it is in (64a), where it gets the predicted ergative case), but rather that of an imperfective matrix predicate (*ič*, ‘stay’) whose complement is not a nominal; as a consequence, the matrix subject behaves like an intransitive subject syntactically and receives absolutive case.⁴⁸

Coon develops a related analysis for Chol. Chol has an ergative system in the perfective, which manifests itself with agreement on the verb, (65a-b); note that ergative agreement is prefixal while absolutive agreement is suffixal.

(65) *Ergativity in the Chol perfective:*

- a. Tyi a-k’el-e-yoñ. (Coon 2010:48)
 PFV 2.ERG-watch-TV-1.ABS
 ‘You watched me.’
- b. Tyi ts’äm-i-yoñ.
 PFV bathe-ITV-1.ABS
 ‘I bathed.’

In the nonperfective aspects, however, a pattern of *extended ergativity* (i.e., a nominative/accusative alignment) is found: all subjects, both of intransitive and transitive verbs, appear with ergative (prefixal) agreement, (66a-b).

(66) *Extended ergativity in Chol nonperfective aspects:*

- a. Mi a-k’el-oñ. (Coon 2010:48)
 IMPF 2.ERG-watch-1.ABS
 ‘You watch me.’
- b. Mi a-ts’äm-el.
 IMPF 2.ERG-bathe-NML
 ‘You bathe.’

⁴⁸The subject of the embedded verb can either be a PRO or the imperfective predicate could be assumed to be a raising predicate. For discussion of the syntax of the biabsolutive construction, see Polinsky and Comrie (2002), Forker (2010), and references cited therein.

In (66), it seems that the ergative system of (65) has shifted to NOM/ACC, as all subjects now pattern alike in triggering ergative agreement, while the object triggers unique agreement.

Coon proposes that nonperfective aspects in Chol behave as they optionally behave in Tsez, cf. (64b): nonperfective aspects are expressed through embedding verbs, e.g., *mi* in (66). Chol differs from Tsez, however, in that these aspectual verbs are unaccusative: they only take an internal argument, a nominalized form of the main verb. As such, syntactically, the subject of the lexical verb is a possessor in a nominalization. That it seems to be ergative is due to the fact that, in Chol, the genitive and the ergative are expressed with the same agreement. See Coon (2010) for detailed discussion.

In this way, split ergativity arises because nonperfective aspects can be expressed as embedding verbs, disrupting a language's underlying Case and agreement system (as revealed by the simpler structure of the perfective). The difference between Tsez and Chol then comes down simply to the lexical properties of such aspectual verbs: in Tsez, the aspectual predicate embeds a verb phrase and takes an external argument, whereas in Chol, the aspectual predicate embeds a nominal and does not take an external argument. Thus, split ergative languages are really ergative throughout (in that their basic pattern of ergative case assignment does not change between aspects), but properties of the syntax of aspect in a language may sometimes make this ergativity opaque.

Coon's approach also explains why it is ergative systems that are especially sensitive to syntactic properties of aspect. In nominative-accusative languages, the presence of an additional predicate would not fundamentally change argument alignment, as intransitive subjects are always marked like transitive subjects. A change in the status of the verb is then not always detectable.

2.5.3 Implications for Neo-Aramaic

What we have argued for so far in this section is that there is an asymmetry between aspects and, following Coon (2010), that this asymmetry may manifest itself as split ergativity, if

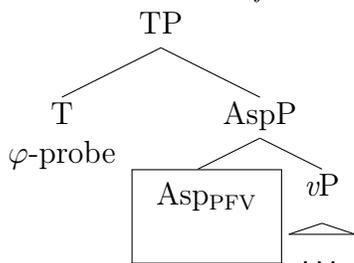
nonperfective aspects are expressed as embedding verbs. This analysis of split ergativity does not seem to straightforwardly translate to the Neo-Aramaic splits discussed in this chapter, as, unlike in the split ergative systems in Tsez and Chol, the marking of an imperfective subject never resembles that of a perfective subject, transitive or intransitive.

For example, if we were to treat the Neo-Aramaic languages like Tsez and assume that the imperfective subject is always the subject of an intransitive aspectual matrix verb, we predict erroneously that the imperfective subject should be referenced with an L-suffix, like perfective subjects. An analysis along the lines of Chol runs into the same problem, because agreement in the imperfective is not a manipulation of the perfective syntax, but rather an innovation on it. This is particularly evident in Senaya, in which the imperfective uses an agreement marker, the S-suffix, that simply never surfaces in the perfective. As a result, an analysis that treats agreement reversal as arising from a biclausal structure is a non-starter. Moreover, there is no real evidence within Neo-Aramaic that the imperfective involves a biclausal structure.

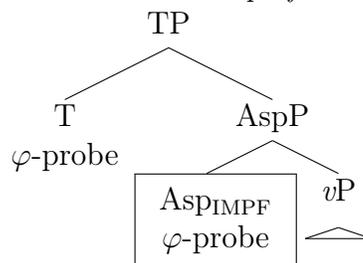
At the same time, however, the similarities between such analyses and the approach to Neo-Aramaic aspect splits we have defended here are striking: both arise because of added complexity in the imperfective. What we wish to suggest then is that agreement reversal indeed arises for the same reason—namely, that there is an aspectual predicate present in the imperfective that is absent in the perfective—but that this aspectual predicate is a *restructuring predicate*, i.e., it does not introduce an additional phasal domain. Instead, this extra predicate just disturbs agreement relations themselves, because it introduces an additional φ -probe.

The only evidence of additional structure that we observe in Neo-Aramaic is therefore in the form of additional agreement/licensing. The locative predicate that expresses imperfective aspect does not introduce an additional phasal domain, so perfective and imperfective aspects only differ with regard to the number of φ -probes, as schematized in (67)-(68).

(67) *Neo-Aramaic Perfective:*



(68) *Neo-Aramaic Imperfective:*



To sum up, we have argued that agreement reversal arises in Neo-Aramaic because imperfective aspect is a restructuring predicate that introduces an additional locus of agreement. In this way, we can analyze aspect splits that arise in languages in which nonperfective aspects do not seem to be independent verbs, as in the Neo-Aramaic languages, without sacrificing the crucial insight in Coon’s (2010) approach to aspect splits.

The system of agreement reversal ultimately derives from the interaction of universal properties of aspect (the fact that imperfective aspect may be expressed as a predicate) and the language-specific syntactic characteristics of the Neo-Aramaic varieties under discussion (the absence of a φ -probe on v , the clitic-doubling property of T, and the additional φ -probe introduced by the imperfective predicate). If our account is on the right track, it teaches us a few things about cross-linguistic variation in the distribution of φ -probes. One implication of our proposal, for example, is that T can function as a clitic-doubler, in addition to v , which is more traditionally associated with clitic-doubling (Nevins 2011, Kramer 2014, Harizanov To Appear, *i. a.*). This accords with recent work by Preminger (2011) on Kaqchikel and Arregi and Nevins (2012) on Basque, who similarly put forward analyses in which left-peripheral heads (C and T, specifically) host doubling clitics.

Perhaps more importantly, our analysis teaches us about systems in which only one of T and v is active as a licensing head, so that there is only one φ -probe in the v P/TP domain. The problem that arises in such a language is that only one argument can be licensed. We can view the particular syntactic properties we ascribed to agreement reversal languages as solutions to this problem. The fact that the person probe on T is a clitic-doubler

allows T to agree with multiple arguments.⁴⁹ It is no surprise that, crosslinguistically, we often see the same kind of probe (a clitic-doubler) employed in ditransitives, since this is another environment in which an additional argument that needs licensing is generated. This same perspective can be applied to the additional probe associated with imperfective aspect. Expressing one of the heads in the *v*P/TP domain as an independent predicate, such as a locative predicate, brings in additional structure that may include a φ -probe for the licensing of an additional argument.

An interesting question is whether the converse system is also possible, i.e. whether there can be a language in which T is inactive and *v* is the only licensing head. Béjar and Rezac (2009) argue that such languages do exist, but they propose that *v* in these cases probes both the object and the subject, by means of a mechanism they call Cyclic Agree, which leads to person hierarchy effects (of quite a different sort than the Strong PCC). If Cyclic Agree allows a system with only a φ -probe on *v* to license all relevant arguments, then we can view this solution as the counterpart to the clitic-doubling property of the person probe in a language in which T is the only active probe.

2.6 Conclusion

This chapter has shown that aspect splits may sometimes arise due to additional agreement/licensing potential in nonperfective aspects. In Senaya, this manifests itself in a unique agreement series for marking imperfective subjects and the possibility of object agreement in the imperfective (while object agreement is completely impossible in the perfective). In languages like Christian Barwar, Jewish Zakho, and Telkepe, the effect is less pronounced, and is found in the absence of person restrictions on object agreement in the imperfective (while object agreement in the perfective does have person restrictions). To derive these patterns, we appealed to the proposal that aspect splits may arise because of the presence of an addi-

⁴⁹If person always probes before number, then the converse situation, in which number is the clitic-doubler, should not have any clear effect on licensing (as both person and number will still target the same argument).

tional predicate in nonperfective aspects (Laka 2006, Coon 2010, 2012, Coon and Preminger 2011, 2012).

In this way, our proposal provides support for this approach to aspect splits, as it allows us to make sense of the fact that an aspect split may manifest as agreement reversal as well as split ergativity. We have attempted to show for a subset of Neo-Aramaic languages that, in such a syntactic approach, variation in how aspect splits surface may fall out from the interaction of the properties of aspectual predicates and the syntax of case and agreement present in a particular language. The hope is that such an approach could eventually be extended to account for the wide variety of aspectual splits in case and agreement across languages, including the other types of splits within Neo-Aramaic. This is left for future work.

In the next chapter, I examine a secondary way of expressing perfective aspect in certain Neo-Aramaic languages. What is intriguing about this strategy is that it uses the imperfective verb base, and agreement appears as it would in canonical imperfective aspect, rather than canonical perfective aspect. I provide a syntax and semantics for this construction, and show how it fits in with the account presented in this chapter.

CHAPTER 3

A Secondary Perfective in Neo-Aramaic

3.1 Introduction

This chapter examines an intriguing secondary strategy for marking perfective aspect that is found in a diverse range of Neo-Aramaic languages, including Jewish Zakho, Senaya, Amədyā, Telkepe, and Christian Barwar. The chapter builds on Chapter 2, revealing more ways in which aspect and argument-marking are intertwined in Neo-Aramaic. In particular, we will see that some aspectually perfective clauses are expressed with the imperfective verb base prefixed with a perfective morpheme, rather than with the perfective verb base. These ‘secondary’ perfectives bear agreement in the way typical of the imperfective side of the Neo-Aramaic perfective/imperfective aspect-based agreement splits (the topic of Chapter 2) even though the clause is perfective overall. To account for this verb form, I propose that there are in fact two distinct but adjacent Asp projections in the clausal architecture of Neo-Aramaic. The lower of these two Asp projections is responsible for ‘canonical’ aspect and determines the morphological form of the verb base. The higher of these two Asp projections has the role of adding additional aspectual information to the clause, and it is this higher projection which introduces perfective morphology and perfective semantics in the secondary perfective.

3.1.1 Overview of the phenomenon

In many Neo-Aramaic languages, instead of using the perfective verb base (which I consider the primary/canonical perfective strategy), a perfective verb can be formed by prefixing the

morpheme *qam-/qem-/qum-/kīm-/kəm-/kem-/təm-* onto an imperfective verb base (Coghill 1999). I will refer to this prefix language-neutrally as QAM- and to the secondary perfective strategy as the QAM-perfective. Aspectually, the perfective base and the QAM-perfective are semantically equivalent, sharing the same range of meanings (Coghill 1999:26; Khan 2008:609; Cohen 2012:442, *i. a.*).

The range of perfective and imperfective verbal forms in the Neo-Aramaic languages under discussion is exemplified in (1).

- (1) Selected forms of *q-t-l* ('kill') in Aməḏya (Coghill 1999:14)
- a. Perfective verb base: **qṭil** ('killed')
 - b. Imperfective¹ verb base: **qaṭl** ('kills,' 'is killing', 'may kill')
 - c. Secondary perfective: **qam-qaṭl** ('killed')

Pairwise comparisons of these forms highlight the puzzle. First, (1a) and (1b) differ from each other both morphologically and semantically—the trilateral root appears with a different morphemic vowel 'pattern' in the two verb bases, resulting in an aspectual distinction of perfective versus imperfective. This well-behaved opposition is disrupted by the semantic equivalence of (1a) and (1c), which are morphologically quite different, one using the perfective base and the other using the imperfective base plus the QAM- prefix (this is the QAM-perfective). Finally, (1b) and (1c) are aspectual opposites semantically but are morphologically related, differing only in the addition of QAM-.

There is, however, one crucial difference between the two perfective strategies in (1a) and (1c). The perfective verb base, (1a), can appear bearing just subject agreement or both subject agreement and object agreement.² The QAM-perfective, on the other hand, must bear

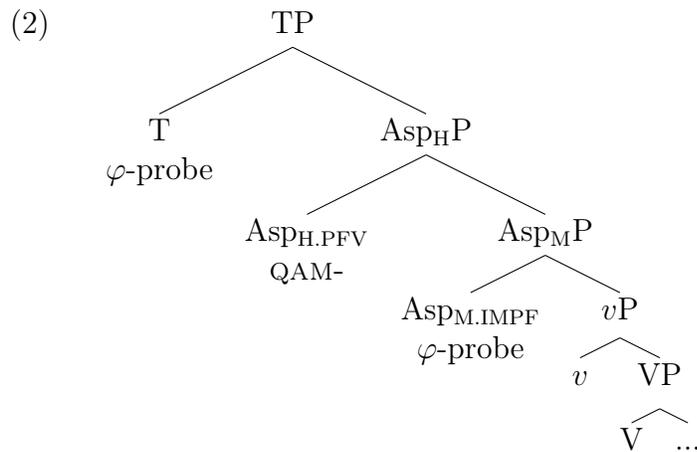
¹As noted in Ch. 2, in Neo-Aramaic grammars and other documentation, the perfective and imperfective bases are often referred to as the "past" base/participle and the "present" base/participle, respectively. However, following Coghill (1999) and Doron and Khan (2012), I take the aspectual terms to be more accurate. Tense morphology (past, future) is affixal, and bare stems receive default tense interpretations (past for perfective, present for imperfective).

²Senaya is an exception to this statement: the perfective base, (1a), cannot appear with object agreement under any circumstances. This is addressed in detail in Ch. 2 and discussed in §3.2.2.

object agreement, and is completely ungrammatical otherwise. Object agreement, in turn, is determined by the specificity, topicality, alienability, etc. of the object, constituting an instance of Differential Object Marking (Coghill To Appear), which is the topic of Chapter 4 of this dissertation. In the QAM-perfective, then, there must be the right sort of object (namely, one that will trigger differential object marking), and this object must be marked on the verb.

3.1.2 Overview of the analysis

I propose a unified syntactic and semantic account of the secondary perfective in Neo-Aramaic and discuss, in particular, the similarities between the QAM-perfective and “superlexical” perfective prefixes in Slavic (Babko-Malaya 2003, Svenonius 2004, Ramchand 2008, Gribanova 2013, *i.a.*). I argue that QAM- lies on a high aspectual head, above the position of canonical aspect (the head which determines the morphological form of the verb base as perfective or imperfective), as shown in (2). I annotate the highest Asp projection as Asp_HP, for high(est) Asp, and the lower Asp projection as Asp_MP, for main Asp.



A high Asp position has independently been argued to exist for hosting perfect aspect crosslinguistically (Demirdache and Uribe-Etxebarria 2000, Iatridou et al. 2001) and sec-

ondary perfective prefixes in Slavic (Gribanova 2013), as well as for adverbials of different heights (Cinque 1999).

3.1.3 Roadmap

The goal of this chapter is threefold: (i) to empirically characterize where and when the secondary perfective strategy appears; (ii) to arrive at a synchronic syntactic and compositional semantic analysis of this phenomenon; and (iii) to better understand the different structural heights at which aspect may appear crosslinguistically. The chapter is structured as follows. In §3.2, I introduce the secondary perfective from an empirical standpoint. §3.3 lays out a syntactic account of the QAM-perfective, along the lines laid out above in (2). §3.4 discusses Slavic aspect, for which similar syntactic proposals exist. This section also sets the stage for understanding the semantics of the QAM-perfective, which is the topic of §3.5. I conclude the chapter by discussing the implications of my analysis for our understanding of aspect crosslinguistically.

3.2 The Neo-Aramaic verbal complex

In this section, I briefly review certain grammatical properties that are constant across NENA languages and then discuss both canonical and secondary perfective aspect in detail.³

3.2.1 A review of verbal morphology in Northeastern Neo-Aramaic

In Chapter 2, I discussed Neo-Aramaic verbal morphology in detail as involving both root-and-template (non-concatenative) and affixal (concatenative) morphology. Verbs formed by non-concatenative processes are termed verbal bases, encoding grammatical distinctions like aspect, tense, and mood. For example, in Senaya, the triliteral root *d-m-x* surfaces as *damx* in the imperfective, *dmex* in the perfective, *dmox* in the imperative, and *dmaaxa* in

³Much of the discussion and descriptive insights in this section are based on Coghill (1999, To Appear) and Doron and Khan (2012).

the infinitive (McPherson, Ryan, and Kalin 2013). Verbal affixes can additionally encode aspect, tense, and mood. One verbal prefix will be of particular interest in this chapter, namely, the secondary perfective prefix QAM-.

Agreement is also expressed via concatenative morphology on the verb. There are two paradigms for person/number/gender agreement on verbs, the so-called S-suffixes and L-suffixes. Following Doron and Khan (2012) and Kalin and van Urk (To Appear), I take S-suffixes to reflect true φ -agreement while L-suffixes are in fact clitics, resulting from clitic-doubling. (Note that I will use the terms “marking” and “agreement” interchangeably to refer to the S- and L-suffixes.) Which arguments are co-referenced by S-suffixes and L-suffixes depends on the aspectual form of the verb base.

3.2.2 Perfective aspect in NENA

In this section, I illustrate three patterns of agreement reversal on the perfective base in NENA and show how object-marking coupled with restrictions on the perfective base (in most of the languages under discussion) drives the need for a secondary perfective strategy.

3.2.2.1 The canonical/primary perfective

Across NENA languages, the perfective base presents a very different agreement configuration from the imperfective base (Doron and Khan 2012). In particular, there is partial or complete agreement reversal across the two aspectual bases (as seen in Chapter 2 and Kalin and van Urk (To Appear)).

Recall from Chapter 2 that on the imperfective base, subjects are marked with S-suffixes (and are always marked), while objects are marked with L-suffixes (and are only marked if specific). This morphology is reversed on the perfective base: subjects are marked with L-suffixes (and are always marked), while objects are marked with S-suffixes (and are only marked if specific; except in Senaya, where no object marking on the perfective base is

Just as in Amədyā, an S-suffix marks the subject on the imperfective base, (7a), but an L-suffix marks the subject on the perfective base, (7b). The transitive reversal, however, is blocked in Senaya:

(8) Transitive reversal in Senaya

- a. Nashq -aa -luu. (Imperfective)
 kiss.IMPF -S.3FS -L.3PL
 ‘She kisses them.’
- b. *Nsheq -aa -luu. (Perfective)
 kiss.PFV -S.3FS -L.3PL
 Intended: ‘They kissed her.’

In Amədyā, we saw that the same suffix series expresses opposite grammatical relations in the perfective and imperfective, (5). In Senaya, this type of reversal is not possible because object marking is possible only on the imperfective verb base, (8a), not on the perfective verb base, (8b).

Senaya reveals the most extreme restriction on the perfective base that is attested in NENA: the perfective base cannot host object agreement of any kind. In fact, of the languages discussed in this chapter, most have a restriction on object marking on the perfective base. The following section describes the spectrum of restrictions.

3.2.2.2 A range of restrictions on the perfective base

The perfective base in NENA is fundamentally different from the imperfective base. Specifically, while the imperfective base does not have any marking restrictions (the subject and object can freely be first, second, or third person, and object marking is always possible), the perfective base does (except in Amədyā-type languages). The restriction on the perfective base ranges from banning all object-marking (as seen in Senaya, (8b)) to banning certain object-marking (no first/second person object-marking) to no restriction at all (all objects

may be marked). The precise restrictions are listed in (9) along with a few of the languages that instantiate this restriction.⁴

- (9) Spectrum of perfective base restrictions on object marking
- a. Complete restriction: Senaya (no object marking on perfective base)
 - b. Third person restriction: Jewish Zakho, Christian Barwar, Telkepe (only third person object marking on perfective base)
 - c. No restriction: Jewish Amədyā, Christian Urmi, Christian Ashitha (all objects may be marked on perfective base)

In this section, we will see examples of each such system. The QAM-perfective emerges in the next section as a patch for the expressive limitations on the perfective base.

The first type of system, found in Senaya, has already been illustrated in (7)-(8). On the perfective base, it is impossible to mark an object of any kind, and as a result, objects that require marking (namely, specific objects) cannot co-occur with the perfective base, as seen in the series of ungrammatical sentences in (10):

- (10) Senaya
- a. *Paulus **oo** **beesa** bnee-∅-lee. (*3MS spec. obj.)
 Paul that house build.PFV-S.3MS-L.3MS
 Intended: ‘Paul built that house.’
 - b. *On yaale **qat-waase** xzey-ii-luu. (*3PL spec. obj.)
 those children cat-PL see.PFV-S.3PL-L.3PL
 Intended: ‘Those children saw those cats.’
 - c. *On yaale xzey-**an**-uu. (*1FS spec. obj.)
 those children see.PFV-S.1FS-L.3PL
 Intended: ‘Those children saw me.’

⁴There is, in fact, another type of restriction not listed here, instantiated in Christian Aradhin and Christian Qaraqosh among others. In these languages, only non-null third person object-marking is allowed on the perfective base. This restriction rules out third person masculine singular objects with the perfective base, since their exponent (as an S-suffix) is null. I group these languages with the “third person restriction” group for the purposes of this chapter.

Note that removing the object marking (S-suffix) in (10) improves the sentences only if a nonspecific reading can be given to the object, which is not possible in (10a) and in (10c) would simply make the sentence mean ‘those children saw’. Objects that do not require marking (i.e., nonspecific objects), on the other hand, are perfectly acceptable with the perfective base:

- (11) Senaya
- a. Paulus **beesa** bnee-lee (✓3MS nonspec. obj)
 Paul house build.PFV-L.3MS
 ‘Paul built a house.’ (*‘a specific house’, *‘the (aforementioned) house’)
- b. On yaale **qat-waase** xzee-luu (✓3PL nonspec. obj)
 those children cat-PL see.PFV-L.3PL
 ‘Those children saw cats.’ (*‘some specific cats’, *‘the (aforementioned) cats’)

Senaya is an outlier, and is (to my knowledge) the only NENA language that disallows all object marking on the perfective base.

The second type of system given in (9) involves a ban on non-third person objects appearing with the perfective base. This system is present in Christian Barwar and Jewish Zakho. As can be seen in (12) and (14), third person objects can be marked on the perfective base. However, (13) and (15) show that non-third persons cannot. (Object marking bolded.)

- (12) Zakho (Cohen 2012:19)
- a. Šqil -∅ -li (✓3MS spec. obj.)
 take.PFV -S.3MS -L.1SG
 ‘I took him/it.’
- b. Šqīl -ā -li (✓3FS spec. obj.)
 take.PFV -S.3FS -L.1SG
 ‘I took her.’
- c. Šqīl -ī -li (✓3PL spec. obj.)
 take.PFV -S.3PL -L.1SG
 ‘I took them.’

- (13) Zakho⁵
- a. *Šqīl -it -ti (*2MS spec. obj.)
 take.PFV -S.2MS -L.1SG
 Intended: ‘I took you (masc).’
- b. *Šqīl -an -ne (*1FS spec. obj.)
 take.PFV -S.1FS -L.3MS
 Intended: ‘He took me (fem).’
- (14) Christian Barwar (examples from Kalin and van Urk (To Appear))
- a. Xawr-āwaθ-i **brat-i** griš-a-la. (✓3FS spec. obj.)
 friend-PL-1SG.GEN daughter-1SG pull.PFV-S.3FS-L.3PL
 ‘My friends pulled my daughter.’ (Doron and Khan 2012:230)
- b. ’an-šədle šalx-i-wa-la mən-tama. (✓3PL spec. obj.)
 DEM-seedlings uproot.PFV-S.3PL-PST-L.3PL from-there
 ‘They uprooted the seedlings from there.’ (Khan 2008:1181)
- (15) Christian Barwar (adapted from Doron and Khan 2012:232)
- a. *Griš-an-ne. (*1FS spec. obj.)
 pull.PERF-S.1FS-L.3MS
 Intended: ‘He pulled me.’
- b. *Griš-at-te. (*2FS spec. obj.)
 pull.PERF-S.2FS-L.3MS
 Intended: ‘He pulled you.’

In Christian Barwar and Jewish Zakho, only third person objects may be marked on the perfective base. This has been argued to be an instance of a Strong Person Case Constraint (PCC) effect (see Doron and Khan 2012, Kalin and van Urk To Appear, and Chapter 2), where the structurally lower of two arguments is restricted to third person (Bonet 1991).

The third type of system in (9) is one in which there is no restriction on the perfective base: the perfective base may freely mark objects of any person. This system is found in Amədyā; representative examples are shown in (16).

⁵All Jewish Zakho data comes from my fieldwork with Yona Sabar, unless otherwise noted.

(16) Amədyə (Greenblatt 2011:100-101)

- a. Qṭil -ətu -li. (✓2PL spec. obj.)
 kill.PFV -S.2PL -L.1SG
 ‘I killed you all.’
- b. Qṭil -ən -noxun. (✓1MS spec. obj.)
 kill.PFV -S.1MS -L.2PL
 ‘You all killed me.’
- c. Qṭil -a -li (✓3FS spec. obj.)
 kill.PFV -S.3FS -L.1SG
 ‘I killed her.’

Unlike in the other systems described here, the perfective base is fully expressive in Amədyə.

The following table summarizes the different restrictions on the perfective base in NENA:

(17) Argument-marking allowed on perfective base

	Subj	3rd p. Obj	1st/2nd p. Obj	Language(s)
Complete restriction	✓			Senaya
Third person restriction	✓	✓		J. Zakho, Telkepe, ...
No restriction	✓	✓	✓	J. Amədyə, C. Urmi, ...

In languages of the first two types—where object agreement is banned altogether or restricted to third person—there is a limit on the expressivity of the perfective base: Speakers of these languages cannot express (for example) ‘he kissed me’ using the perfective base. How, then, is this expressed? The answer for the languages under discussion here is a secondary perfective strategy that employs the prefix QAM- along with the imperfective base, which throughout NENA allows object marking of any kind. The following section lays out the crucial data for this chapter: the form and distribution of the QAM-perfective.

3.2.2.3 The secondary perfective in NENA

The secondary perfective is formed by prefixing the morpheme QAM-⁶ onto the imperfective base, and the agreement suffixes appear just as they would in an imperfective. This relationship between the imperfective and secondary perfective is schematized in (18), with examples from Senaya (whose QAM- morpheme is *t(ə)m-*) in (19). (Note the lack of “reversal”.)

- (18) a. Imperfective: V_{IMPF} – S-suffix (subject) – L-suffix (DOM)
 b. Secondary perfective: QAM – V_{IMPF} – S-suffix (subject) – L-suffix (DOM)

(19) Senaya

- a. On yaale qatuusa xaaz-ii-laa. (Imperfective)
 those children cat see.IMPF-S.3PL-L.3FS
 ‘Those children see the cat/a (specific) cat.’
- b. On yaale qatuusa **tm**-xaaz-ii-laa. (Secondary perfective)
 those children cat QAM-see.IMPF-S.3PL-L.3FS
 ‘Those children saw the cat/a (specific) cat.’

The addition of *tm-* in (19b) changes only the aspect of the clause, and nothing else.

In all instances, the QAM-perfective patterns aspectually and temporally with the perfective base. I will briefly illustrate four environments that reveal this patterning using data from Jewish Zakho, though these judgments hold also in Senaya. First, when the adverbial “now” (*atta* in Zakho) is added to the clause, the reading with the canonical imperfective is a present progressive, (20a). With both the perfective base and the QAM-perfective, the reading is immediate past, (20b-c).

(20) Zakho

- a. 'āna atta g-zon-in-na t̪lmsa. (IMPF → present prog.)
 I now INDIC-buy.IMPF-S.1MS-L.3FS flatbread
 ‘I am buying the flatbread now.’

⁶Synchronically, QAM- surfaces nowhere else in the grammar (to my knowledge).

- b. ... ū lɑ-xlɪʃ-li.
 but NEG-finish.PFV-L.1SG
 ‘...but I didn’t finish (it).’

It is perfectly felicitous to follow up the imperfective in (22a) with negating the completedness of the event, (22b). Unlike the imperfective in (22a), both the QAM-perfective and the canonical perfective do entail completedness, (23), such that a negation of the completedness of the event is infelicitous.

- (23) Zakho (PFV & QAM-PFV: completedness entailment)
- a. Tɪmmal ’āna bnē-∅-li oo bēsa...
 yesterday I build.PFV-S.3MS-L.3SG that house
 ‘Yesterday I built the house...’
- b. Tɪmmal ’āna qam-bān-in-ne oo bēsa...
 yesterday I QAM-build.IMPF-S.1MS-L.3MS that house
 ‘Yesterday I built the house...’
- c. #... ū lɑ-xlɪʃ-li.
 but NEG-finish.PFV-L.1SG
 #‘...but I didn’t finish (it).’

Finally, we can see in clauses embedded under a perfective report verb (recall that plain perfectives are interpreted as occurring in the past) that imperfective verbs can be interpreted as cotemporal with the matrix event time, (24a). This interpretation is not possible for a canonical perfective verb or a secondary perfective verb, (24b-c).

- (24) Zakho
- a. ’āna mɪr-ri ta Yona [dɪd g-zon-in-na tɪlɪmsɑ].
 I tell.PFV-L.1SG to Yona that IND-buy.IMPF-S.1MS-L.3FS flatbread
 ‘I told Yona that I was buying the flatbread.’ (Buying cotemporal with telling)⁷

⁷Another possible interpretation of this clause is “I told Yona that I habitually buy bread.” In this case, the habitual buying is cotemporal with both the telling time and the actual speech time.

- b. 'āna mir-ri ta Yona [did zwin-ā-li t̥lɪmsa].
 I tell.PFV-L.1SG to Yona that buy.PFV-S.3FS-L.1SG flatbread
 'I told Yona that I bought the flatbread.' (Buying precedes telling)
- c. 'āna mir-ri ta Yona [did qam-zon-in-na t̥lɪmsa].
 I tell.PFV-L.1SG to Yona that QAM-buy.IMPF-S.1MS-L.3FS flatbread
 'I told Yona that I bought the flatbread.' (Buying precedes telling)

In sum, in these and all cases that I have tested, the QAM-perfective patterns with a true perfective on an aspectual and temporal level.

Returning now to the morphological properties of the QAM-perfective, we see that the imperfective verb base always takes subject agreement as an S-suffix and object-marking as an L-suffix, regardless of the presence of QAM-. In other words, the agreement configuration of the QAM-perfective is that of canonical imperfective aspect, not perfective aspect (where there is agreement reversal—recall that subjects are marked by L-suffixes and objects by S-suffixes on the perfective base). Most importantly, object-marking on the imperfective verb base (regardless of QAM-) may freely be first, second, or third person. The QAM-perfective therefore allows all (specific) objects to be expressed in perfective aspect, solving the expressivity problem of the perfective base.

The QAM-perfective, however, is crucially different from both the canonical perfective (using the perfective base) and the canonical imperfective. In the canonical aspects—where the perfective base expresses perfective aspect and the imperfective base expresses imperfective aspect—object marking is present when there is a specific object, and absent when there is not a specific object. In the QAM-perfective, object marking on the verb is obligatorily present; correspondingly, there must be a specific object, as only specific objects trigger object marking on the verb. The (non-)optionality of the affixes is schematized in (25):

- (25) Optionality of object marking by aspect
- a. Perfective: $V_{PFV} (- S_{OBJ}) - L_{SUBJ}$ (= $V_{PFV} - L_{SUBJ}$ in Senaya)
- b. Imperfective: $V_{IMPF} - S_{SUBJ} (- L_{OBJ})$
- c. Secondary perfective: $QAM - V_{IMPF} - S_{SUBJ} *(- L_{OBJ})$

The optionality of the object marking in the canonical aspects, (25a) and (25b), is governed by the specificity of the verb's object: object marking appears if there is a specific object, and is absent if there is not a specific object. Object marking in the secondary perfective, (25c), is obligatory: there must be DOM on the verb (triggered by a specific object) in order for QAM- to appear.

The dependence of QAM- on object agreement is illustrated in (26) and (27) for Senaya, with specific objects and object marking bolded.

(26) Senaya, ✓QAM-

- a. Aana tm-xazy-an-**ox**
 I QAM-see.IMPF-S.1FS-L.2MS
 'I saw you.'
- b. Aana **ksuuta** tm-kasw-an-**aa**.
 I book QAM-write.IMPF-S.1PL-L.3FS
 'I wrote the book/a (specific) book.'

QAM- is allowed to appear in (26) because there is object-marking on the verb. If object-marking is removed from the verb, the QAM- perfective is ungrammatical:

(27) Senaya, *QAM

- a. *Aana (yaale) tm-xazy-an.
 I (children) QAM-see.IMPF-S.1FS
 Intended: 'I saw (children).'
- b. *Aana (ksuuta) tm-kasw-an.
 I book QAM-write.IMPF-S.1PL
 Intended: 'I wrote (a book).'

Throughout the languages discussed in this chapter, QAM- is banned from appearing unless there is object-marking on the verb. Notably, (27a) and (27b) form grammatical imperfectives once QAM- is removed.

In Senaya, the QAM-perfective plays a vital role: it is the only way to express a perfective clause with a specific object. At first glance, then, the QAM-perfective seems to be a last resort strategy in Senaya (Kalin 2012)—it appears only when the canonical perfective (the perfective verb base) cannot be used. The two types of perfective verbs are thus in complementary distribution, (28)-(29).

(28) Senaya

- a. On yaale qaṭuusa xzee-luu. (✓V_{PFV}, nonspec. obj.)
 those children cat see.PFV-L.3PL
 ‘Those children saw a cat.’
- b. *On yaale **qaṭuusa** xzey-aa-luu. (*V_{PFV}, spec. obj.)
 those children cat see.PFV-S.3FS-L.3PL
 Intended: ‘Those children saw the cat/a (specific) cat.’

(29) Senaya

- a. On yaale **qaṭuusa** tm-xaaz-ii-laa. (✓QAM-V_{IMPF}, spec. obj.)
 those children cat QAM-see.IMPF-S.3PL-L.3FS
 ‘Those children saw the cat/a (specific) cat.’
- b. *On yaale qaṭuusa tm-xaaz-ii. (*QAM-V_{IMPF}, nonspec. obj.)
 those children cat QAM-see.IMPF-S.3PL
 Intended: ‘Those children saw a cat.’

With a specific object and object marking on the verb, only the QAM-perfective may be used, (29). Without a specific object and without object marking on the verb, only the perfective base may be used, (28).

It is not always true, however, that the QAM-perfective is in complementary distribution with the perfective verb base. In Christian Barwar and Jewish Zakho, both the QAM-perfective and the perfective base can express a third person object, (30). Complementary distribution is only found for first and second person objects, where the QAM-perfective is grammatical but the perfective base is not, (31).

- (30) Zakho (Cohen 2012:19)
- a. Šq̄l-ā-li (✓V_{PFV}, 3rd spec. obj.)
 take.PFV-S.3FS-L.1SG
 ‘I took her.’
- b. Qam-šaq̄l-an-na (✓QAM-V_{IMPF}, 3rd spec. obj.)
 QAM-take.IMPF-S.1FS-L.3FS
 ‘I took her.’
- (31) Zakho (Cohen 2012:19)
- a. *Šq̄l-it-ti (*V_{PFV}, 1st/2nd obj.)
 take.PFV-S.2MS-L.1SG
 Intended: ‘I took you.’
- b. Qam-šaq̄l-an-nox (✓QAM-V_{IMPF}, 1st/2nd obj.)
 QAM-take.IMPF-S.1FS-L.2MS
 ‘I took you.’

Unlike in Senaya, then, the QAM-perfective is not plausibly a last resort strategy, since it can be used when the perfective base is a grammatical option, as seen in (30).

Finally, in Amədyā, where all objects can be marked on the perfective base, the QAM-perfective and the perfective base are in free variation when there is object agreement.

- (32) Amədyā (Greenblatt 2011:100-101)
- a. Qṭil-a-li. (✓V_{IMPF}, 3rd spec. obj.)
 kill.PFV-S.3FS -L.1SG
 ‘I killed her.’
- b. Qam-qat̄l-ən-na. (✓QAM-V_{IMPF}, 3rd spec. obj.)
 QAM-kill.IMPF-S.1MS-L.3FS
 ‘I killed her.’
- (33) Amədyā (Greenblatt 2011:100-101)
- a. Qṭil-ən-na. (✓V_{IMPF}, 1st/2nd obj.)
 kill.PFV-S.1MS-L.3FS
 ‘She killed me.’

- b. Qam-qaṭl-a-li. (✓QAM-V_{IMP}F, 1st/2nd obj.)
 kill.PFV-S.3FS-L.1SG
 ‘She killed me.’

In Amədyā, the QAM-perfective and the perfective base are in complementary distribution only when there is no object marking, as this is fine for the perfective base but banned for the QAM-perfective.

In this section, we have seen that the secondary perfective strategy employed by an individual language sits on a spectrum from being in complementary distribution with the primary perfective strategy at one extreme (as in Senaya) to being in free variation with perfective verbs with object marking at the other extreme (as in Amədyā). In all of these languages, the secondary perfective strategy is only grammatical when there is object agreement on the verb, i.e., when there is DOM. I have included Amədyā here to provide the reader with a clear picture of the empirical spread of the QAM-perfective. However, for the purposes of the remainder of this chapter, I put Amədyā-type languages aside, since I have not defended an analysis of their basic syntax (which I did for Zakho-type languages and Senaya in Ch. 2). Further, I have not been able to conduct fieldwork on this type of language to determine whether the QAM-perfective and canonical perfective are truly semantically equivalent. Such an equivalence would be somewhat surprising, given the complete lack of complementary distribution of the two perfective strategies when there is object agreement in such languages.

In the following section, I propose a syntactic account of the QAM-perfective in Zakho-type languages and Senaya.

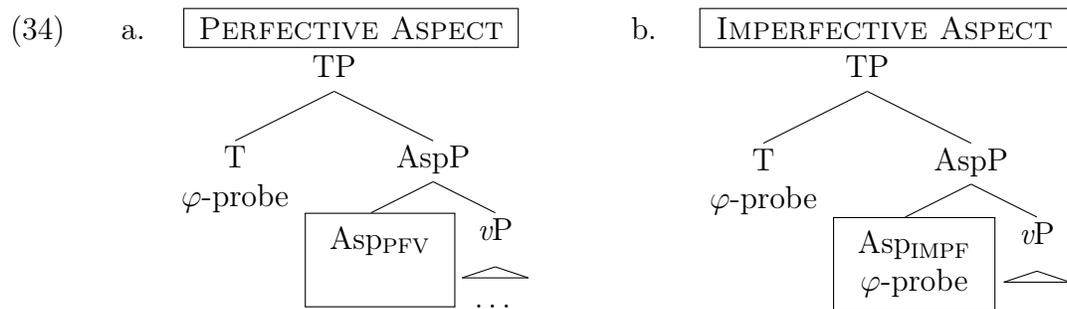
3.3 Syntactic analysis of the secondary perfective

In this section, I begin by reviewing the basic syntax of NENA languages with agreement reversal, as motivated in Chapter 2 and in Kalin and van Urk (To Appear). The crucial component of this basic syntax that will carry on to the QAM-perfective is that, in the

imperfective, Asp agrees with the subject and renders the subject invisible to further probing. I then show how QAM- fits into this syntax, in a second aspectual head above main Asp.

3.3.1 The basic syntax of NENA agreement reversal

I proposed in Chapter 2 that the basic difference between (canonical) perfective and imperfective aspect in agreement reversal NENA languages is the presence or absence of a φ -probe on Asp (see also Kalin and van Urk (To Appear)). In particular, there is a φ -probe on Asp in imperfective aspect but not in perfective aspect. Additionally, in all aspects, T carries a φ -probe, and v does not. These basic components of the account are schematized in (34).



Another important component of this account is that across all agreement reversal languages, L-suffixes are clitics, while S-suffixes are affixes (following Doron and Khan (2012)). L-suffixes result from clitic-doubling which, following e.g., Preminger (2009), results in a pronoun-like element reflecting the φ -features of the goal adjoined to the position of the probe.⁸ S-suffixes result from true agreement in the Chomsky (2000, 2001) sense (spellout of the probe’s newly valued φ -features), and arguments that have been agreed with become “inactive” for further agreement. Finally, to account for the presence of DOM (only specific objects trigger agreement), I assume that specific objects have some structure that needs licensing that is lacking in nonspecific objects. More precisely, specific objects have a layer

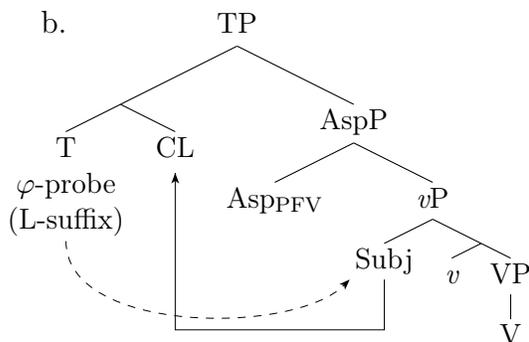
⁸See Chapter 2 for more detail about clitic-doubling. Note that I will still refer to the operation as “clitic doubling” even when there is no overt DP associate, i.e., when there is a null pronominal object.

of structure that semantically introduces specificity as well as uninterpretable Case, and nonspecific objects lack this structure. This proposal is laid out in Ch. 4 in detail.

As an illustration of how this account works, let's look at Senaya, for which (34) maps straightforwardly onto surface morphology and syntax. The φ -probe on T is a clitic-doubler (\rightarrow L-suffix), while the φ -probe on Asp triggers true agreement (\rightarrow S-suffix). In the perfective, the only φ -probe is on T, since perfective Asp lacks a φ -probe and v never bears a φ -probe. As a result of there being only one φ -probe, only one argument can be agreed with; this will always be the higher argument—the external argument if there is one and the internal argument otherwise. Since the sole φ -probe in the perfective is on T, it will result in clitic-doubling (L-suffix). This is shown in (35)-(36).

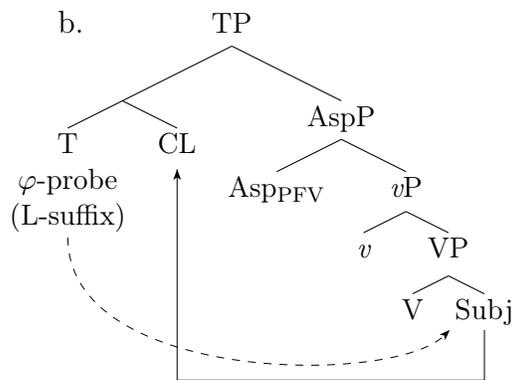
(35) PERF. UNERGATIVE

- a. Axnii dmex-**lan**.
 we sleep.PFV-**L.1PL**
 'We slept.'



(36) PERF. UNACCUSATIVE

- a. Axnii pleq-**lan**.
 we leave.PFV-**L.1PL**
 'We left.'

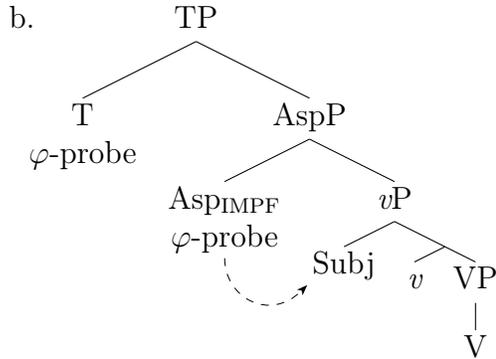


T probes and clitic-doubles the higher argument in both examples, so the subject is marked as an L-suffix clitic on the verb. A transitive verb with a nonspecific object is also licit (though not shown above) because such an object does not require agreement.

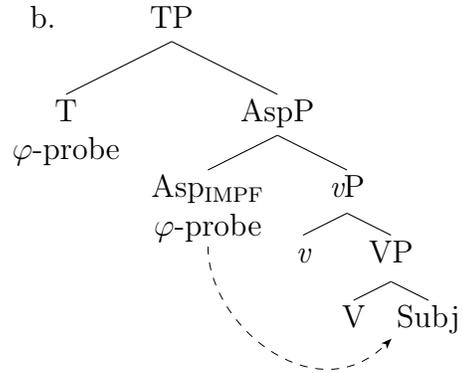
In the imperfective, on the other hand, there are two φ -probes. The lower φ -probe, on Asp, agrees with the highest argument, resulting in an S-suffix expressing the features of the subject. This is shown for intransitives in (37)-(38).

(37) IMPERF. UNERGATIVE

- a. Axnii damx-**ox**.
 we sleep.IMPF-**S.1PL**
 ‘We sleep.’

(38) IMPERF. UNACCUSATIVE

- a. Axnii palq-**ox**.
 we leave.IMPF-**S.1PL**
 ‘We leave.’

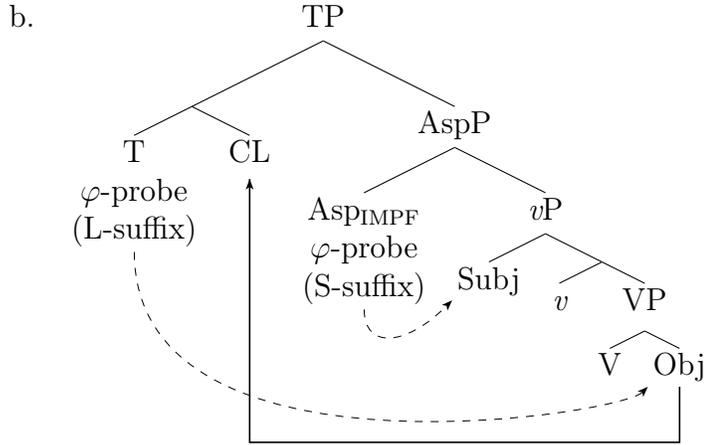


The φ -probe on T does not find a goal to agree with, but this does not cause a crash. This may be because T simply does not merge with a φ -probe in such derivations (as I will argue to be the case in Ch. 4) or because the φ -probe is not uninterpretable, just unvalued (Preminger 2011), and so lack of valuation does not cause a crash (as I assumed in Ch. 2).

If there is a second argument eligible for agreement (i.e., a specific object), it is probed by T and clitic-doubled, producing an L-suffix encoding the φ -features of the object. T is able to probe over the higher argument, the subject, because the subject is inactive after having agreed with Asp. A transitive imperfective is shown in (39).

(39) IMPERFECTIVE TRANSITIVE

- a. Axnii oo ksuuta kasw-**ox-*laa***.
 we that book write.IMPF-**S.1PL-L.3FS**
 ‘We write that book(fem.).’



Senaya’s aspect split, then, results simply from the presence of a φ -probe on Asp in the imperfective but not in the (canonical) perfective.

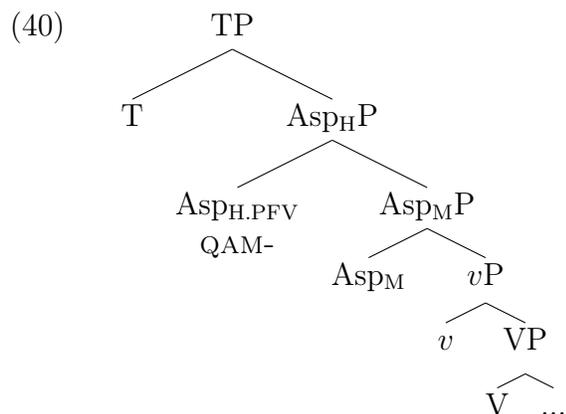
The situation is slightly more complicated in Jewish Zakho, Telkepe, and Christian Barwar, since object agreement is possible in the perfective, though only for third person. We propose that in these languages, the φ -probe on T splits into person and number, with person triggering clitic-doubling. T can thus agree with two different arguments in the canonical perfective, allowing limited object agreement. In particular, the object is limited to third person in canonical perfective aspect because the object only agrees with a number probe. (See Ch. 2 for much more detail.)

In sum, these Neo-Aramaic aspectual splits are derived from there being a φ -probe on imperfective Asp, which is lacking on its perfective Asp counterpart. The most important point to take away from this section is that, across the Neo-Aramaic languages under discussion (partial agreement reversal (Senaya) and complete agreement reversal with a PCC effect (Jewish Zakho, Telkepe, Christian Barwar, Christian Qaraqosh)), the locus of object marking is always T; further, in the imperfective, subject marking comes from Asp. As will be seen in the following section, this means that, in the position where QAM- merges, the subject has already agreed (due to true agreement with Asp) and is therefore inactive. Finally, recall also that I have put aside Amədyā-type languages for the purposes of this chapter, as it is unclear (i) whether QAM- has precisely the same meaning in this type of

language and (ii) whether the basic syntax of this type of language is comparable to the languages discussed in Ch. 2.

3.3.2 QAM- as high(est) aspect

There are two aspectual fields discussed at length in the literature: a field inside vP (“low Asp”) and a field between T and v (“high Asp”) (Travis 1991, 2010, Fukuda 2012, *i.a.*). My proposal is for an articulation of the higher aspectual field into two distinct Asp heads. It is in the highest Asp position that QAM- sits, Asp_H (high(est) Asp) in the following structure:



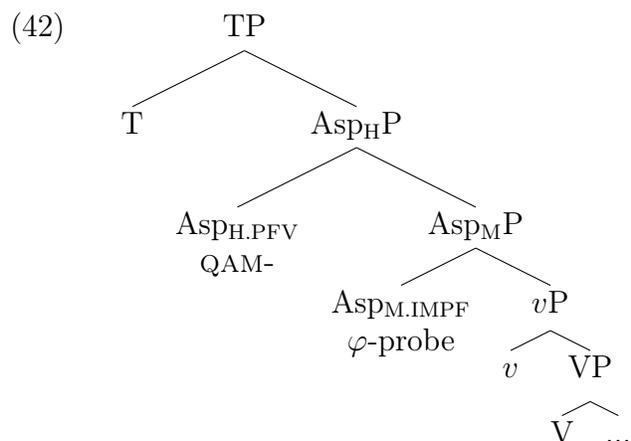
The lower Asp, Asp_M (main Asp), is the Asp that featured centrally in Ch. 2. It is this Asp which determines the morphological form of the verb base (perfective base vs. imperfective base) and which governs the additional φ -probe in the middlefield (present only on imperfective Asp_M). QAM- is the perfective version of highest Asp. Like perfective Asp_M , perfective Asp_H does not introduce a φ -probe.

Recall that there are three surface oddities of the QAM-perfective: (i) QAM- attaches to the imperfective base; (ii) QAM-perfectives have the same agreement profile as the imperfective, with an S-suffix marking the subject and an L-suffix marking the object; and (iii) object agreement is obligatory in QAM-perfectives. These properties are schematized in (41).

- (41) a. Perfective: $V_{\text{PFV}} (-\text{SOBJ}) - L_{\text{SUBJ}} (= V_{\text{PFV}} - L_{\text{SUBJ}}$ in Senaya)
 b. Imperfective: $V_{\text{IMPF}} - S_{\text{SUBJ}} (-\text{LOBJ})$
 c. Secondary perfective: $QAM - V_{\text{IMPF}} - S_{\text{SUBJ}} *(-\text{LOBJ})$

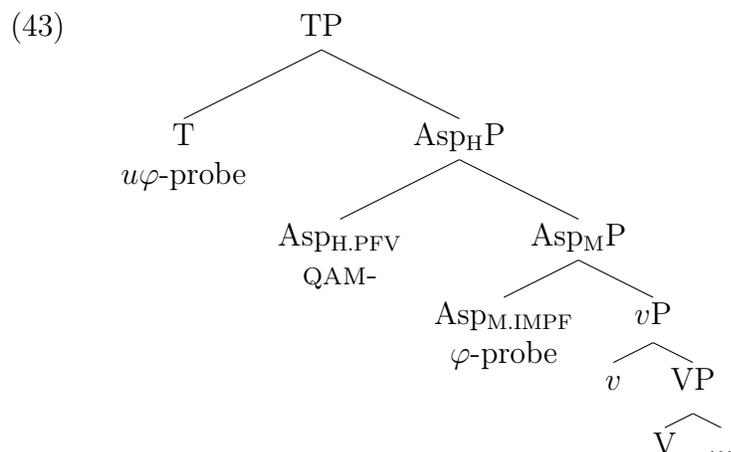
Each of these oddities can be accounted for through the structure in (40).

First, QAM- appears with the imperfective verb base because it selects for an imperfective Asp_MP . (A perfective head selecting for an imperfective complement will be seen for Slavic superlexical prefixes as well, §3.4.) Further, imperfective Asp_M , as it always does, introduces a φ -probe into the derivation.



The fact that Asp_M is imperfective accounts both for the fact that the verb appears in its imperfective base form in a QAM-perfective and the fact that agreement looks as it would in a canonical imperfective— Asp_M 's φ -probe instantiates agreement with the subject, resulting in an S-suffix and leaving the object to agree with T.

Second, I propose that QAM- appears only with object agreement (and a specific object) because the T that selects for perfective Asp (be it Asp_M or Asp_H) always bears uninterpretable and unvalued φ -features (where more generally, I do not take φ -probes to need to successfully agree, following Preminger (2011)).



If the φ -features on T are uninterpretable, then T must successfully agree with an object, otherwise the derivation will crash. I discuss this in much more detail at the end of Ch. 4.4.2. For now it suffices to note that having a T in the perfective that *must* agree limits QAM- to appearing when there is an object (since the subject is inactive and therefore not probe-able) and object agreement (such that T can value its φ -features).

It is worth noting that the prefixal status of QAM- (while agreement and tense are suffixes) may stem from its historical origin as an independent preverbal element (Maclean 1895, Pennacchietti 1997, Khan 2008).⁹ The other verbal prefixes across NENA (e.g., indicative mood, future tense) are also thought to stem from elements that were historically independent preverbal elements (Coghill 1999).¹⁰ Synchronically, I take the prefixal status of QAM- to simply be encoded in its lexical entry, such that when the verb head-moves through Asp_H, QAM- attaches as a prefix.

Other research, in particular Iatridou et al. (2001) and Gribanova (2013), has also proposed an articulation of the high aspect region into two independent Asp heads. For Gribanova, the higher Asp head is the position of superlexical perfective prefixes in Slavic, which

⁹Various proposals have been made about the precise origin of QAM-, but all agree that it was an independent preverbal word. For example, Pennacchietti (1997) argues that QAM- developed from an independent verb (*qām*, ‘to rise, to stand’) which preceded and selected for a verb in the (modern day) imperfective base form. Others, such as Maclean (1895), argue that QAM- is historically a preverbal adverb.

¹⁰In fact, these tense, aspect, and mood prefixes are in complementary distribution synchronically, and so we cannot tell any relative orderings among them.

I return to in §3.4. For Iatridou et al., this Asp head is responsible for introducing perfect aspect. In Senaya, we see evidence from the perfect construction that QAM- occupies the same head as perfect aspect, and that this is a position above main (canonical) aspect. The perfect morpheme is the prefix *gii-* (Panoussi 1990), and it prefixes to the perfective base, (44a), never the imperfective base, (44b).

(44) Senaya

- a. Axnii ksuuta gii-ksuu-lan. (gii- with perfective base)
 we book PERF-write.PFV-L.1PL
 ‘We have written a book.’
- b. *Axnii ksuuta gii-kasw-ox. (*gii- with imperfective base))
 we book PERF-write.IMPF-S.1PL
 Intended: ‘We have written a book.’

Since *gii-* requires attachment to a verb form that encodes perfective aspect, we might expect that *gii-* could prefix to a QAM-perfective. However, this is not the case. Whether *gii-* appears before or after *tm-*, the result is ungrammatical, (45).

(45) Senaya

- a. *Axnii ksuuta gii-**tm**-kasw-ox-laa.
 we book PERF-QAM-write.IMPF-S.1PL-3FS
 ‘We wrote the book.’
- b. *Axnii ksuuta **tm**-gii-kasw-ox-laa.
 we book QAM-PERF-write.IMPF-S.1PL-3FS
 ‘We wrote the book.’

The complementary distribution of *tm-* (secondary perfective prefix) and *gii-* (perfect prefix) suggests they both occupy the same head, since the presence of perfective aspect more generally clearly does not preclude perfect aspect, (44a). This complementary distribution also suggests that both *tm-* and *gii-* occupy a head above the position of main aspect, as both

are picky about the aspect of their complement: *tm-* wants to attach to the imperfective base, while *gii-* wants to attach to the perfective base.^{11,12}

In sum, I have proposed that QAM- occupies a high aspectual head, between main Asp and T. From this position, it is locally related both to main Asp (which must be imperfective) and T (which must agree with the object). This position has independently been argued to exist for hosting perfective (Gribanova 2013) and perfect (Iatridou et al. 2001) aspects, both of which can be seen using this syntactic position in Senaya.

3.3.3 Against other positions for QAM-

I proposed that QAM- occupies a high aspectual head, directly above the position of main Asp. In this section, I discuss the obstacles for an analysis in which QAM- occupies a low position.

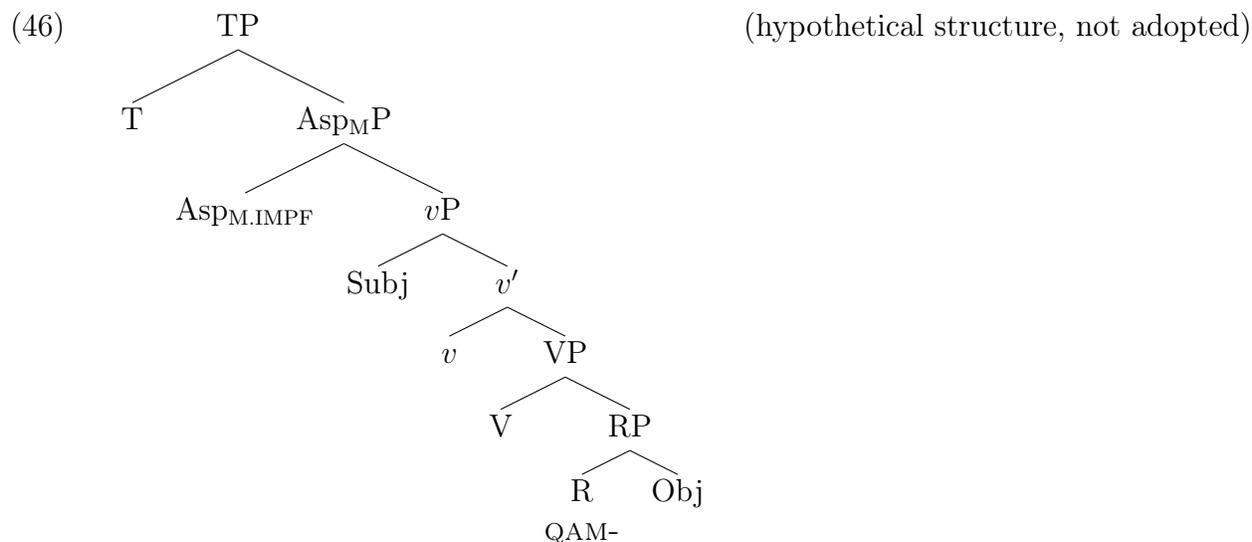
Given QAM-'s sensitivity to the specificity of the object, one might imagine that QAM- is introduced very low in the structure, where it enters into a local relationship with the object. In (46), QAM- itself introduces the object. I have labeled QAM-'s projection RP, meant to reference Svenonius's (2004) Result Phrase, where "lexical" perfective prefixes are introduced in Slavic (see §3.4).

¹¹Perfect aspect is expressed in a variety of ways across NENA. To my knowledge, Senaya is the only language that expresses perfect through prefixation of *gii-*.

¹²Iatridou et al. (2001) show that, crosslinguistically, perfects may be formed on perfectives or imperfectives, with the former resulting in an 'experiential perfect' and the latter a 'universal perfect':

- (i) Bulgarian (adapted from Iatridou et al. 2001)
 - a. Marija (*vinagi) e obiknala Ivan.
 Maria always is love.PFV.PART Ivan
 'Maria has fallen in love with Ivan.' (= Experiential Perfect)
 - b. Marija vinagi e običala Ivan.
 Maria always is love.IMPF.PART Ivan
 'Maria has always loved Ivan.' (= Universal Perfect)

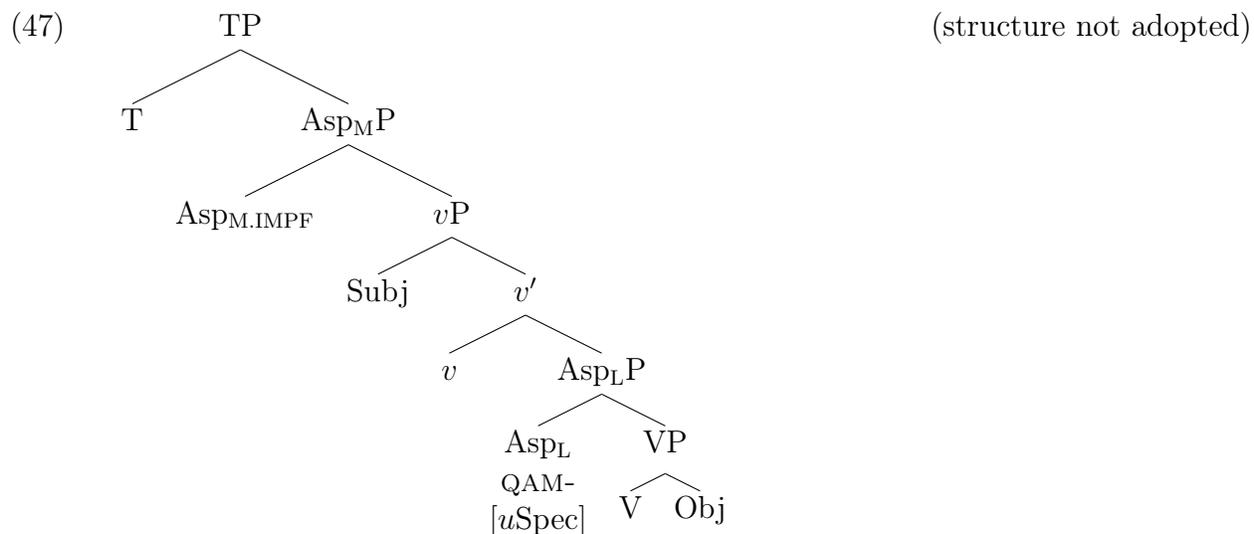
One might wonder, then, whether the QAM-perfective is a universal perfect (as a counterpart to *gii-* plus the perfective verb base being an experiential perfect like (ia)), since QAM- occupies the highest aspect head and combines with the imperfective verb base. However, the meanings of all the QAM-perfectives we have seen are clearly not universal perfects, but rather perfectives, and so are not on par with (ib).



Under such an account, the reason QAM- can only appear with a specific object is because R itself selects for such an object. T later agrees with this object.

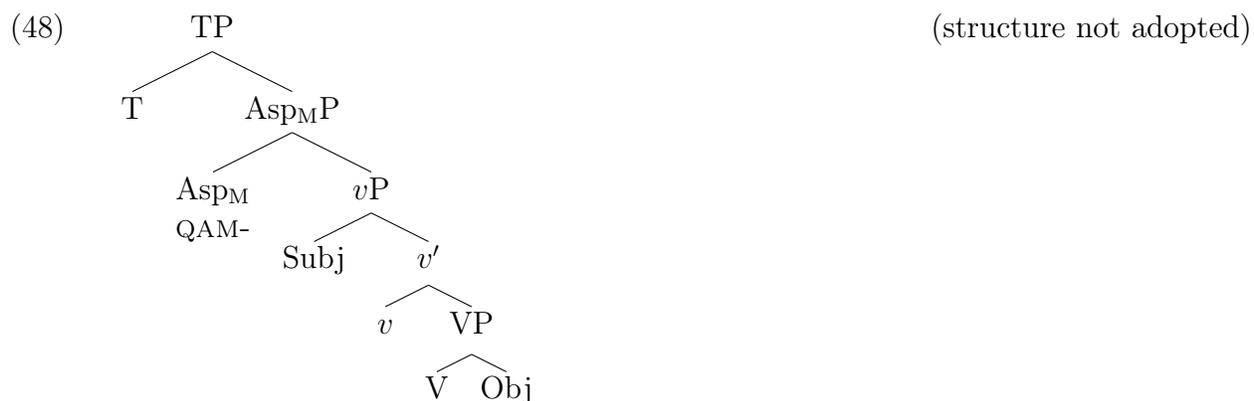
There are several problems with the analysis in (46). One major problem with this analysis is that specific objects do not more generally need QAM- in order to enter a derivation; recall that specific objects are perfectly grammatical in a canonical imperfective, and even certain specific objects are grammatical in a canonical perfective. It is unclear why the language should have QAM- performing an object-introducing function just in a subset of perfective clauses. Additionally, if QAM- is not local to main Asp, then the fact that main Asp must be imperfective just in case QAM- introduces the object is completely unexplainable. Finally, in (46), QAM- simply introduces a specific internal argument. This predicts (counter to fact) that QAM- could introduce a specific internal argument of an unaccusative verb. Crucially, QAM- can only appear when there is both a subject and an object, and the object is specific; unaccusative subjects do not license QAM-.

Another potential position for QAM- is in the position of a low aspect head, (47). In order to enable QAM- to enter into a relation with the object (such that QAM- can only appear with a specific object and object agreement), I have equipped it with an uninterpretable Spec feature, which must be checked by a specific nominal.



Giving QAM- a (stipulated) Spec feature will ensure that QAM- is only licensed when there is a specific nominal in its scope. However, this position for QAM- faces many of the same problems as that in (46). Most importantly, there is no way to ensure that main aspect will be imperfective in (47), since the two aspect heads are not local to each other, and there is no way to rule out unaccusative subjects from licensing Asp. I therefore reject the analyses in (46) and (47), where QAM- is introduced below main aspect.

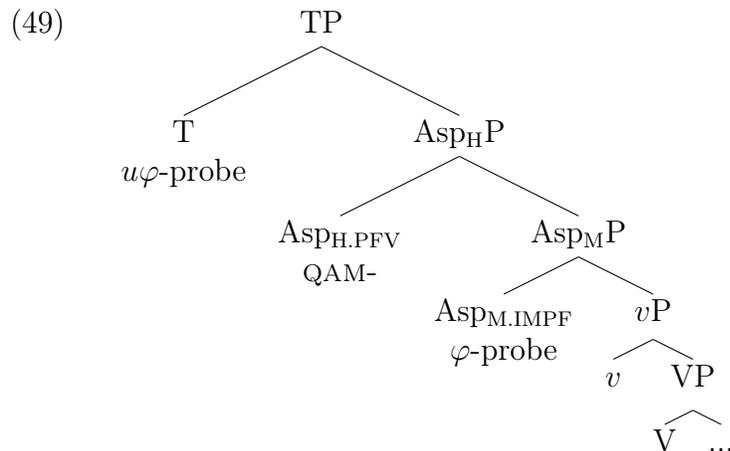
Another logical possibility is that QAM- is generated in the position of main Asp, (48).



(48) is appealing because it does not require us to posit any new projections, and the clause is perfective precisely because QAM- is perfective and is in the position of main Asp.

However, two big problems arise for this analysis as well. First, we would need to stipulate that, despite being perfective, QAM- on Asp triggers the imperfective verb base as well as the extra φ -probe that is characteristic of imperfective aspect (Chapter 2; Kalin and van Urk To Appear). This analysis of QAM- thus makes it entirely coincidental that the secondary perfective looks exactly like an imperfective (minus QAM-). Second, if QAM- is in the position of main aspect, then it becomes difficult (or at least more stipulative) to explain how QAM- is able to be sensitive to properties of the object, rather than that of the closest active argument, the subject. Recall that if QAM- is above main Asp (as in my analysis), then the subject will have already agreed and been rendered inactive by the time QAM- merges, enabling QAM- to look past the subject to the object. If QAM- were on main Asp, then Asp would have to both agree with the subject (for φ -features) and the object (for a Case feature, cf. (43)), since only when the object is specific can QAM- occur.

In sum, the best fit analysis for QAM- seems to be a high aspectual projection, between T and main Asp. I repeat this structure from (43) in (49):



The high position of QAM- captures the fact that it appears only with the imperfective verb base (QAM- selects for imperfective main Asp) and is sensitive to properties of the object (the subject is inactive after agreeing with main Asp).

In the next section, I explore the similarities between QAM- and certain perfective prefixes in Slavic, which sets up the background necessary to understand the semantics of QAM-.

3.4 Slavic aspect

Slavic languages are well-known for their complex aspectual system, where bare verb roots are typically imperfective, but can be made perfective through the addition of one of a number of prefixes, then can be made imperfective again, and then perfective yet again.¹³ There is an extensive literature on both the syntax and semantics of these prefixes (Piñon 1994a,b, Klein 1995, Borik 2002, Babko-Malaya 2003, Ramchand 2004, 2008, Svenonius 2004, Romanova 2006, Gribanova 2013, *i.a.*). In this section, I introduce the Slavic data, and show how, syntactically, the QAM-perfective is analagous to superlexical prefixation in Slavic. In the following section, I use tools introduced in semantic analyses of Slavic to propose a semantic account of the QAM-perfective.

3.4.1 The data

As noted above, verb roots in Slavic tend to be imperfective, and there are a range of aspectual affixes that serve to modify or change the aspect of a root. All prefixes are perfectivizing, and these prefixes in Slavic fall (roughly) into two categories: “lexical” and “superlexical” (Babko-Malaya 1999). Lexical prefixes are verb-adjacent, may add an argument to the verb, cannot co-occur with each other, and often compose with the verb idiomatically. Superlexical prefixes, on the other hand, occur outside of lexical prefixes (when they co-occur), cannot

¹³The perfective/imperfective distinction is characterized by several Slavic-specific distributional and interpretational diagnostics. For example, only imperfectives can be formed into present participles, and only perfective verbs obligatorily receive a future tense reading when accompanied by present tense morphology (Romanova 2006).

add an argument to the verb, may stack (subject to certain restrictions), and contribute systematic meanings. (Following Svenonius (2004) and Griбанова (2013), I gloss lexical prefixes in italics as their prepositional counterparts and superlexical prefixes with small caps.)

(50) Lexical prefixes (Russian; Griбанова 2013:97-98)

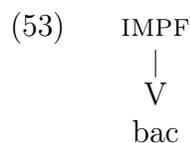
- a. ot-pečatat'
away-type.INF
'print'
- b. za-kusit'
behind-bite.INF
'snack after drinking'

(51) Superlexical prefixes (Russian; Griбанова 2013:98)

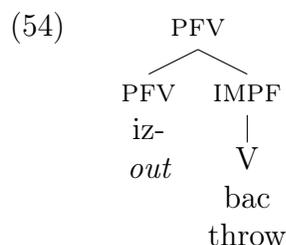
- a. za-plavat'
INCP-swim.INF
'begin swimming'
- b. na-brat'
CMLT-take.INF
'take (enough of something)'

There are also several superlexical prefixes that are purely perfectivizing, not adding any other meaning component (Forsyth 1970, cited in Ramchand 2008).

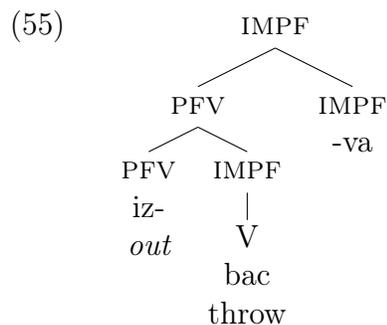
In addition to aspectual prefixes, there is an aspectual suffix known as the “secondary imperfective” (glossed S.IMPF) which attaches to a perfective form and derives an imperfective one. This derived imperfective can have a progressive, habitual, or iterative meaning (Ramchand 2008). The secondary imperfective scopes over lexical prefixes (such that the verb is imperfective overall when they co-occur) but under superlexical prefixes (such that the verb is perfective overall when they co-occur). Further, the perfective prefixes (both lexical and superlexical) as well as the secondary imperfective typically attach to verbs of the opposite aspect—in other words, a superlexical perfective prefix (usually) cannot combine



A perfective lexical prefix may attach to *bac* to make it perfective, (52b), as shown in (54). (In the following structures, I ignore the theme vowel and infinitival morphology and label nodes with their aspectual value rather than their lexical category. Note that these trees show compositional morphological structure, derived, e.g., by head movement.)

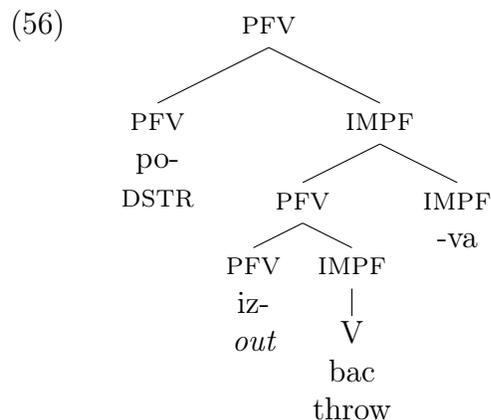


It is not grammatical, however, for the secondary imperfective suffix to attach to the verb root on its own, (52c), since the verb root is imperfective already. Rather, this suffix may attach only after the perfective lexical prefix has attached, (52d), as shown in (55):



Finally, the superlexical prefix cannot attach to the form consisting of just the verb base and a lexical prefix, (52e), as this stem is perfective already. It can, however, prefix to the verb

once the secondary imperfective suffix has been added, (52f). The constituent structure of (52f) is thus necessarily that shown in (56):



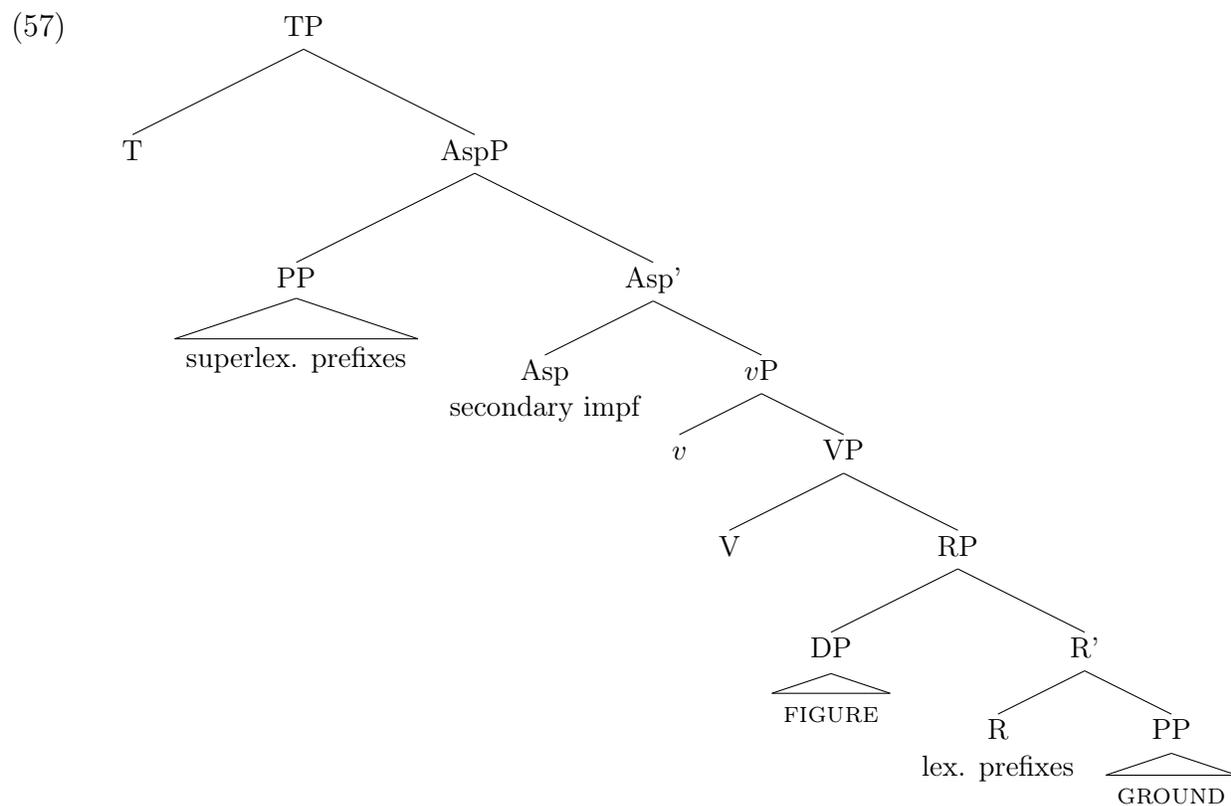
Aspect in Slavic, then, jumps back and forth semantically between perfective and imperfective aspect, and affixes are picky about the aspect of the verb form they attach to.

QAM- is similar in many ways to superlexical prefixes in Slavic. Just like superlexical prefixes, QAM- attaches to a morphologically imperfective verb form and derives a perfective. Superlexical prefixes do not simply derive perfective aspect, but also contribute an additional semantic component, like distributive *po-* above. Similarly, QAM- is not simply perfective but also comes with an additional syntactic component, one which is dependent on object agreement. Both QAM- and superlexical prefixes contribute a systematic (never idiomatic) meaning to the verb, and neither has an effect on argument structure. Lastly, both QAM- and superlexical prefixes are (arguably) generated above the main Asp head, as will be seen below.

3.4.2 Syntactic accounts of Slavic aspect

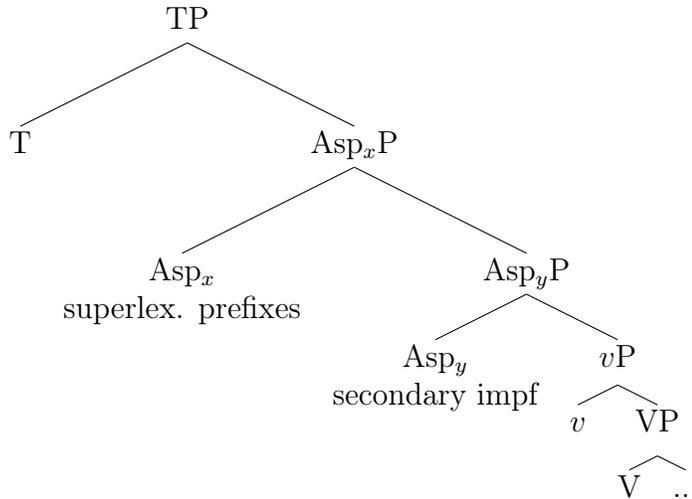
The empirical properties of lexical and superlexical prefixes in Slavic conspire towards a particular syntactic analysis of perfective prefixes in Slavic: superlexical prefixes are high

in the clause while lexical prefixes are low, very close to the verb. Svenonius (2004), for example, relates lexical prefixes in Slavic to verb-particle constructions in German: they are introduced as the head of a small clause Result Phrase (RP) that is selected by V. Superlexical prefixes, on the other hand, are introduced as adjuncts to AspP.



Gribanova (2013), examining Russian in particular, makes a different proposal for superlexical prefixes: they head their own Asp projection, above the Asp head that introduces the secondary imperfective suffix:

(58)



Gribanova adds further empirical evidence for the high/low superlexical/lexical distinction, as well as for the syntactic position of the secondary imperfective morpheme. Verb-stranding verb phrase ellipsis (VVPE) requires lexical prefixes to be matching across the elided *v*Ps, even though on the surface, *V* is not inside the elided *v*P; this indicates that lexical prefixes originate inside *v*P. Superlexical prefixes and the secondary imperfective, on the other hand, may mismatch (need not be identical) across elided *v*Ps; this indicates that they originate outside of *v*P. The following example shows a representative data point for the acceptability of mismatching superlexical prefixation, with the elided *v*P (containing just the object because *V* has raised out of *v*P) struck out in (59b):

(59) Russian VVPE (Gribanova 2013:122)

- a. Kažetsja čto nikto ne **po-dnjal vazu**, kotoraja uže
 seem.3SG.REFL that no-one NEG *under*-hold.MS vase.ACC which.NOM already
 ne pervyj raz padaet.
 NEG first time falls.3SG
 ‘It seems that no one picked up the vase, which fell not for the first time.’
- b. Naoborot, uže prišel čelovek, kotoryj **pere-po-dnjal vazu**.
 on-contrary already came.MS person who.NOM RPET-*under*-hold.MS vase
 ‘On the contrary, a person who picked (it) up again already came.’

VVPE is licensed in (59b) even though the verbs are mismatched in (59a) and (59b)—the first bears only a lexical prefix while the second also bears a superlexical prefix. Since the ellipsis site is inside a relative clause island, we know this is not an instance of object drop (which Griбанова shows is not allowed in islands in Russian when the antecedent is outside of the island), but rather is the result of verb movement out of *v*P and subsequent elision of the whole *v*P.

Griбанова’s syntactic proposal in (58) is very similar to the proposal that I have made for Neo-Aramaic’s secondary perfective. In the structure of a QAM-perfective, QAM- is generated on a high aspect head above main Asp (just like superlexical prefixes), and requires its complement to be imperfective (again, just like superlexical prefixes). In Neo-Aramaic, this requirement for an imperfective complement results in the imperfective verb base, while in Slavic this requirement results either in the superlexical prefix attaching to an imperfective verb root or a verb stem that has been imperfectivized by the secondary imperfective morpheme. In the latter case, the appearance of secondary imperfective aspect appears to have a largely functional motivation, as this imperfective morpheme allows a superlexical prefix to combine with a verb that already bears a lexical prefix. In Neo-Aramaic, imperfective aspect in the QAM- perfective also seems to have a functional motivation: imperfective aspect (through the addition of a φ -probe) enables an object to agree/be licensed where otherwise it could not.

The syntax that I have proposed for the QAM-perfective, then, receives support from the Slavic literature. In the following section, I show that understanding the semantic composition of Slavic verbs also helps us better understand the semantics of the QAM-perfective.

3.5 Semantic analysis of the secondary perfective

In this section, I propose a semantics for the secondary perfective in Neo-Aramaic drawing mainly from two previous works on aspect: Ramchand (2008) on Slavic aspect and

Demirdache and Uribe-Etxebarria (2000, 2007) on tense and aspect crosslinguistically. I begin by introducing the background of the semantic approaches that will factor into my analysis. I then present an informal account that shows the intuitions behind the analysis, followed by a formal implementation of this account.

The literature on the semantics of aspect is vast and varied. Within Slavic alone, there have been many different semantic accounts of aspectual affixation in Slavic (Piñon 1994a,b, Klein 1995, Borik 2002, Babko-Malaya 2003, Romanova 2006, Ramchand 2008, *i.a.*). These accounts range from appeals to Dowty-style operators CAUSE and BECOME (Babko-Malaya 2003) to (semi-)lattices and homomorphisms (Romanova 2006). This section is intended to show you that it is, in principle, possible to have a compositional semantics of the QAM-perfective along the lines of some of these approaches. Even if the specifics of this semantic account turn out to be incorrect (as is likely, given the incredible complexity of aspect), it is clear that, crosslinguistically, aspect is able to morphologically stack (e.g., as is robustly attested across Slavic), and this is semantically interpretable. I take an approach where this stacking is compositional semantically.

3.5.1 Semantic background

As far back as Reichenbach (1947), researchers have identified three distinct ‘times’ that are relevant for calculating tense and aspect crosslinguistically: (i) the Utterance Time, encoding the time at which the proposition is uttered; (ii) the Event Time, encoding the time of the event (or state) in the proposition; and (iii) the Assertion/Reference/Topic Time, encoding “the time for which ... [an] assertion is confined; for which the speaker makes a statement” (Klein 1995:687). The assertion time can be thought of as acting like a camera lens, mediating between the utterance time (the camera itself) and the event time (the object/scene at which the camera is pointed); the assertion time focuses some part of the event or state in the proposition (Smith 1991). It is the assertion time’s relation to the event time that determines the aspect of a clause. Informally, we can say that perfective aspect views events as a whole, while imperfective and progressive aspect views events from within.

A clear instantiation of each of these times is found in the past progressive, e.g., (60).

(60) Kaeli was eating cake (when I called her yesterday).

The event time is the interval occupied by the cake eating event. The utterance time is the actual time at which (60) is uttered. Finally, the assertion time in the progressive picks out a time during the cake eating event. In (60), then, we can say that the assertion time is within the event time, and that the utterance time is after the assertion time. In other words, there is a time before the utterance time at which the event of Kaeli eating was ongoing.

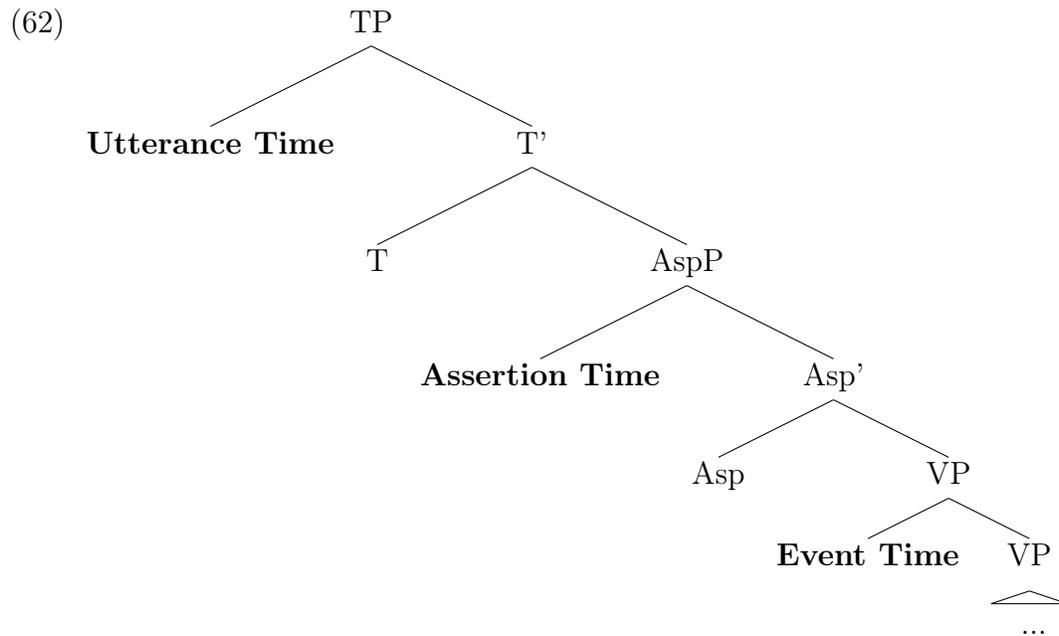
Note that for a sentence like (60), we cannot say that the utterance time is definitively ordered after the event time, since (61b) is a felicitous continuation of (60), repeated as (61a). Nor can we say that the utterance time is definitively ordered before the event time, since (61c) is also a felicitous continuation of (61a).

- (61) a. Kaeli was eating cake when I called her yesterday...
b. ...and in fact she is still eating cake right now.
c. ...and she finished the cake a few minutes later.

In (61a), the utterance time is ordered with respect to the assertion time, and the assertion time is ordered with respect to the event time. However, the utterance time is not ordered with respect to the event time; the endpoint of the event time may be before or after the utterance time. This indicates that the event time and utterance time are not directly related to each other, but rather are related via the assertion time. Notice that we could not capture the ambiguity (or vagueness) seen of (61a) with a theory that only utilizes an utterance time and an event time.

3.5.1.1 Demirdache and Uribe-Etxebarria 2000

Demirdache and Uribe-Etxebarria (2000), following Zagana (1990), Stowell (1995), *i.a.*, propose that tense (as the syntactic node T) and aspect (as the syntactic node Asp) are dyadic spatiotemporal ordering predicates—namely BEFORE, AFTER and WITHIN—and that these predicates relate times in the fixed universal structure shown in (62) (repeated from Ch. 2).



The three times (utterance, assertion, event) merge as arguments of T and Asp or (for the event time) as an adjunct to VP. The assertion time and event time are intervals, while the utterance time is a time point. Asp relates its external argument, the assertion time, to the time introduced by the verb phrase, the event time. T relates its external argument, the utterance time, to the external argument of Asp, the assertion time. T and Asp may contain one predicate each (BEFORE, AFTER, or WITHIN).

Most importantly here, the aspect of an utterance is established by the predicate in Asp. The relation WITHIN on Asp establishes imperfective aspect, as it locates the assertion time within the event time (Demirdache and Uribe-Etxebarria 2000). The event is therefore

viewed from the inside of its temporal bounds. Perfective aspect, on the other hand, results from covaluation between the assertion time and the event time, and therefore being cotemporal with it (Demirdache and Uribe-Etxebarria 2007). The event is therefore viewed as a whole, with its beginning and ending time boundaries delimited.

3.5.1.2 Ramchand 2008

Ramchand (2008) views aspect similarly, but implements her account with a compositional semantics, and without positing that the different times (utterance, assertion, event) are actual syntactic arguments. Ramchand instead takes each of the three times—utterance time, assertion time, event time—to be time points or sets of time points introduced in the denotations of T and Asp. In her formalism, the event time is encoded as $\tau(e)$ (Krifka 1992), where τ is a function from events to their runtime (this is the “temporal trace”, a series of time points spanning the timeline the event occupies). The assertion time is encoded as the time variable t , which is introduced in the denotation of Asp and subsequently related to $\tau(e)$; this relation of the assertion time to the runtime of the event within the semantic denotation of Asp is basically equivalent to the syntactic relation (between the event time argument and assertion time argument) mediated by Asp in the syntactic structure in (62), though (crucially) Ramchand does not adopt this structure.

A simple denotation for Asp that locates t within the event time is shown in (63). (Among the variables, P ranges over predicates (semantic type of predicate specified in the subscript), t ranges over times, and e ranges over events. I have added semantic types for each predicate P , with v being the event type, i being the time type, and t being the truth value type.)

$$(63) \quad \llbracket \text{ASP}_{\text{IMPF}} \rrbracket = \lambda P_{\langle v, t \rangle} . \lambda t . \exists e . [P(e) \ \& \ t \in \tau(e)] \quad (\text{Ramchand 2008:1703})$$

Asp as presented in (63) denotes a function that maps the event denoted by the vP (which is Asp’s complement) to the set of times corresponding to the event’s runtime, and requires

that time t (informally, the assertion time) be within the runtime of the event (informally, the event time).

The utterance time is encoded as the fixed time t^* (i.e., the actual time),¹⁵ which is introduced in the denotation of T and subsequently related to t (the assertion time); this relation of the utterance time to the assertion time within the semantic denotation of T is basically equivalent to the syntactic relation (between the assertion time argument and the utterance time argument) mediated by T in the syntactic structure in (62). The denotation for past tense T is shown in (64):

$$(64) \quad \llbracket T_{\text{PST}} \rrbracket = \lambda P_{\langle i, t \rangle} . \exists t . [P(t) \ \& \ t < t^*] \quad (\text{Ramchand 2008:1701})$$

T as presented in (64) existentially binds a time t (corresponding to the assertion time) and locates the assertion time before the utterance time t^* , which is a constant. T is thus a function that maps the time corresponding to the assertion time to a proposition which is true if and only if there is an event whose runtime contains an assertion time which precedes the utterance time.¹⁶

Ramchand locates superlexical prefixes (§3.4) between main Asp and T , as adjuncts to AspP (just like Svenonius (2004)). These prefixes modify the denotation of AspP, locating t (the assertion time) at a definite time point. For example, inceptive *za-* has a denotation like that in (65). (Recall that the temporal trace is a series of time points spanning the timeline the event occupies, i.e., the runtime of the event.)

$$(65) \quad \llbracket za- \rrbracket = \lambda P_{\langle \langle i, t \rangle, \langle i, t \rangle \rangle} . \lambda t . [P(t) \ \& \ t \text{ occurs at the onset of the temporal trace}] \quad (\text{Ramchand 2008:1707})$$

¹⁵It is likely that t^* is best conceived of as also being a variable, whose time reference comes from context. This is especially clear with tense in embedded clauses, as the value of t^* will (often) be dependent on the tense of the matrix clause. However, since I am only looking at matrix clauses, treating t^* as constant, referring to the utterance time, will suffice here.

¹⁶Thank you to Jessica Rett for helping me clarify these semantic denotations.

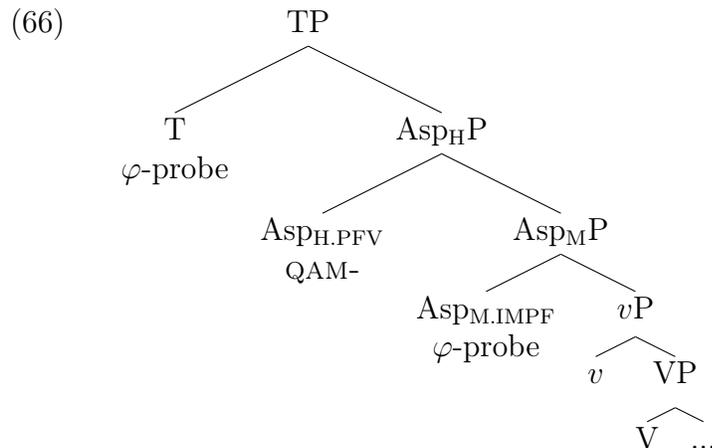
The function in (65) takes the assertion time t and adds a new requirement on it: the assertion time must occur at the onset of the runtime of the event.

For Ramchand, the difference between perfective and imperfective aspect in Russian comes down to the definiteness of the assertion time, i.e., whether the assertion time is an identifiable time point or not. In imperfective (63), the assertion time is indefinite, because all that this denotation requires is that the assertion time be somewhere within the runtime of the event; this assertion time is thus not a single identifiable time point, but rather could be one of many time points. The addition of a superlexical prefix like that in (65), then, locates a specific assertion time within the event time, and therefore results in definiteness of the assertion time and, therefore, perfectivity.

I adapt components of these accounts for the QAM-perfective in the next section.

3.5.2 The QAM-perfective: Informal semantic account

Recall that the syntactic structure of the QAM-perfective is that in (66), repeated from §3.3.2:



As I will lay out in detail below, my account will follow Demirdache and Uribe-Etxebarria (2000, 2007) in proposing that perfective and imperfective aspects differ in whether they

locate the assertion time as a subset of the event time (imperfective Asp) or as cotermporal with the event time (perfective). Instead of using syntactically projected arguments for times, I will use Ramchand’s (2008) kind of semantic denotations to introduce the times, while identifying the assertion time as an interval rather than a time point, again following Demirdache and Uribe-Etxebarria (2000). I propose that the denotation of QAM- is essentially a type-lifted version of the denotation of main perfective aspect. QAM- takes as its argument an imperfective Asp_{MP} , and this results in a secondary perfective.

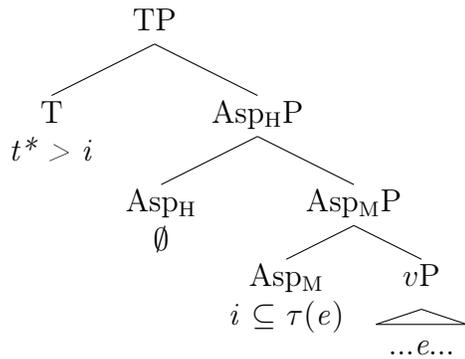
Recall also that the range of perfective and imperfective verbal forms in the Neo-Aramaic languages under discussion are those in (67).

- (67) Selected forms of *q-t-l* (‘kill’) in Amədyā (Coghill 1999:14)
- a. Perfective verb base: **qṭil** (‘killed’)
 - b. Imperfective verb base: **qaṭl** (‘kills,’ ‘is killing’, ‘may kill’)
 - c. Secondary perfective: **qam-qaṭl** (‘killed’)

I will propose a compositional semantics for each, beginning with the the canonical imperfective. For each base, I will assume it is in the past tense in order to give a concrete denotation for T. I first go through the proposal informally and intuitively, addressing the formalism after a full informal account has been provided.

For a canonical imperfective, I adopt the idea that imperfective Asp locates the assertion time within the event time (Demirdache and Uribe-Etxebarria 2000, Ramchand 2008). I represent this as a subset relation, but crucially not a proper subset relation. This is shown schematically in (68). Note also that I am simplifying here in that I do not attempt to distinguish between subtypes of imperfective, e.g., habituals and progressives. (Recall that $\tau(e)$ gives the runtime of the event; I will use the variable *i* to represent a time interval.)

(68) Imperfective verb base: **qaṭl**



Imperfective Asp_M introduces the assertion time and requires that the assertion time occur within (be a subset of) the runtime of the event (the event time).¹⁷ Asp_H does not contribute substantive meaning. Finally, T introduces the utterance time and requires that it occur after the assertion time. We thus end up with the following two restrictions on the three times in a canonical (past) imperfective:

(69) Canonical imperfective: $i \subseteq \tau(e) \ \& \ t^* > i$

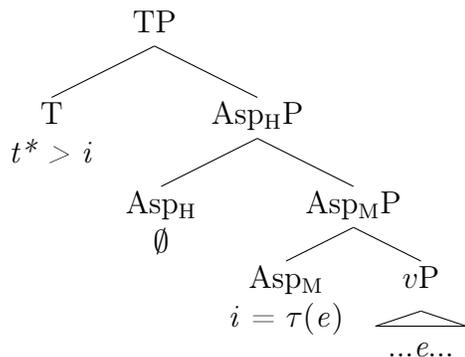
As seen in (69), a canonical (past) imperfective requires (i) that the temporal interval corresponding to the assertion time occur within the runtime of the event (first conjunct) and (ii) that the utterance time precede all times in that interval (second conjunct). Since Asp_M is imperfective in (68), the morphological spellout of this node (when combined with the verb) is the imperfective verb base.

For a canonical perfective, I adopt the idea that the assertion time and event time are cotemporal (Demirdache and Uribe-Etxebarria 2007). This is shown schematically in (70):¹⁸

¹⁷The typical meaning of an imperfective is that the endpoints of the event time are not included in the assertion time, i.e., no statement is made about the precise beginning time or end time of the event. Given the subset (not proper subset) denotation that I have provided for Asp, it must be that this canonical imperfective meaning actually comes about via scalar implicature: Since imperfective (subset) is used, it is implied that the stronger meaning of the perfective (cotemporality) is not intended. However, this can be canceled, and is canceled precisely when perfective stacks on top of imperfective, as will be seen below. Thank you to an audience at University of Maryland, College Park for helping me clarify this point.

¹⁸Unlike Demirdache and Uribe-Etxebarria (2007), I provide a denotation in which the fact that the assertion time is cotemporal with the event time results from the denotation of Asp, rather than an empty

(70) Perfective verb base: **qtil**



Perfective Asp_M introduces the assertion time as an interval and requires that it be cotemporal with the event time. Just as in a canonical imperfective, Asp_H does not contribute substantive meaning, and past tense T locates the utterance time after the assertion time. We end up with the following two requirements on a canonical (past) perfective:

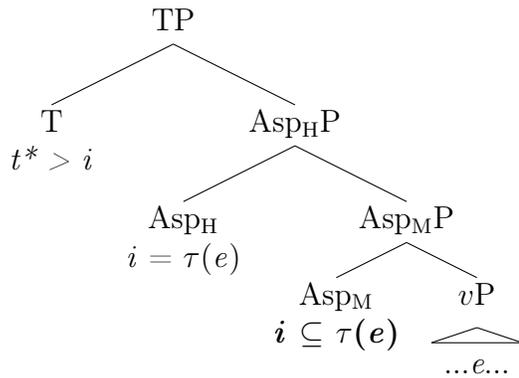
(71) Canonical perfective: $i = \tau(e) \ \& \ t^* > i$

(71) requires, in a past perfective, (i) that the assertion time interval be cotemporal with the runtime of the event (first conjunct), and (ii) the utterance time follow the assertion time. Since Asp_M is perfective in (70), the morphological spellout of this node (when combined with the verb) is the imperfective verb base.

Finally, for the QAM-perfective, nothing additional needs to be said except that Asp_H may be contentful (namely, it may contain QAM-), and specifically, that it may be perfective. Perfective Asp_H takes imperfective Asp_MP as its argument. The QAM-perfective is shown in (72).

Asp resulting in covaluation between the assertion time and event time. It is possible that an account like theirs could also work in the framework I set up here.

(72) Secondary perfective: **qam-qaṭl**



Note that Asp_H in (72) does not introduce a new time, but rather modifies the relation between the runtime of the event $\tau(e)$ and the assertion time i that were introduced by Asp_M .¹⁹ Since Asp_M is imperfective in (71), the morphological spellout of this node (when combined with the verb) is the imperfective verb base. Perfective Asp_H spells out as the morpheme QAM-.

The semantic composition of the two Asp heads in (72) gives us the following two requirements on the relation between the runtime of the event and the assertion time:

(73) Secondary perfective: $i \subseteq \tau(e) \ \& \ i = \tau(e)$

This requires (i) that the assertion time occur within the runtime of the event (first conjunct) and (ii) that the assertion time be cotermporal with the runtime of the event (second conjunct). (73) reduces to the statement in (74), since the only possible time interval for a assertion time that is consistent with both being a subset of (within) the runtime of the event and cotermporal with the runtime of the event is a assertion time that is cotermporal with the event time.

(74) Reduced secondary perfective: $i = \tau(e)$

¹⁹This is different from instances of “recursive aspect”, e.g., perfect progressive *had been Xing*, which arguably do involve the higher Asp introducing a second assertion time (Demirdache and Uribe-Etxebarria 2000).

The reduced statement in (74) is equivalent to a canonical perfective.²⁰

Combined with a past tense T, (75a) gives the three requirements on the relation between the three times in a past tense secondary perfective. In (75b), I have reduced the two requirements on the relation of the assertion time to the runtime of the event via equivalence, as in the reduction from (73) to (74).

(75) Secondary perfective (including tense)

- a. $i \subseteq \tau(e) \ \& \ i = \tau(e) \ \& \ t^* > i$
- b. $i = \tau(e) \ \& \ t^* > i$

(75b) requires (i) that the assertion time be coterporal with the runtime of the event (first conjunct) and (ii) that the utterance time follow the assertion time. The result is that the QAM-perfective is semantically equivalent to a canonical perfective, cf. (75b) and (71).

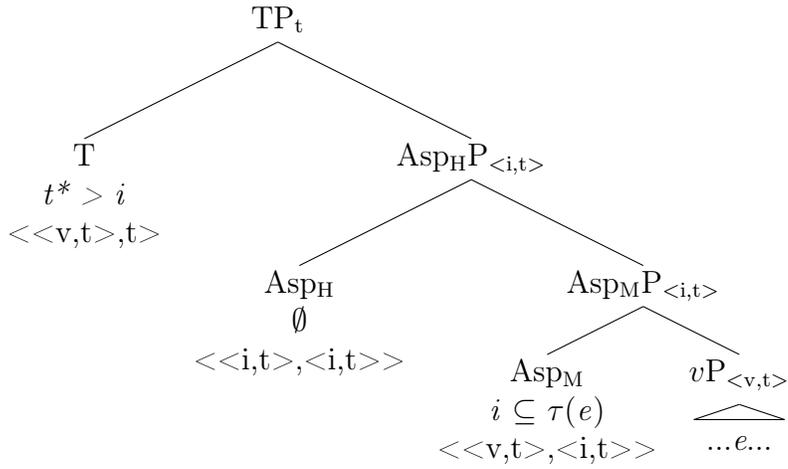
3.5.3 The QAM-perfective: Formal semantic account

The intuitions outlined above can be captured in a formal compositional semantic account, and again we will see that the semantics of the QAM-perfective are ultimately equivalent to that of a canonical perfective.

I begin, again, with the canonical imperfective. The structure that I provided in the previous section is repeated in (76), with the addition of the semantic types of each of the nodes. (Recall that among the variables, P ranges over predicates, t ranges over times, e ranges over events, and i ranges over time intervals. Additionally, relevant for semantic types, times (and time intervals) are of type i , events are of type v , and truth values are of type t .)

²⁰It is also possible to accomplish a compositional semantics very similar to this one using a time point for the assertion time (à la Ramchand) instead of a time interval. For such an account, we would have to say that in the imperfective, the assertion time point is within the runtime of the event, and in the perfective, the assertion time point is the endpoint of the runtime of the event. When these semantically compose, what we're left with is a assertion time point that is the endpoint of the runtime of the event, since only that time point is compatible with both requirements.

(76) Imperfective verb base: **qatɪl**



I propose that formally, the denotation for imperfective Asp_M is that shown in (77).

$$(77) \quad \llbracket \text{Asp}_M.\text{IMPF} \rrbracket = \lambda P_{\langle v,t \rangle} . \lambda i . \lambda e . [P(e) \ \& \ i \subseteq \tau(e)]$$

As in the informal account, imperfective Asp requires the assertion time i to occur within the runtime of the event, $\tau(e)$.

Following Ramchand (2008), I take the denotation of vP to abstractly be that in (78), with the only unbound variable an event variable:

$$(78) \quad \llbracket vP \rrbracket = \lambda e . [\dots e \dots]$$

Imperfective Asp_M in (77) will thus take the event denoted by vP as its argument and map it to the interval corresponding to the assertion time i such that i is a subset of the runtime of the event, (79).

$$(79) \quad \begin{aligned} & \llbracket \text{Asp}_M.\text{IMPF} \rrbracket (\llbracket vP \rrbracket) \\ &= \lambda P_{\langle v,t \rangle} . \lambda i . \lambda e . [P(e) \ \& \ i \subseteq \tau(e)] (\llbracket vP \rrbracket) \\ &= \lambda i . \lambda e . [\llbracket vP \rrbracket (e) \ \& \ i \subseteq \tau(e)] \end{aligned}$$

In a canonical imperfective, Asp_H does not play an aspectual role, but it does need to make the event variable inaccessible to further aspectual manipulations by T ; this reflects the fact that T does not order the utterance time with respect to the event time, but rather orders the utterance time with respect to the assertion time. Following (Ramchand 2008), I assume this is through existential closure over the event variable. We thus have the following denotation for neutral Asp_H :

$$(80) \quad \llbracket \text{ASP}_H.\text{NEUT} \rrbracket = \lambda P_{\langle i, \langle v, t \rangle \rangle} . \lambda i . \exists e . [P(i)(e)]$$

In a canonical imperfective, neutral Asp_H will take $\text{Asp}_{PM}.\text{IMPF}P$ (the output of (79)) as its argument:

$$(81) \quad \begin{aligned} \llbracket \text{ASP}_H.\text{NEUT} \rrbracket (\llbracket \text{Asp}_{PM}.\text{IMPF}P \rrbracket) \\ &= \lambda P_{\langle i, \langle v, t \rangle \rangle} . \lambda i . \exists e . [P(i)(e)] (\lambda i . \lambda e . \llbracket vP \rrbracket(e) \ \& \ i \subseteq \tau(e)) \\ &= \lambda i . \exists e . \llbracket vP \rrbracket(e) \ \& \ i \subseteq \tau(e) \end{aligned}$$

Asp_HP , then, has only one unbound variable: the assertion time i . The event variable is now existentially bound and inaccessible to T .

T now combines with Asp_HP to produce a proposition with no unbound variables. T , then, must existentially bind the assertion time, as well as (for past tense) locate the utterance time after the assertion time:

$$(82) \quad \llbracket T_{\text{PST}} \rrbracket = \lambda P_{\langle i, t \rangle} . \exists i . [P(i) \ \& \ t^* > i]$$

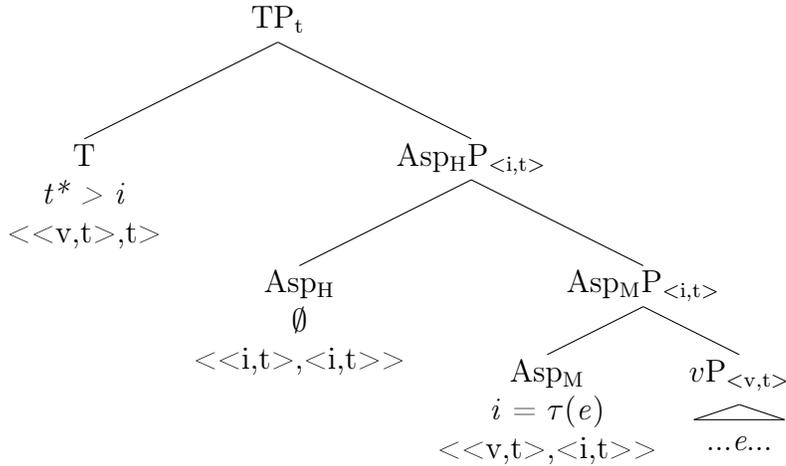
The semantic composition at the root node proceeds as follows, with T taking Asp_HP (the output of (81)) as its argument:

$$\begin{aligned}
(83) \quad & \llbracket \text{TP}_{\text{PST}} \rrbracket (\llbracket \text{Asp}_{\text{H.NEUTP}} \rrbracket) \\
& = \lambda P_{\langle i,t \rangle} . \exists i . [P(i) \ \& \ t^* > i] \ (\lambda i . \exists e . [\llbracket vP \rrbracket (e) \ \& \ i \subseteq \tau(e)]) \\
& = \exists i . [\exists e . [\llbracket vP \rrbracket (e) \ \& \ i \subseteq \tau(e)] \ \& \ t^* > i]
\end{aligned}$$

At TP, then, a canonical imperfective requires that there exist a time interval and an event of the kind vP , such that the time interval is a subset of the runtime of the event, and the utterance time follows the time interval.

A canonical perfective proceeds essentially in the same way as a canonical imperfective, just with a difference of denotation of Asp_M . I give the schematic composition in (84) from the previous section and the denotation of perfective Asp_M in (85).

(84) Perfective verb base: **qtil**



$$(85) \quad \llbracket \text{Asp}_{\text{M.PFV}} \rrbracket = \lambda P_{\langle v,t \rangle} . \lambda i . \lambda e . [P(e) \ \& \ i = \tau(e)]$$

Stepwise, the semantic composition is the same as that for a canonical imperfective. I show the composition up to the root node in (86) through (88).

$$\begin{aligned}
(86) \quad & \llbracket \text{Asp}_{\text{M.PFV}} \rrbracket (\llbracket vP \rrbracket) \\
& = \lambda P_{\langle v,t \rangle} . \lambda i . \lambda e . [P(e) \ \& \ i = \tau(e)] (\llbracket vP \rrbracket)
\end{aligned}$$

$$= \lambda i. \lambda e. [[vP]](e) \ \& \ i = \tau(e)$$

$$= [[Asp_{M.PFV}P]]$$

$$(87) \quad [[Asp_{H.NEUT}]] ([[Asp_{M.PFV}P]])$$

$$= \lambda P_{\langle i, \langle v, t \rangle \rangle}. \lambda i. \exists e. [P(i)(e)] \ (\lambda i. \lambda e. [[vP]](e) \ \& \ i = \tau(e))$$

$$= \lambda i. \exists e. [[vP]](e) \ \& \ i = \tau(e)$$

$$= [[Asp_{H.NEUT}P]]$$

$$(88) \quad [[T_{PST}]] ([[Asp_{H.NEUT}P]])$$

$$= \lambda P_{\langle i, t \rangle}. \exists i. [P(i) \ \& \ t^* > i] \ (\lambda i. \exists e. [[vP]](e) \ \& \ i = \tau(e))$$

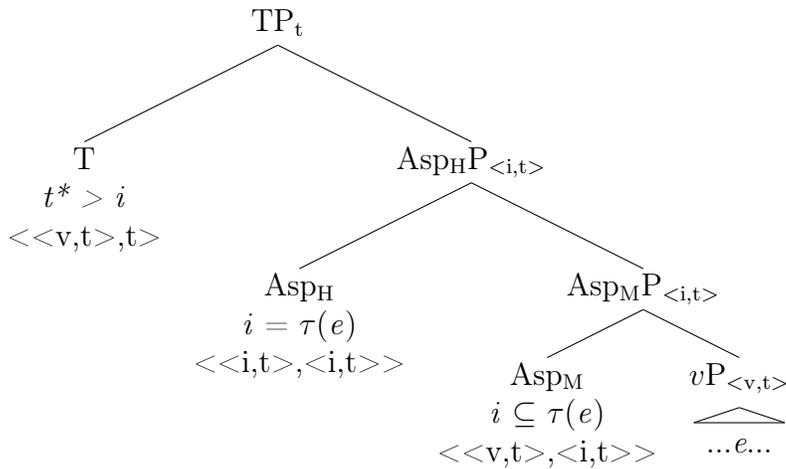
$$= \exists i. [\exists e. [[vP]](e) \ \& \ i = \tau(e) \ \& \ t^* > i]$$

$$= [[T_{PST}P]]$$

At the TP level, a canonical perfective requires that there exist a time interval and an event of the kind vP , such that the time interval is cotemporal with the runtime of the event, and the utterance time follows the time interval.

The semantic composition of the QAM- perfective involves an imperfective Asp_M and a perfective Asp_H . This is shown schematically in (89) from the previous section, with the formal semantic denotation of perfective Asp_H in (90).

(89) Secondary perfective: **qam-qaṭl**



$$(90) \quad \llbracket \text{QAM-} \rrbracket = \llbracket \text{ASP}_{\text{H.PFV}} \rrbracket = \lambda P_{\langle i, \langle v, t \rangle \rangle} \lambda i \exists e [P(i)(e) \ \& \ i = \tau(e)]$$

Up to $\text{Asp}_{\text{M}}\text{P}$, the semantic composition is that of a canonical imperfective:

$$(91) \quad \begin{aligned} \llbracket \text{ASP}_{\text{M.IMPF}} \rrbracket (\llbracket v\text{P} \rrbracket) &= \lambda P_{\langle v, t \rangle} \lambda i \lambda e. [P(e) \ \& \ i \subseteq \tau(e)] (\llbracket v\text{P} \rrbracket) \\ &= \lambda i \lambda e. [\llbracket v\text{P} \rrbracket(e) \ \& \ i \subseteq \tau(e)] \\ &= \llbracket \text{ASP}_{\text{M.IMPF}}\text{P} \rrbracket \end{aligned}$$

Perfective $\text{Asp}_{\text{H}}\text{P}$ (QAM-) then takes imperfective $\text{Asp}_{\text{M}}\text{P}$ as its argument. In the second-to-last step, I show the simplification of perfective $\text{Asp}_{\text{H}}\text{P}$ (cf. (75)).

$$(92) \quad \begin{aligned} \llbracket \text{ASP}_{\text{H.PFV}} \rrbracket (\llbracket \text{ASP}_{\text{M.IMPF}}\text{P} \rrbracket) &= \lambda P_{\langle i, \langle v, t \rangle \rangle} \lambda i \exists e. [P(i)(e) \ \& \ i = \tau(e)] (\lambda i \lambda e. [\llbracket v\text{P} \rrbracket(e) \ \& \ i \subseteq \tau(e)]) \\ &= \lambda i \exists e. [\llbracket v\text{P} \rrbracket(e) \ \& \ i \subseteq \tau(e) \ \& \ i = \tau(e)] \\ &= \lambda i \exists e. [\llbracket v\text{P} \rrbracket(e) \ \& \ i = \tau(e)] \\ &= \llbracket \text{ASP}_{\text{H.PFV}}\text{P} \rrbracket \end{aligned}$$

The semantic denotation of $\text{Asp}_{\text{H.PFV}}\text{P}$ is thus equivalent to that of an $\text{Asp}_{\text{H.NEUT}}\text{P}$ that resulted from neutral Asp_{H} merging with perfective Asp_{M} , (87).

Lastly, the semantic composition of T with perfective $\text{Asp}_{\text{H}}\text{P}$ proceeds as in (93).

$$(93) \quad \begin{aligned} \llbracket \text{T}_{\text{PST}} \rrbracket (\llbracket \text{ASP}_{\text{H.PFV}}\text{P} \rrbracket) &= \lambda P_{\langle i, t \rangle} \exists i. [P(i) \ \& \ t^* > i] (\lambda i \exists e. [\llbracket v\text{P} \rrbracket(e) \ \& \ i = \tau(e)]) \\ &= \exists i. [\exists e. [\llbracket v\text{P} \rrbracket(e) \ \& \ i = \tau(e)] \ \& \ t^* > i] \\ &= \llbracket \text{T}_{\text{PST}}\text{P} \rrbracket \end{aligned}$$

Just as in a canonical perfective, (93) results in the assertion time being coterporal with the event time, and the utterance time following the assertion time.

3.5.4 Interim summary

In this section, I have shown one possible compositional account of the semantics of the QAM-perfective. I proposed, essentially, that if we interpret the “within” relation of imperfective aspect simply as a subset relation (not a proper subset relation), then perfective and imperfective aspect can compositionally combine without producing a contradiction, and without aspect “reversal”. If the assertion time is required semantically to be both a subset of the event time (imperfective) and coterporal with the event time (perfective), then the assertion time will be coterporal with the event time, since this is compatible with both relations; in other words, perfectivizing an imperfective simply constrains the possible time interval that the assertion time can correspond to. The semantic composition of a QAM-perfective thus results in a proposition that is equivalent to that of a canonical perfective. As noted at the outset of this section, even if this particular semantic account turns out to be untenable, it is clear that aspects can morphologically stack in the way seen in Neo-Aramaic and Slavic, and so there must be a way to interpret this semantically. This concludes my account of Neo-Aramaic’s secondary perfective construction.

3.6 Conclusion

This chapter has explored the syntax and semantics of the secondary perfective strategy in Neo-Aramaic. This strategy is intriguing because it involves the use of the imperfective verb base to express a perfective, yet the resulting verb form is semantically indistinguishable from a canonical perfective that uses that perfective verb base. The secondary perfective strategy surfaces as a ‘patch’ in certain Neo-Aramaic languages to compensate for restrictions on the perfective base’s object agreement, yet it is not a last resort strategy.

Syntactically, I proposed that QAM- occupies a high Asp head between T and main Asp. Semantically, I proposed that QAM- expresses the same perfective meaning as the canonical perfective base, namely that the assertion time is coterporal with the event time. My account provides support for an articulation of the Asp field into (at least) two projections.

The higher Asp position may be restricted to perfective and perfect (as these are the attested functions of this higher Asp head), while the lower Asp position may be able to express a broader range of aspects.

There are several important issues raised by the results in this chapter. One issue is the question of whether the higher Asp head is present in derivations in which it is not overtly realized (e.g., canonical imperfectives in Neo-Aramaic), and further, whether it is present in the basic clause structure of all languages. The fact that high Asp is implicated in completely unrelated language families suggests that its existence and clausal position is at least an option provided by Universal Grammar. Whether the effects of highest Asp can be detected in all languages remains to be seen.

Another issue raised by this chapter is what limitations there are on aspect stacking (both morphologically and semantically). In Neo-Aramaic, we saw that an imperfective verb could be turned into a perfective verb by the addition of QAM-. It is interesting to note that, no matter where QAM- were to merge (above or below main Asp), the overall aspect of the verb would be perfective, because perfective aspect has a more specific semantics than imperfective aspect. It may be, then, that making an imperfective verb perfective is a more direct process than making a perfective verb imperfective, as the latter must involve some sort of ‘repackaging’ of the event (e.g., repeatedness, habituality). I leave these and other issues open for future research.

In the following chapter, I address one big remaining puzzle that is pervasive in Neo-Aramaic syntax, the puzzle of Differential Object Marking.

CHAPTER 4

Differential Object Marking

4.1 Introduction

In Chapter 2, I presented an account of aspect-based agreement splits in Neo-Aramaic, a central component of which is the fact that objects that are specific trigger/require agreement on the verb while objects that are nonspecific do not. Crosslinguistically, this phenomenon is known as Differential Object Marking (DOM). DOM surfaced yet again as a central component of Chapter 3, where we saw that only when the object is specific and triggers agreement can the secondary perfective strategy be used. This chapter proposes a new account of DOM, using Senaya as a test case, and then explores how this type of account can be extended to Hindi.

4.1.1 Overview of the phenomenon

DOM is a widespread and much-discussed phenomenon that splits objects into two classes (Comrie 1979, Croft 1988, Bossong 1991, Enç 1991, de Hoop 1996, Torrego 1998, Aissen 2003, de Swart 2007, *i.a.*). In one class are objects that get (overtly) marked (“prominent”/“non-canonical” objects), and in the other class are ones that do not. On an inclusive conception of DOM, marking may take the form of case (e.g., Hindi, Turkish, Hebrew), an adposition (e.g., Spanish), agreement (e.g., Swahili, Senaya), or clitic-doubling (e.g., Macedonian, Catalan).¹

¹Some languages use syntactic position to differentiate classes of objects (e.g., Dutch, German). There are also languages in which two different classes of objects are both marked, but with distinct markers, e.g., Finnish (PART and ACC) and Russian (GEN and ACC). I will not be discussing such languages here. Note also that I will not be discussing determiners/demonstratives as a form of DOM, though they clearly interact with notions like definiteness and specificity.

Common factors distinguishing objects are definiteness, specificity, and animacy, with objects ‘high’ on the relevant scale (e.g., more definite, more animate) getting marked.

Objects that participate in DOM are differentiated along two main dimensions—animacy and definiteness (Silverstein 1976, Moravcsik 1978, Comrie 1979, Croft 1988, Aissen 2003):

- (1) Animacy / person scale
 First/Second > Third Pron. > Proper Name > Human > Animate > Inanimate
- (2) Specificity / definiteness scale
 Pronoun > Proper Name > Definite > Specific Indefinite > Nonspecific

DOM languages differ as to which scale(s) determine the differentiation of objects, as well as where along the scale the cut off is made between marked and unmarked. But, it is always objects on the left side of the scale (the “high prominence” side) that are overtly marked, while objects on the right side (the “low prominence” side) are unmarked.

One well-known instance of DOM is found in Hindi, where objects are differentiated based (mainly) on specificity: Objects are marked with *-ko* (which is also the canonical dative case marker) when they are specific, and unmarked when they are nonspecific (Bhatt 2007):

- (3) a. Mina tum-*(**ko**) dekh rahii thii.
 Mina.F you-DAT see PROG.F be.PST.FS
 ‘Mina was looking at you.’
- b. Mina Tina-*(**ko**) dekh rahii thii.
 Mina.F Tina-DAT see PROG.F be.PST.FS
 ‘Mina was looking at Tina.’
- c. Mina ek bacce-**ko** uṭhaa rahii hai.
 Mina.F a/one child-DAT lift PROG.F be.PRES.3SG
 ‘Mina is picking up a particular child.’
- d. Mina ek bacca uṭhaa rahii hai.
 Mina.F a/one child lift PROG.F be.PRES.3SG
 ‘Mina is picking up a child.’

The DOM-marker *-ko* is obligatory on all first and second person object pronouns and proper names in object position because such nominals are always specific, (3a-b). For all other nominals (at least in nonperfective aspects), *-ko* surfaces when the object is specific, (3c), and does not when the object is nonspecific, (3d). I return to Hindi in detail in §4.5.

Why is DOM empirically and theoretically interesting? DOM is widespread across unrelated languages (Austronesian, Indo-European, Semitic, Pama-Nyungan, Afro-Asiatic, *i. a.*), making it a good candidate for revealing a property of Universal Grammar. Further, DOM always obeys the same prominence scales, and is encoded in a range of different argument-marking strategies. Finally, DOM is usually “parasitic” in the sense that the process through which (or the form in which) DOM surfaces is typically evidenced elsewhere in a language’s grammar for nominal-marking that is not differential (does not depend on specificity, animacy, etc.). Most frequently, DOM looks like indirect object marking, e.g., a dative case marker or adposition (Bossong 1991).

In this chapter, I present a novel theoretical account of DOM that attempts to capture three robust empirical facts: (i) differential marking typically affects objects but not subjects; (ii) the morphological form of DOM is typically parasitic on another marker in the language; and (iii) DOM obeys prominence scales.

4.1.2 Overview of the analysis

I describe my account informally here. I propose that DOM arises from the interaction of two factors: (i) which nominal features require licensing in a particular language, and (ii) which nominal licensers are obligatory (always merge) and which nominal licensers are optional (do not always merge) in a particular language. For the first factor, the idea is that whether a nominal needs licensing or not is determined by its featural composition, with some features requiring licensing while others do not. In Senaya, for example, we can say that only the specificity feature on nominals requires licensing, such that when this feature is absent, the nominal does not require licensing. Note that I say “nominal” here and not “object”, and as

such my account will generalize across all nominals and not refer just to nominals with a certain grammatical function.

For the second factor, the idea is that nominal licensers can differ as to whether they obligatorily merge or not. A licenser that obligatorily merges is active (looks for a nominal to license) in every derivation, while a licenser that optionally merges will only merge and be active (look for a nominal to license) when its failure to do so would cause some nominal that requires licensing to go unlicensed. The effect of having these two different types of licensers is the following. When an obligatory nominal licenser merges in a structure, it will license the closest nominal (its sister (“inherent” licensing) or the highest nominal in its c-command domain (“structural” licensing)), regardless of the features of the nominal, i.e., regardless of whether the nominal bears some feature that requires licensing. All other nominals (i.e., nominals that are not the closest nominal to an obligatory nominal licenser) will enter into a licensing relation only when the nominal itself bears a feature that requires licensing; in this situation, an optional licenser (if available) will merge to license the nominal. I argue that it is in this latter context that DOM arises.

In the technical terminology that I will be using, the core proposal is as follows. Case is simply unvalued (not uninterpretable) on N, but may be uninterpretable on certain other functional heads in nominal structure that encode semantic properties such as specificity and animacy. Only when there is additional functional structure that bears uninterpretable Case does a nominal *require* Case-licensing. Nominals that do not require Case-licensing may, nonetheless, enter into Case and agreement relations, since an unvalued Case feature is introduced on the smallest piece of nominal structure, on N itself. However, if such a nominal (one that does not bear uninterpretable Case) fails to get Case, there is no resulting crash of the derivation. In instances of DOM, then, my claim is that objects that surface with DOM have Case (in fact, require Case), while objects that surface without marking do not have Case (and since they do not require Case, this is perfectly grammatical). Note that the idea that unmarked objects in DOM languages lack Case is not new, and has been proposed for Hebrew (Danon 2006) and Spanish (Ormazabal and Romero 2013).

There are three components of my account that set it apart from previous accounts of DOM. First, I generalize over nominals as a whole rather than picking out objects specifically. Second, under my account, a nominal’s licensing needs do not affect whether the nominal is eligible to enter into a licensing relation or not: all nominals can be licensed (have valued Case, be φ -agreed with),² even though only certain nominals *require* licensing. Finally, it is the location and (non-)obligatoriness of nominal licensors that determine which nominals will always be licensed, and which nominals will be licensed only when they require it.

4.1.3 Roadmap

The chapter is laid out as follows. I begin in §4.2 by laying out my assumptions. In §4.3 I present my proposal. §4.4 discusses the DOM facts in Senaya and provides a formal account of them, and §4.5 extends this account to DOM in Hindi. §4.6 briefly reviews some previous accounts of DOM, and finally I conclude in §4.7.

4.2 Assumptions about nominals and licensing

In this section, I lay out the assumptions that my account rests on: (i) Case valuation as a reflex of φ -agreement (Chomsky 2000, 2001); (ii) Agree as feature-sharing (Pesetsky and Torrego 2007); and (iii) the distribution of nominal features across nominal structure (Abney 1987, Valois 1991, Szabolcsi 1994, Danon 2011, *i.a.*).

4.2.1 Case and agreement

“Licensing”, in a broad sense, is a cover term for the fulfillment of a requirement (or set of requirements) that hold of some element in order for it to appear grammatically in a clause. When the licensing requirements of some element are not met, then the result is ungrammaticality. Negation (as well as other downward entailing operators), for example,

²There is perhaps an exception to be made here for incorporated and/or pseudo-incorporated nominals, which seem inaccessible to both Case and agreement, e.g., Massam (2001).

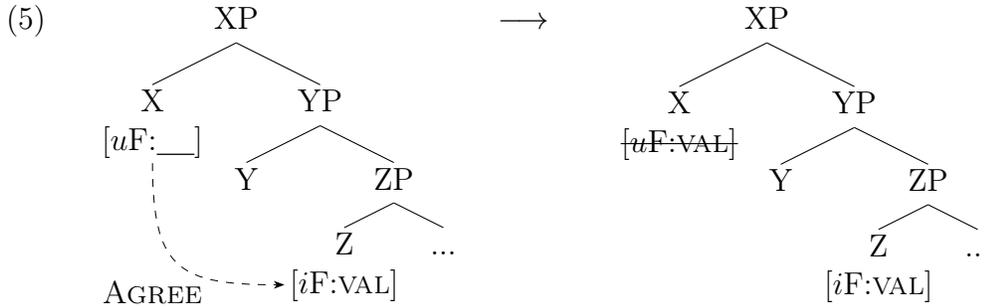
can be said to license Negative Polarity Items (NPIs) when the negation (or other downward entailing operator) c-commands the NPI; if an NPI fails to be licensed, then the NPI cannot grammatically appear in a clause.

The idea that nominals need licensing surfaces early in the generative tradition (Jean-Roger Vergnaud in a 1977 letter to Chomsky and Lasnik (published as Vergnaud 2008); Chomsky 1980, 1981): all nominals need (abstract) Case, and this is regulated by the Case Filter, which rules out derivations in which any nominal lacks Case. In The Minimalist Program (Chomsky 1995) and subsequent work (Chomsky 2000, 2001), Case is seen as a semantically uninterpretable feature on nominals, thereby requiring “deletion” before the interface with the semantics (LF). Deletion, in turn, is facilitated by a value being supplied for an uninterpretable feature. If all nominals have uninterpretable Case and uninterpretable features must be valued in order to be deleted, it follows that all nominals must have their Case feature valued in the course of a derivation.

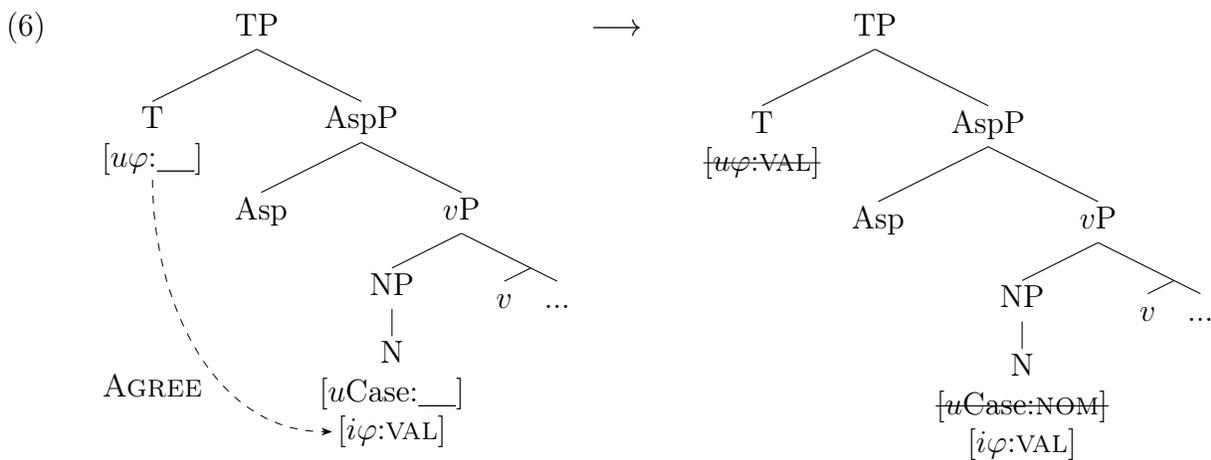
An uninterpretable Case feature on a nominal is valued in the following technical way (Chomsky 2001). In addition to an uninterpretable (and unvalued) Case feature, every nominal bears semantically interpretable (and valued) φ -features:

$$(4) \quad \begin{array}{c} \text{NP} \\ | \\ \text{N} \\ [\textit{uCase}: __] \\ [\textit{i}\varphi:\text{VAL}] \end{array}$$

T and *v*, on the other hand, bear uninterpretable (and unvalued) φ -features, which must be valued and deleted before LF. Uninterpretable/unvalued features on functional heads constitute “probes”, which search their c-command domain (via the mechanism Agree, discussed in more detail in the next section) for a “goal” with matching and valued features. When a probe finds a goal, the valued features on the goal are assigned to the probe, enabling the newly-valued uninterpretable features to be deleted, as schematized in (5) for an abstract feature F.



The final necessary assumption here is that Case valuation is a reflex of φ -agreement. When a functional head bearing uninterpretable/unvalued φ -features is merged, this “ φ -probe” will search the structure for valued φ -features. The probe will then Agree with the closest active nominal, with “activity” being determined by whether or not the goal nominal has an unvalued Case feature. When an active goal nominal is found, the nominal assigns its φ -feature values to the probe (thereby satisfying the needs of the probe), and a reflex of this is valuation of the nominal’s Case feature (thereby satisfying the needs of the nominal). The value of the Case feature depends on the identity of the φ -probe, e.g., ACC for φ -agreement with v and NOM for φ -agreement with T. This is illustrated with T and a subject nominal in (6).



The φ -probe on T agrees with the valued φ -features on N. A reflex of this Agree relation is the usual valuation of the φ -features on the probe as well as valuation of N's Case feature, which is NOM in (6) because the probing head is T. The subject in (6) is now inactive.

Case and agreement are thus two sides of one nominal licensing process, with Case licensing following from φ -agreement. Overt evidence of this licensing may be spelled out on the probe as morphological agreement, or on the nominal as morphological case, or both, or neither.

4.2.2 Feature sharing

What does it mean for the same feature values to be present in multiple places in the syntax? For Chomsky (2000, 2001), valuation of a φ -probe's φ -features is a one-time operation, essentially copying the features of the goal onto the probe; there is no remaining link between the probe and goal. Another way to model feature valuation is through feature-sharing, as is proposed by Pesetsky and Torrego (2007).

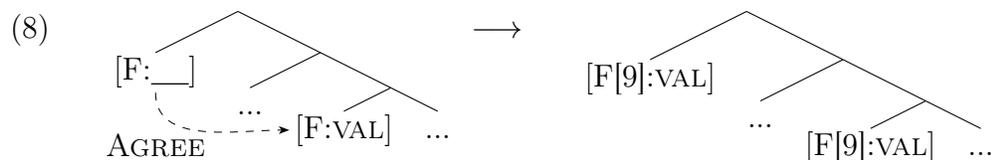
Pesetsky and Torrego (2007) approach Agree as feature-sharing rather than copying: when an uninterpretable or unvalued feature F finds another feature F somewhere else in the structure, the result is that feature F is shared across the two (or more) locations. The operation Agree is thus (re-)formulated as follows (Pesetsky and Torrego 2007:268,(5)):

(7) Agree (Feature sharing version)

- (i) An unvalued feature F (a *probe*) on a head H at a syntactic location α (F_α) scans its c-command domain for another instance of F (a *goal*) at location β (F_β) with which to agree.
- (ii) Replace F_α with F_β or F_β with F_α ,³ so that the same feature is present in both locations.

³This is a slight revision of feature-sharing Agree as suggested by Pesetsky and Torrego (2007:269,fn. 9). It is assumed that “recoverability considerations might prevent replacement of the valued occurrence by the unvalued occurrence.” In other words, if one instance of F is valued and another is unvalued, it is the valued instance that replaces the unvalued one.

This is illustrated in (8).



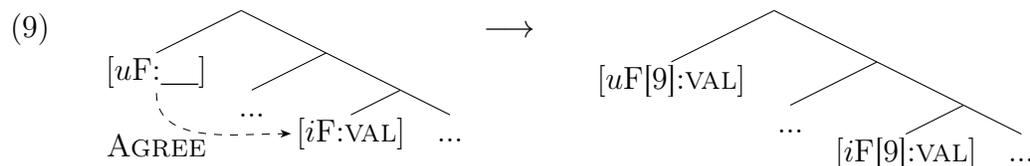
As a result of Agree in (8), the feature F is shared across the two positions, indicated by the features sharing an (arbitrary) index, 9. (This index is not intended to be a syntactic object, but rather is simply a notational device for which features are in fact the same feature.) In Pesetsky and Torrego’s terms, there is one *occurrence* of F in (8), but multiple *instances* of F . Feature-sharing thus entails that when one instance of a feature is valued (or gets valued in the course of a derivation), all instances of F are also valued; the higher instance of F in (8) is valued as a result of being in a feature-sharing relation with the lower instance of F .

Copying differs from sharing in two crucial ways. First, in a feature-sharing system, a probing (unvalued) feature can Agree with a feature that is itself unvalued, with the result being unification of the two separate occurrences of the feature into one occurrence of the feature (albeit an unvalued occurrence). In a copying system, the result of such an Agree relation would simply be a vacuous copying operation where no value is copied from one feature to the other, or perhaps the probe would skip the unvalued feature entirely. Second, when two instances of a feature F in a feature-chain are unvalued, valuation of one of these instances of the feature is shared across both instances of the feature F , such that both become valued. In other words, a whole feature chain gains a value when just one instance of a feature on the chain is/gets valued. Copying, on the other hand, only affects the two features that are directly in an Agree relation, and no such sharing across multiple instances of a feature is possible.

Note that I have not yet discussed (un)interpretability in a feature-sharing system. Pesetsky and Torrego separate interpretability (whether or not an item makes a semantic

contribution in a particular syntactic position) from valuation (whether or not a property of an item is provided from the lexicon). A feature in their system can be born as interpretable but unvalued (i.e., able to make a semantic contribution in its merge position but not specified with a value in the lexicon) and uninterpretable but valued (specified with a value from the lexicon but unable to make a semantic contribution in its merge position), in addition to the more obvious pairing of interpretable-valued and uninterpretable-unvalued.

Unlike a feature’s value, which gets shared with every instance of a feature, as in (8), the (un)interpretability of each instance of a feature remains constant throughout the derivation. In other words, the “replacement” that occurs under feature-sharing Agree (stated in (7)) leaves (un)interpretability intact: Agree does not change whether a particular instance of a feature is semantically interpretable in its syntactic position or not. Consider the feature-sharing in (9), which augments (8) in indicating the interpretability of the features:



The higher instance of F remains uninterpretable even after Agree with the lower instance of (interpretable) F.

Finally, Pesetsky and Torrego propose that every occurrence of a feature must be associated with both a value and an interpretation, though the value and interpretation can have come from different instances of that feature. Uninterpretable features, then, rather than being deleted after being valued, remain intact. An uninterpretable feature will not cause the derivation to crash just in case it is in a feature chain that has both a value (a valued instance of F) and an interpretation (an interpretable instance of F). An unvalued but interpretable feature will not cause the derivation to crash just in case it is in a feature chain that has a value.

In my account, I will assume that Agree is feature-sharing, as formulated by Pesetsky and Torrego in (7). However, my use of “(un)interpretable” will differ somewhat from their (and Chomsky’s) usage. I will adopt uninterpretability as a formal syntactic feature that regulates which features can potentially cause a crash of the derivation, not linked (at least in any direct way) to whether or not a certain instance of a feature contributes to the semantics. I maintain (with Pesetsky and Torrego (2007) and Chomsky (2000, 2001)) that uninterpretable features must be valued in the course of a derivation. However, a consequence of using “uninterpretability” as a formal feature is that it no longer makes sense to reference “interpretation”, e.g., in order to require uninterpretable features to be in a chain with both an interpretable instance and a valued instance of the feature; the only requirement that is statable is a valuation requirement. Finally, corresponding to my use of “uninterpretability” solely as a formal syntactic feature, features will all either be uninterpretable (will cause a crash if not valued, notated with u) or not uninterpretable (will not cause a crash, indicated by a lack of u). In my system, then, there are the following types of features:

- (10) Possible types of features
- a. [F:___] = unvalued
 - b. [F:VAL] = valued
 - c. [u F:___] = uninterpretable, unvalued (\rightarrow will cause a crash)
 - d. [u F:VAL] = uninterpretable, valued

Note that the feature in (10d) can only be the result of valuation of an uninterpretable feature during the course of the derivation; if a feature were “born” as uninterpretable and valued, the feature would never cause a crash, and so there would be no reason to call it uninterpretable in the first place.

As for unvalued features, Preminger (2011) argues convincingly in the domain of φ -agreement that when a φ -probe fails to find a goal, the result is not a crash of the derivation. He proposes, then, that φ -features are not in fact uninterpretable as probes, simply unvalued,

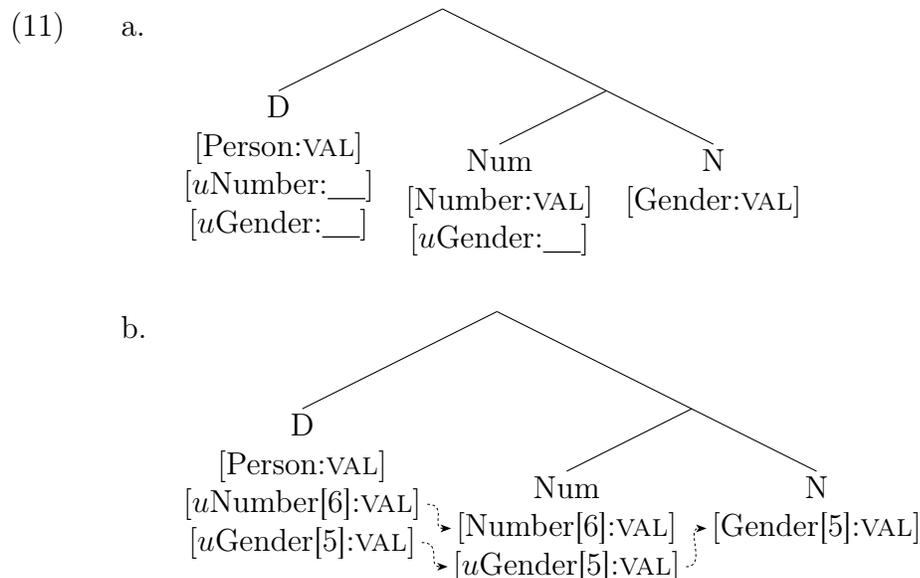
and the syntax tolerates unvalued features (they do not cause a crash).⁴ I thus adapt Pesetsky and Torrego’s account to accommodate unvalued features tolerating the lack of a value. In sum: Uninterpretable features must be valued in the course of a derivation, but simply unvalued features need not be.

4.2.3 Nominal structure

The final major component of my account will rest on the idea that nominal features like φ -features (and specificity and animacy, as I return to in the following section) are actually distributed throughout nominal structure, not introduced all in one bundle (Abney 1987, Valois 1991, Szabolcsi 1994, *i.a.*). Danon (2011) surveys the literature on the distribution of φ -features in particular and proposes that this view of nominal structure (where person, number, and gender features are merged independently on heads throughout the nominal) can be reconciled with Chomskyan Case-assignment (the result of φ -agreement with a complete bundle of φ -features on a nominal) by assuming a feature-sharing version of Agree.

Specifically, Danon (2011) proposes that feature-sharing within the nominal ends up ‘collecting’ values for all the φ -features on the highest head in the nominal, typically D. A simplified structure for a nominal can be seen in (11a). N introduces an interpretable/valued Gender feature, Num introduces an interpretable/valued Number feature as well as an unvalued/uninterpretable Gender feature, and D introduces an interpretable/valued Person feature as well as unvalued/uninterpretable Gender and Number features. The result of nominal-internal feature-sharing is shown in (11b).

⁴Preminger (2011) further proposes that we might be able to do away with uninterpretable features entirely, and shows other domains in which an “obligatory operations” model (rather than a “derivational time-bomb” model) makes the right predictions, including object shift and wh-movement. I contend here, however, that uninterpretable features (or some equivalent) are still needed in the domain of Case, i.e., to enforce abstract nominal licensing. The need for uninterpretability in this domain is especially clear in Senaya, where specific nominals are banned from appearing in a position where Case valuation is completely impossible, namely, in object position of a canonical perfective.



In (11b), all the features are valued in all of their instances, and the highest head (D) has the full set of φ -features, and thus can be the goal of a φ -probe higher in the clause.

Danon notes that given the Chomsky (2000, 2001) assumption that only active (unvalued-feature-bearing) goals can be the target of Agree, we must posit that some feature that remains unvalued throughout nominal structure merges on each of these heads, such that each head is “active” (visible for Agree). One likely candidate for this feature is Case, and it is precisely Case that I will propose is indeed present and unvalued on each functional head in nominal structure, as well as on N itself.

4.2.4 Interim summary

I draw the basic theoretical components of my account from the previous work reviewed here. I take (certain) nominals to need abstract licensing, which I will notate with an uninterpretable Case feature on the nominal (Chomsky 2000, 2001). Nominal licensing (notated as valuation of a nominal’s Case feature) is a reflex of φ -agreement, with the Case value determined by the identity of the probing head. This Case-valuing φ -agreement relation may be spelled out as overt case (on the nominal) or overt agreement (on the probing

head), or neither, or both. In order for a goal to be active (probe-able), it must have an unvalued feature.

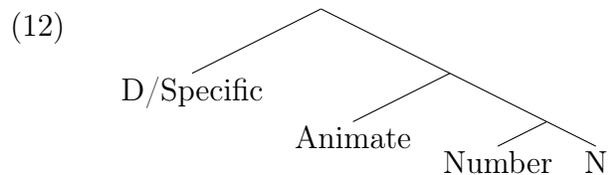
Additionally, I assume that an Agree relation between two instances of the same feature results in feature-sharing across these multiple locations, such that valuation of one instance of a feature results in valuation of all (shared) instances of the feature (Pesetsky and Torrego 2007). Unvalued features are probes (instantiate Agree). Uninterpretable features must be valued in the course of a derivation, but unvalued (and not uninterpretable) features need not be. Recall, also, that I will be using “uninterpretable” as a purely syntactic device not directly related to the semantic contribution of an element. Finally, I assume that nominal features like φ -features are distributed across distinct heads inside the nominal, and that there is feature-sharing within the nominal (Danon 2011).

4.3 Proposal

There are three main components to my proposal. First, I propose that nominal features like specificity and animacy are distributed throughout nominal structure as functional heads, just like φ -features. Second, I propose that unvalued Case is merged on each functional head on the spine of the nominal as well as on N itself, and that languages differ as to which of these instances of Case are uninterpretable. Third, I follow others (Bobaljik 1993, Rezac 2011, *i.a.*) in proposing that finite clauses have one obligatory Case locus, while other Case loci are merged secondarily, when needed for convergence.

4.3.1 Part 1: Extending Danon (2011)

I first propose that Danon’s (2011) account (of φ -features as distributed across the nominal but ‘collecting’ on the highest nominal head, §4.2.3) should be extended to other nominal features such as specificity and animacy. For example, Lidz (2006), in his account of DOM in Kannada, proposes that Specific and Animate (in addition to Number as above) are projected as functional heads within the nominal, (12).



In Lidz’s account (and in mine, below), D/Specific is not projected for nonspecific nominals, and Animate is not projected for inanimate nominals. Note that if Specific and Animate are functional heads in nominal structure, they, too, may plausibly be taken to bear a Case feature and participate in nominal-internal feature sharing, just like φ -features do; this is precisely what I will suggest in the following section.

Beyond functional heads encoding specificity, animacy, and φ -features, I propose that there are functional heads corresponding to different points along the definiteness and animacy hierarchies (Silverstein 1976, Moravcsik 1978, Comrie 1979, Croft 1988, Aissen 2003), repeated here from the introduction:

- (13) Animacy / person scale
 First/Second > Third Pron. > Proper Name > Human > Animate > Inanimate

- (14) Specificity / definiteness scale
 Pronoun > Proper Name > Definite > Specific Indefinite > Nonspecific

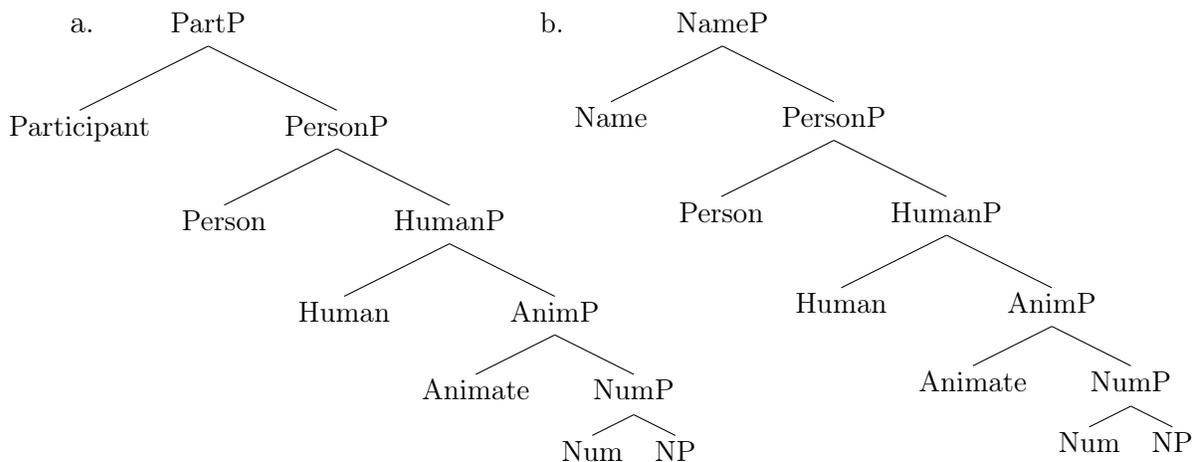
Specifically, I propose the following functional heads (in no particular order):

- (15)
- a. Participant (semantically encoding a participant (1st/2nd person))
 - b. Person (semantically encoding person)
 - c. Human (semantically encoding humanness)
 - d. Animate (semantically encoding animacy)
 - e. Name (semantically encoding the property of being a proper name)
 - f. Definite (semantically encoding definiteness)
 - g. Specific (semantically encoding specificity)
 - h. Number (semantically encoding number)

I assume that Number is always projected and selects for N (which itself introduces a gender feature), and so the minimal NP consists of Num and N. All other heads are privative in that when that semantic feature is absent, so is the projection.⁵ For example, animate nominals project an *AnimateP*, while inanimate nominals lack an *AnimateP*. In laying out my account, I will keep D/DP separate from all of the heads in (15), though there may be different Ds cross-linguistically that are associated with one or more of these categories.

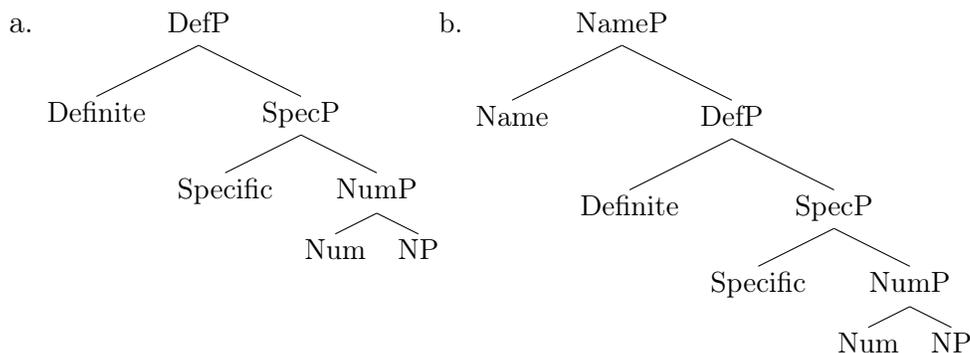
There are many logical entailments across the projections named in (15). For example, a first person nominal will have *Participant* projection, which entails a *Person* projection, which entails a *Human* projection, and so forth. Some examples of entailments across categories are shown in (16) for the animacy scale and in (17) for the definiteness scale.

(16) Animacy / person scale



⁵I do not attempt to account for the semantics of these different features. One proposal for specificity inside of nominals is given by Lidz (2006), who suggests that the *Spec* head introduces a choice function.

(17) Specificity / definiteness scale



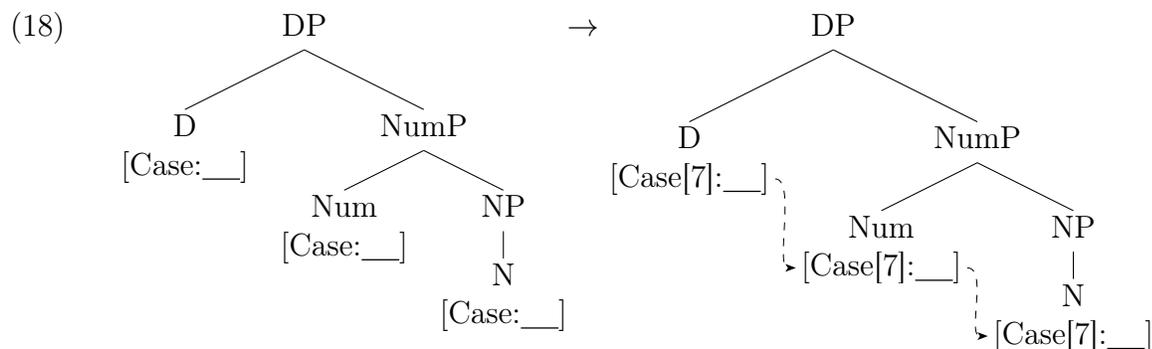
(16a) represents a first or second person nominal; (16b) represents a proper name from an animacy perspective;⁶ (17a) represents a definite nominal; (17b) represents a proper name from a definiteness perspective. (It is not possible to tell *a priori* the ordering between, e.g., Definite and Animate.)

4.3.2 Part 2: Distribution of Case inside the nominal

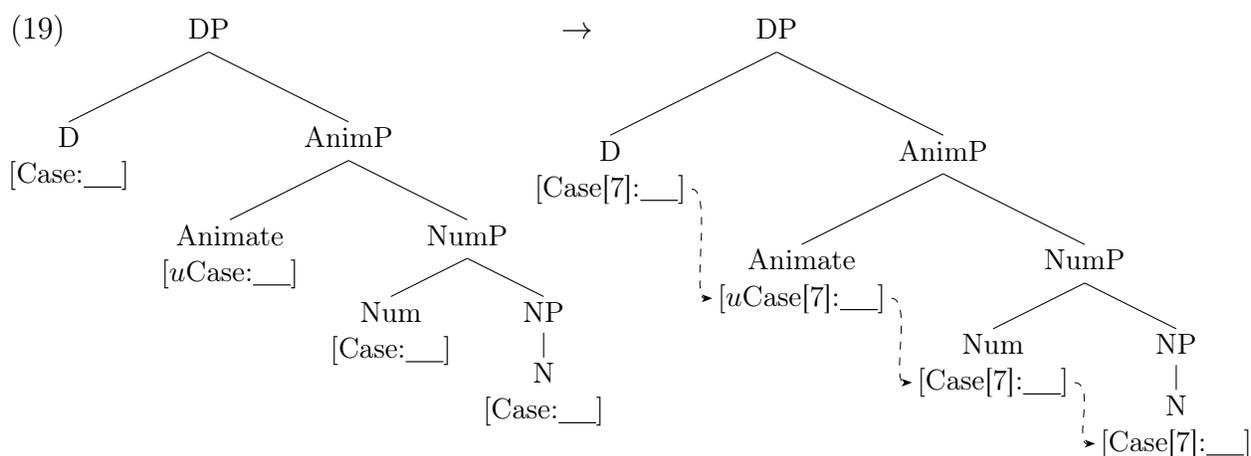
The crux of my account lies in the following claim: not all nominals need licensing. Such a claim has been made in various instantiations in the literature (Massam 2001, Danon 2006, Preminger 2011, Lyutikova and Pereltsvaig 2013, Ormazabal and Romero 2013, *i.a.*). My implementation of this claim is that all functional heads inside a nominal bear unvalued Case, but only certain heads bear uninterpretable (as well as unvalued) Case. Ultimately the highest head in the nominal will carry all of the information contained in the nominal, including values for all φ -features (Danon 2011).

Take, for example, a nominal consisting just of D, Num, and N, (18) (putting aside all non-Case features).

⁶Clearly this does not hold for the broader notion of proper noun, which can name things like places and companies, which are not human. I also put aside the issue of anthropomorphization, e.g., giving pets or cars names.



The nominal in (18) bears only unvalued Case, and so lack of Case valuation for this nominal will not cause a crash of the derivation. Uninterpretable Case may enter nominal structure on any functional head (varying by language), e.g., Animate, (19) (again putting aside all non-Case features).



The animate nominal in (19), by virtue of having an instance of uninterpretable Case, needs Case valuation, otherwise the nominal will cause the derivation to crash.

Where uninterpretable Case merges varies by language. For example, in a DOM language where only animate nominals get marked in object position (such as Dhargari (Austin 1981, cited in Aissen 2003)), we can say that it is animacy that requires a nominal to be Case-licensed, and so uninterpretable Case must merge on Animate, (19). In a DOM language where both animate nominals and specific nominals in object position get marked (such

as Kannada (Lidz 2006)), uninterpretable Case must merge on both Animate and Specific. I will propose for Senaya that it is just the Specific head that introduces uninterpretable Case. Nominals that contain uninterpretable Case need licensing, while nominals that do not contain uninterpretable Case do not.

The logical entailments across categories, e.g., (16)-(17), capture (at least portions of) the definiteness and animacy hierarchies obeyed by DOM, (13)-(14). For example, if uninterpretable Case is introduced by Animate, then any category (e.g., Human, Participant) that entails animacy will also have the Animate projection, and correspondingly, uninterpretable Case. If we assume that all nominals have a Number projection, then when (in some language) uninterpretable Case merges on Num, the result will be that all nominals in that language have uninterpretable Case and therefore all nominals require Case-licensing.

Note that the proposal here that only certain nominals *need* licensing (have uninterpretable Case) does not preclude other nominals from entering into Case and agreement relations, because all nominals have unvalued (even if not uninterpretable) Case.

4.3.3 Part 3: Obligatory Case loci

Finally, I adopt the theoretical idea that there is one obligatorily active nominal licensing locus in every finite clause, expressed in Bobaljik (1993) as the Obligatory Case Parameter. For example, in a finite clause in a nominative/accusative language, NOM is always assigned. In my account, the obligatoriness of a nominal licensing locus translates to some functional head (e.g., finite T) always merging with a φ -probe. Correspondingly, in every derivation, this φ -probe will (at least attempt to) Agree with the closest nominal.

Languages also have non-obligatory nominal licensing loci, which merge only when there is another nominal (apart from the subject) that needs licensing. Deciding whether or not to activate a secondary licensing locus can be seen as an economy calculation (Chomsky 1995) or as a last resort operation (Rezac 2011). For concreteness, I will adopt an economy-based view of this calculation, specifically: fewer Agree relations are preferred over more Agree

relations. One way this economy condition will play out is that if a derivation will converge without the activation of a secondary Case locus, then the derivation lacking the secondary locus is the preferred one.

The role that obligatory and optional nominal licensing loci will play in my analysis is as follows. A nominal that is the closest nominal to an obligatory nominal licensing locus will always get Case, regardless of that nominal's licensing needs (i.e., whether or not the nominal has uninterpretable Case). All other nominals will get Case only when both (a) the nominal requires it (the nominal has uninterpretable Case) and (b) there is a secondary nominal licensing locus available to value the nominal's Case.⁷

4.3.4 Interim summary

The basics of my account are as follows: (i) nominal features are projected as functional heads in nominal structure; (ii) all of these heads bear unvalued Case, and Case is shared throughout the nominal through feature-sharing; (iii) languages differ as to where in nominal structure uninterpretable Case is introduced, and it is only nominals with uninterpretable Case that require Case valuation; and (iv) languages have both obligatory and secondary nominal licensing loci; the former are always merged, and the latter are only merged when needed for licensing reasons.

In the following section, I show how my proposal comes together to account for DOM in Senaya.

⁷A separate question here is whether nominals that do not get Case still need licensing of some sort, e.g., by adjacency to the verb (Massam 2001). I will not take a definitive stance on this issue here, except to point out that in both Senaya and Hindi (discussed in §4.4 and §4.5, respectively), unmarked objects need not be verb-adjacent, and so licensing-by-adjacency at least does not seem plausible. In §4.6.2 I return to the question of whether unmarked objects in DOM systems get Case, albeit always null.

4.4 Accounting for DOM in Senaya

In this section, I use Senaya as a test case for the new account of DOM proposed in the previous section. I begin with a review of the Senaya facts before moving on to implementing the account.

4.4.1 Specificity and nominals in Senaya

In Senaya (as in all Northeastern Neo-Aramaic languages), the subject always triggers marking on the verb, regardless of the subject's specificity, animacy, and agentivity.⁸

- (20) a. **Xa ksuuta mpel-aa.**
a/one book fall.PFV-L.3FS
'A book fell (but I don't know which).'
(Subject is non-agentive, nonspecific, inanimate)
- b. **Aayet kasw-et-waa.**
You write.IMPV-S.2MS-PST
'You used to write.' (Subject is agentive, specific, animate)

Subjects are not differentially marked.

Objects, on the other hand, only trigger marking on the verb when they are specific.^{9,10} There is no case marking, nor are there obligatory determiners, and so the specificity of a nominal in Senaya may be gleaned from DOM (agreement on the verb) alone. The examples in (21) show that objects that do not trigger agreement on the verb receive a nonspecific interpretation. (Overt objects bolded below.)

⁸All Senaya data come from original fieldwork compiled as McPherson, Ryan, and Kalin (2013).

⁹Across Neo-Aramaic, other factors—such as animacy, topicality, and alienability—play a role as well (Coghill To Appear).

¹⁰I assume the following definitions of specificity and definiteness. For a nominal to be specific, the speaker must presuppose the existence of a particular referent for that nominal. For a nominal to be definite, the referent for the nominal must be in the common ground and/or previously mentioned in the discourse. Following Enç (1991) and Gundel et al. (1993) I take nonspecific definites to be impossible; as a result, all definite nominals are also specific.

- (21) a. Aana (**xa**) **ksuuta** kasw-an.
 I a/one book write.IMPf-S.1PL
 ‘I will write a book.’
- b. Aana kod yooma **yaale** xazy-an.
 I every day children see.IMPf-S.1FS
 ‘I see some children every day.’

When an object is specific, it is obligatorily marked on the verb. In Senaya, object-marking is always through an L-suffix. (Pronominal objects are obligatorily null (unless focused). L-suffixes and overt objects are bolded below.)

- (22) a. Aana (**xa**) **ksuuta** tm-xazy-an-**aa**.
 I one book QAM-see.IMPf-S.1FS-L.2MS
 ‘I saw a (specific) book (e.g., on the table).’
- b. Aana **oo** **ksuuta** kasw-an-**aa**.
 I that book write.IMPf-S.1PL-L.3FS
 ‘I (will) write that book.’
- c. Pooles kod yooma **baxt-ee** naasheq- \emptyset -**laa**.
 Paul every day wife-3MS kiss.IMPf-S.3MS-L.3FS
 ‘Paul kisses his wife every day.’

As can be seen in this range of examples, neither affectedness nor animacy plays a role in whether or not an object is marked on the verb. Rather, the crucial factor is specificity.

As noted in Chapter 2, a central characteristic of Senaya’s agreement system is that with the perfective verb base, object agreement is impossible, and correspondingly, a specific object is banned.

- (23) *Axnii **oo** **ksuuta** ksuu-lan.
 we that book write.PFV-L.1PL
 Intended: ‘We wrote that book(fem.).’

No matter where or through what form you try to put object agreement in the verbal complex, (23) is ungrammatical:

- (24) *Axnii oo **ksuuta** ksuu(-**laa**/**-a**)-lan(**-laa**/**-a**).
 we that book write.PFV(-L/S.3FS)-L.1PL(-L/S.3FS)
 Intended: ‘We wrote that book(fem.).’

As such, only nonspecific objects may appear with the perfective base:

- (25) Axnii xa **ksuuta** ksuu-**lan**.
 we a/one book write.PFV-L.1PL
 ‘We wrote a book.’

The behavior of nominals with the perfective verb base, (23)-(25), constitutes an argument for (certain) nominals needing abstract licensing through agreement. If nominals do not need to be abstractly licensed, then the data above are truly puzzling: the object in (23)/(24) should not *need* to trigger agreement.¹¹ However, if we maintain that (certain) nominals need some sort of abstract licensing (e.g., Case-valuation through φ -agreement), then the data make complete sense. When agreement is unavailable, Case-licensing is also unavailable, and so nominals that need licensing are banned.

Returning to the data, it is important to note that specificity and (non-)agreement do not seem to correlate with word order in Senaya. When there is an indirect object in addition

¹¹Note that simply extending the coverage of the Person Licensing Condition (first/second person nominals must Agree with a person probe; Béjar and Rezac 2003) to specific nominals will not work to account for this data. This is because, even within Senaya, first/second person nominals pattern differently from specific nominals: specific third person nominals can be licensed by agreement with the auxiliary in ditransitives, while first/second person nominals cannot:

- (i) a. Aana maxw-an-ox=ii-**laa**.
 I show.IMPF-S.1FS-L.2MS=AUX-3FS
 ‘I show her to you.’
 b. *Aana maxw-an-aa=y-**et**.
 I show.IMPF-S.1FS-L.3FS=AUX-2MS
 Intended: ‘I show you to her.’

The direct object agrees on the auxiliary, and while this agreement successfully licenses a non-third person nominal, (ia), it does not license a first/second person nominal, (ib). The Person Licensing Condition must therefore remain intact in Senaya, without coverage extended to specific nominals. See Kalin and McPherson (2012) for an account of the limitations on the auxiliary’s agreement. See also Chapter 2 for differences between specific third person nominals and first/second person nominals in so-called complete agreement reversal languages, where again we see that grouping first/second person and specific third person together is not plausible.

to the direct object, the direct object may appear either before or after the indirect object, whether the direct object is specific (and agrees), (26), or is nonspecific (and does not agree), (27) (direct object and object agreement bolded, indirect object bracketed).

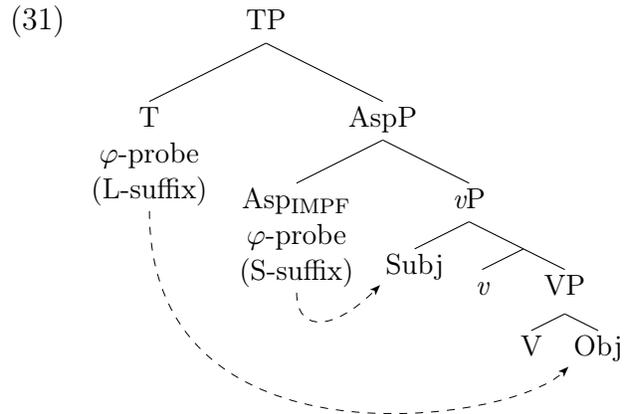
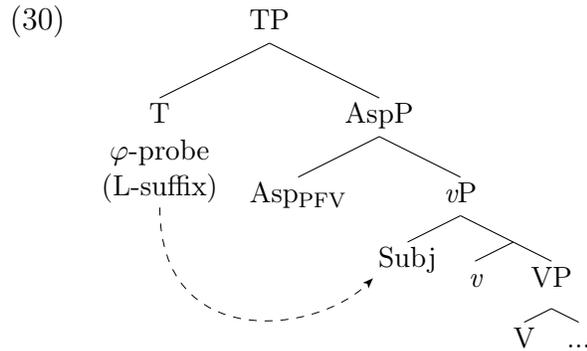
- (26) a. Aana **oo ksuuta** [ta d-on yaale] maxw-an-**aa**.
 I that book to GEN-the children show.IMPf-S.1FS-L.3FS
 ‘I (will) show that book to the children.’
- b. Aana [ta d-on yaale] **oo ksuuta** maxw-an-**aa**.
 I to GEN-the children that book show.IMPf-S.1FS-L.3FS
 ‘I (will) show that book to the children.’
- (27) a. Aana **xa ksuuta** [ta d-on yaale] maxw-an.
 I a book to GEN-the children show.IMPf-S.1FS
 ‘I (will) show a book to the children.’
- b. Aana [ta d-on yaale] **xa ksuuta** maxw-an.
 I to GEN-the children a book show.IMPf-S.1FS
 ‘I (will) show a book to the children.’

Another place where we see word order uniformity across types of objects is with telic VP adverbials, which (if preverbal) must precede the object, no matter whether the object is specific (and agrees), (28), or is not (and does not agree), (29) (adverbial bracketed).

- (28) a. Pooles [gaw ‘eshta sa’aate] **oo beesa** baanee- \emptyset -**lee**.
 Paul in six hours that house build.IMPf-S.3MS-L.3MS
 ‘Paul will build that house in six hours.’
- b. *Pooles **oo beesa** [gaw ‘eshta sa’aate] baanee- \emptyset -**lee**.
 Paul that house in six hours build.IMPf-S.3MS-L.3MS
 ‘Paul will build that house in six hours.’
- (29) a. Pooles [gaw ‘eshta sa’aate] **xa beesa** baanee- \emptyset .
 Paul in six hours a house build.IMPf-S.3MS
 ‘Paul will build a house in six hours.’
- b. *Pooles **xa beesa** [gaw ‘eshta sa’aate] baanee- \emptyset .
 Paul a house in six hours build.IMPf-S.3MS
 Intended: ‘Paul will build a house in six hours.’

It therefore does not seem as though specificity/agreement correlates with (at least obvious) syntactic height in Senaya.

To wrap up this section, I repeat the basic structures proposed in Chapter 2 for Senaya's syntax. The basic analysis was that argument-licensing in the perfective comes from T, (30), while in imperfective aspect there is additional argument-licensing from imperfective Asp, (31):



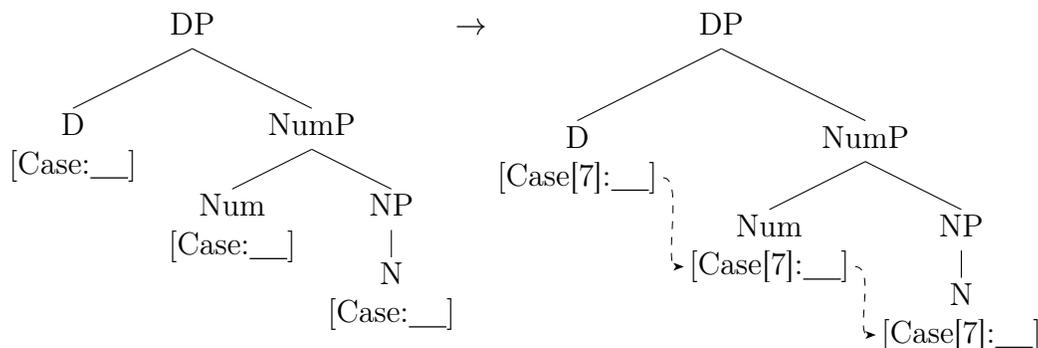
In the perfective, (30), there is no available secondary locus of agreement, and (for reasons to finally be explored in this chapter) this results in specific objects being impossible with the perfective base, (23).

Taking stock of the Senaya data, it seems that we must refer to subjects and objects as fundamentally different entities in order to account for where agreement does and does not occur in Senaya. Subjects always trigger agreement, but objects only do so when they are specific. Note that proposing that L-suffixes are sensitive to specificity while S-suffixes are not is a non-starter: L-suffixes in perfective aspect agree with subjects that are nonspecific, (20a). In the next section, I show how the account I proposed in §4.3 can account for these facts without distinguishing subjects and objects as primitives.

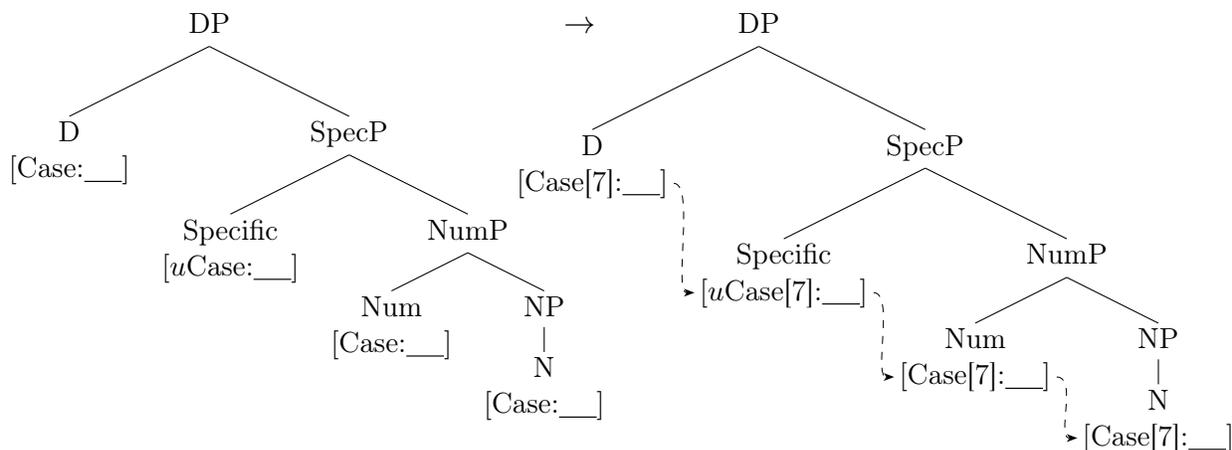
4.4.2 Implementing the proposal

In this section, I put my account together to show how it works to derive DOM in Senaya. First, uninterpretable Case is introduced by the Specific head in Senaya. Recall that each head in the nominal bears unvalued Case, and that these instances of Case are related nominal-internally by feature-sharing Agree (indicated by their sharing an index). A basic nonspecific nominal in Senaya is shown in (32), and a specific nominal is shown in (33).¹²

(32) Nonspecific nominals in Senaya



(33) Specific nominals in Senaya



¹²I have uniformly included a DP layer in these nominals, but nothing crucial hinges on this. If it turns out that nonspecific nominals (for example) lack the D layer, my account will still make the right predictions, since uninterpretable Case does not live on D. Another possibility is that determiners are actually associated with one (or more) of the functional projections in the nominal, but again, nothing crucial hinges on this and so I keep D as a separate head.

Nonspecific nominals lack the Specific projection and therefore also lack uninterpretable Case. Only specific nominals, then, require licensing.

Though I have not included φ -features in (32)/(33), I assume (following Danon 2011) that these also are shared nominal-internally and are represented in a complete set on the highest element in the nominal, §4.2.3. As such, I will abbreviate (32) as (34a) and (33) as (34b), for the sake of space and clarity in the trees that follow:

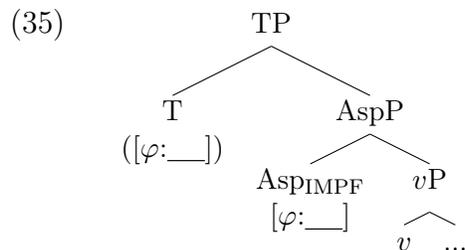
- (34) a. Nonspecific nominals in Senaya b. Specific nominals in Senaya

DP
[Case:___]
[φ :VAL]

DP
[uCase:___]
[φ :VAL]

The two types of nominal differ as to whether they bear uninterpretable Case or not.

From here we simply need to determine which heads are nominal licensers in Senaya, and which of these merge obligatorily and which merge optionally. I begin with imperfective aspect, where the subject (regardless of its features) agrees with Asp and the object (only if specific) agrees with T (as argued in Chapter 2). For imperfective aspect I will therefore take Asp to be the obligatory nominal licensing locus, and T to be an optional nominal licensing locus. As discussed above, I assume that Case-valuation on a nominal results from φ -agreement. I can then formalize my account as follows: Imperfective Asp always merges with φ -features, while T optionally merges with φ -features:¹³

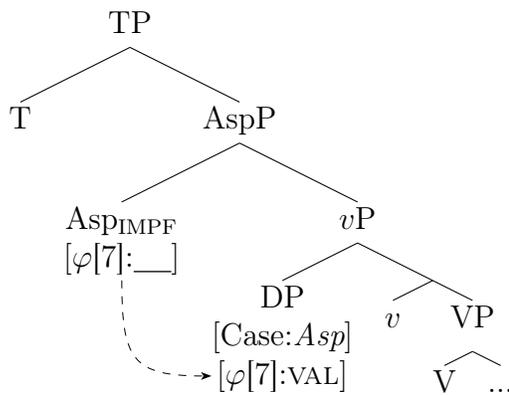


¹³Note that φ on T and Asp is simply unvalued, not uninterpretable, in line with the findings of Preminger (2011). An obligatorily merged φ -probe must attempt to establish an Agree relation, but if there is no appropriate goal (i.e., Agree is not possible), the result is some form of default agreement, not ungrammaticality. We will see this borne out in Hindi, §4.5. Note that at the end of this section, I will revise this assumption slightly, and we will in fact see a need for uninterpretable φ -features on T in Senaya.

Agreement with T results in an L-suffix,¹⁴ while agreement with Asp results in an S-suffix.

Let's consider an intransitive clause with a nonspecific subject. The subject, merged in spec-*vP*, lacks uninterpretable Case. However, since Asp always merges with a φ -probe, this φ -probe will nonetheless enter into an Agree relation with the subject; φ -features are shared across the two locations (index 7) and Case is valued on the nominal, (36). (In this section, I label Case values simply with the identity of the probing head, e.g., *Asp* in (36).)

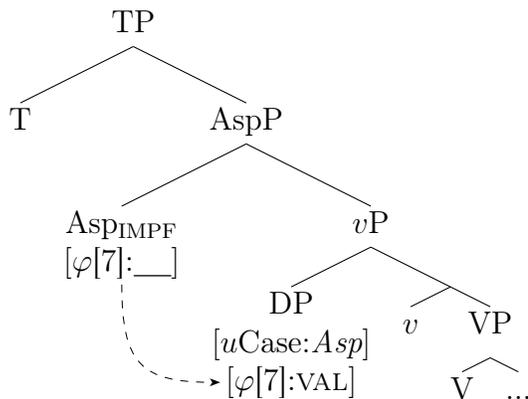
(36) Imperfective, nonspecific subject \Rightarrow Subject gets Case



Nonspecific subjects always trigger agreement because the φ -features on Asp always merge.

This derivation is minimally different from one in which the subject is specific:

(37) Imperfective, specific subject \Rightarrow Subject gets Case

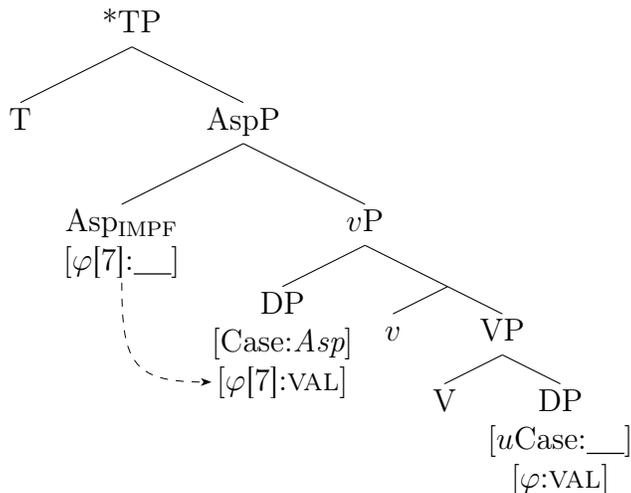


¹⁴More accurately, agreement with T results in clitic-doubling of the nominal it targets, as discussed in Ch. 2. To avoid complicating the notation I use here, and since the clitic-doubling is not crucial (nor clearly evidenced) in Senaya, I model agreement with T here as simple valuation of φ -features on T.

The licensing needs of the subject are met by Agree with Asp. Comparing (36) and (37), we can see that the features of the subject (whether it is specific or not, i.e., whether it bears uninterpretable Case or not) does not affect whether or not the subject enters into an Agree relation with Asp. This account correctly predicts the attested subject-marking pattern in Senaya: all subjects trigger agreement, and the specificity of the subject is irrelevant to this agreement.

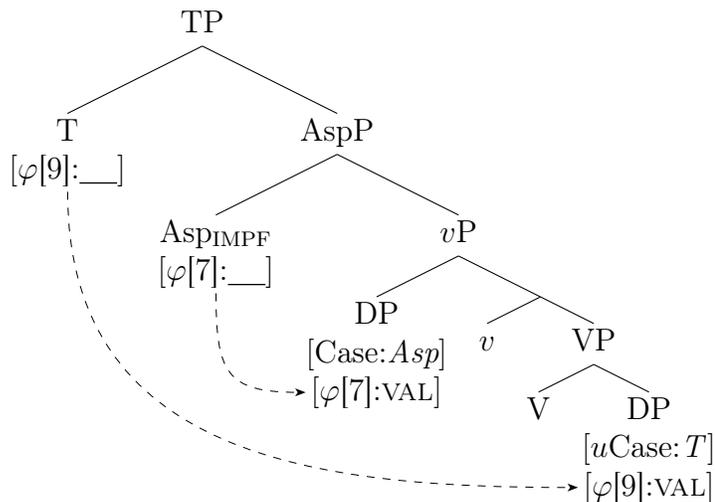
Thus far, we have not seen T needing to be a nominal licenser. Let's consider now a derivation in which there is a nonspecific subject (the specificity of the subject will not actually matter) and a specific object. In (38), we see how the derivation proceeds without unvalued φ -features merging on T.

(38) Imperfective, nonspecific subject, specific object



The nonspecific subject in (38) agrees with Asp as before (index 7). The derivation in (38) results in ungrammaticality, since there is an uninterpretable feature (Case on the object) that does not have a value. When T merges with φ -features, the derivation succeeds, (39). Recall that a goal is only active (probe-able) if it bears an unvalued feature; as a result, neither Asp nor the subject is possible goal for the φ -probe on T in the imperfective.

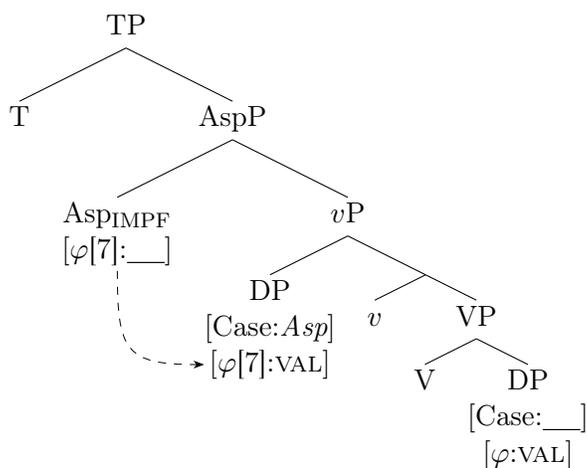
(39) Imperfective, nonspecific subject, specific object



Here, the φ -features on T probe the object, resulting in φ -feature-sharing (index 9) and Case valuation. The only grammatical derivation when there is a specific object is therefore one in which T bears a φ -probe.

The last scenario to consider is one where the object is not specific. This is schematized in (40) and (41), starting with a derivation in which T merges without φ -features.

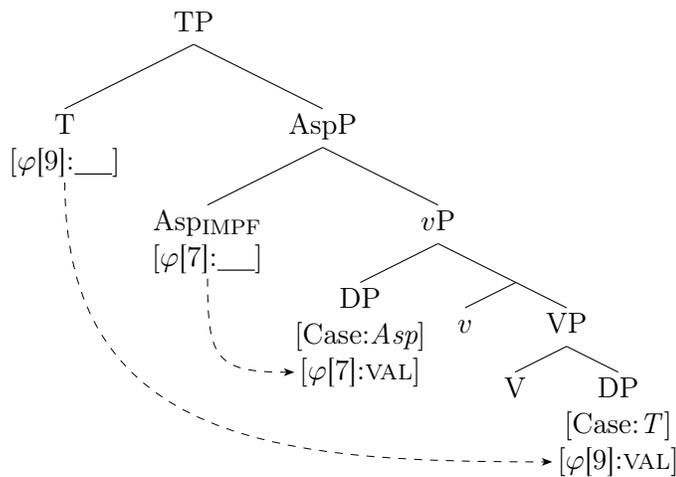
(40) Imperfective, nonspecific subject, nonspecific object



The only Agree relation here is between Asp and the subject. The object does not receive Case nor enter into any Agree relation, but since there is no uninterpretable Case on the nominal, the lack of a Case value does not result in ungrammaticality.

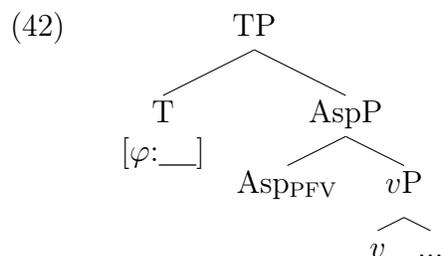
Now let's see what happens when φ -features merge on T in the same scenario:

(41) Imperfective, nonspecific subject, nonspecific object



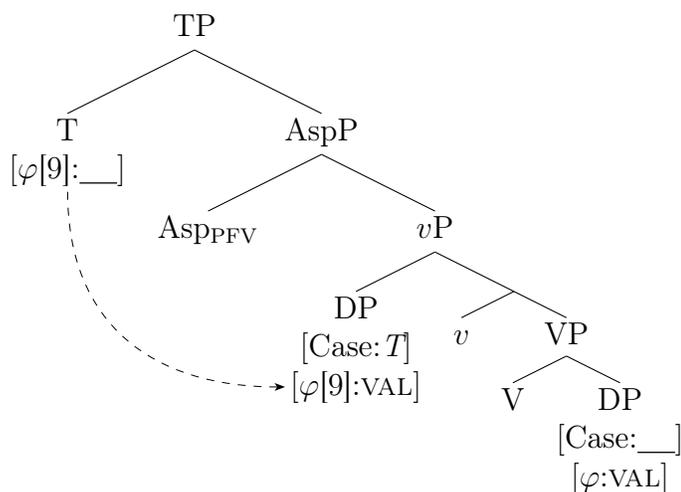
This derivation converges. However, given that both (40) and (41) converge, the latter is ruled out on an economy consideration: there are fewer Agree relations in (40) than in (41), and so the derivation that lacks φ -features on T, (40), is preferred.

Finally, I turn to canonical and secondary perfective aspect in Senaya. In canonical perfective aspect, Asp does not (and cannot) bear a φ -probe. The obligatory nominal licensing locus thus shifts to the one and only nominal licenser available on the spine: T. This can be implemented formally in the following way: the T that selects for imperfective Asp is an optional Case-licensing locus, while the T that selects for perfective Asp is an obligatory Case-licensing locus. This is schematized in (42).



With just T acting as a nominal licenser, an object can never get Case, because T will always Agree with the higher argument, the subject. A nonspecific object is perfectly grammatical in perfective aspect, because it does not need Case, as shown in (43).

(43) Perfective, nonspecific subject, nonspecific object



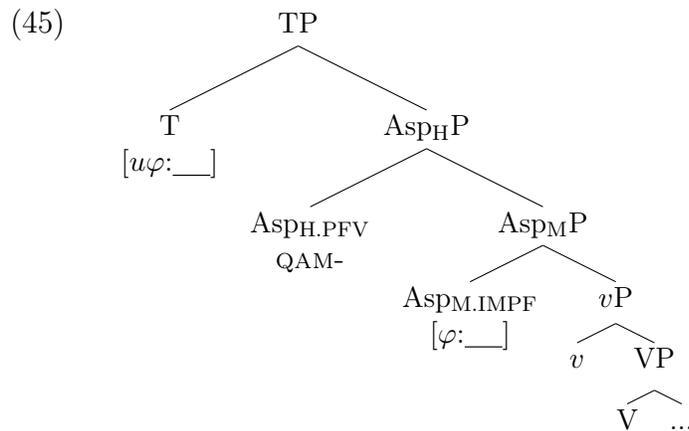
The φ -features on T (which now merge obligatorily) Agree with the φ -features of the subject (index 9), and Case on the subject is valued as a result. If the object in (43) were specific, it would be unable to have its Case feature valued (there is no secondary optional Case locus), and the derivation would crash. Specific objects are therefore not allowed in canonical perfective aspect.

The secondary perfective strategy that was the topic of Chapter 3 allows a specific object to be licensed in perfective aspect. In Senaya, this strategy involves prefixation of *tm-* (abstractly QAM- across Neo-Aramaic) onto the imperfective verb base, with agreement

then proceeding as it would in the imperfective, (44a). Another crucial characteristic of the secondary perfective is that there must be a specific object that triggers agreement; without a specific and agreeing object, the secondary perfective strategy is ungrammatical, (44b).

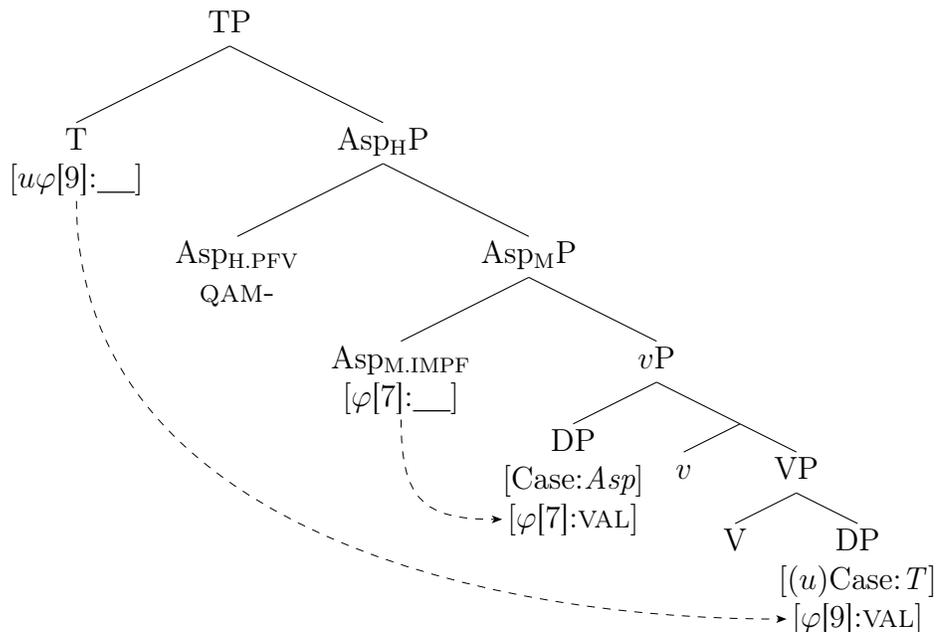
- (44) a. On yaale qatuusa **tm**-xaaz-ii-laa.
 those children cat QAM-see.IMPF-S.3PL-L.3FS
 ‘Those children saw the cat/a (specific) cat.’
- b. *On yaale qatuusa **tm**-xaaz-ii.
 those children cat QAM-see.IMPF-S.3PL
 Intended: ‘Those children saw a (nonspecific) cat.’

My analysis of the secondary perfective in Ch. 3 was that QAM- lives in a second aspectual projection between main Asp and T and selects for imperfective Asp_{MP}. I augment this by proposing that the T that combines with perfective Asp bears φ -features that are uninterpretable, not just unvalued, as shown in (45). (I return below to the question of whether T’s φ -features might always be uninterpretable in Senaya.)



Uninterpretable φ -features on T will only be valued (and therefore not cause a crash) if there is an object and if the object agrees with T. Let’s see how this works, (46).

(46) Secondary perfective, nonspecific subject, (non)specific object



The subject gets Case from main Asp, as usual. T combines with a perfective AspP, and therefore bears uninterpretable φ -features. Whether or not the object itself has uninterpretable Case, the object must agree with T because only through this agreement can the needs of T (φ -feature valuation) be met. If there is no object, T will never successfully agree, and the QAM-perfective will be ungrammatical.

A question that arises here is why the object must be specific in the secondary perfective, if any object at all can agree with T, and all that T requires in the secondary perfective is an agreement goal. I make two suggestions. First, it may be that any object in a secondary perfective will be specific by virtue of being clitic-doubled by T and therefore having high scope (a point which I return to in the discussion of Hindi in the following section). Alternatively, it may be that there is a global comparison between the secondary perfective and canonical perfective that will favor the latter when it has fewer agreement relations; this would ensure that the secondary perfective strategy is only used when there is a specific object, as the canonical perfective would be more economical otherwise.

Another question that arises is whether it is desirable for T's φ -features to only sometimes be uninterpretable, namely, only when combining with perfective aspect. Note that we actually do not need to posit this restriction on T's φ -features—instead, T's φ -features could *always* be uninterpretable in Senaya. In the perfective, where T is an obligatory Case locus, T will always successfully agree (with the subject in the canonical perfective, or with the object in the secondary perfective). In the imperfective, where T is not an obligatory Case locus, φ -features only merge on T when needed for convergence, and so when they merge they will always successfully agree. We need not, then, limit the uninterpretability of T's φ -features at all, and can instead take T's φ -features to always be uninterpretable.

The empirical pattern that has been derived is as follows. In imperfective aspect, all subjects will agree with Asp, and only objects that are specific will agree with T. This falls out without stipulating that there is anything fundamentally different between subjects and objects, either in their featural makeup or in their licensing requirements. In canonical perfective aspect, all subjects will agree with T, and an object will never be able to agree; therefore an object that requires licensing is banned. In the secondary perfective, QAM- can only be licensed if there is an object and if the object agrees with T.

4.4.3 Interim summary

In this section I applied my account of DOM to Senaya. The fact that (some) nominals behave like they need licensing comes from uninterpretable Case being able to enter the nominal on a variety of functional heads inside the nominal. Which feature(s) introduce uninterpretable Case varies by language, and the location of this feature in conjunction with the profile of obligatory/optional probes drives the DOM pattern of the language.

The interaction of the properties of probes (obligatory or not) interacts with the location of uninterpretable Case inside the nominal to produce four basic outcomes with respect to licensing, as shown in the following table. This table should be read in the following way. The rows represent the obligatoriness of different nominal licensing probes: some probes

obligatorily merge (and thus always probe), and some probes only merge when this is necessary for the derivation to succeed. The columns represent the needs of different nominals: some nominals bear uninterpretable Case, while others do not. The four possibilities are thus as follows: (i) cell 1A, probe obligatorily merges, and the closest visible goal bears uninterpretable Case; (ii) cell 1B, probe obligatorily merges, and the closest visible goal does not bear uninterpretable Case; (iii) cell 2A, probe optionally merges, and the closest visible goal bears uninterpretable Case; (iv) cell 2B, probe optionally merges, and the closest visible goal does not bear uninterpretable Case. The inner cells tell you whether or not the relevant configuration results in an AGREE relation, i.e., Case valuation, or not.

(47)

probe ↓ / closest nom. →	1. bears [<i>uCase</i>]	2. does not bear [<i>uCase</i>]
A. obligatory	AGREE	AGREE
B. optional	(merge &) AGREE	no AGREE

Let's start with probes that obligatorily probe, row A. Regardless of whether the closest nominal bears uninterpretable Case (column 1) or not (column 2), that nominal will enter into an Agree relation with the probe. For row B, the result is quite different. When there is a probe that optionally merges, it will only merge (and therefore instantiate an Agree relation) when there is a nominal that requires it. For nominals that bear uninterpretable Case, column 1, this means that the probe will merge and instantiate an Agree relation with the nominal. For nominals that do not bear uninterpretable Case, column 2, the probe will not merge (based on an economy consideration) and so the nominal will not enter into an Agree relation with any probe. The disparity between "Agree" and "no Agree" that we see in row B is where DOM arises.

In the following section, we will make sense of another property of DOM: the fact that it is frequently a dative or other oblique marker that surfaces to differentially mark objects. Given a limited number of Case licensers in a particular language, a licenser that canonically licenses its own argument (e.g., dative Case for a recipient/goal) may also be able to optionally merge

and provide Case for a (non-recipient/non-goal) nominal that needs Case. Empirically, what this would look like is an inherent Case applying non-differentially to its own argument (e.g., dative Case assigned uniformly to all recipient/goal nominals, regardless of specificity, animacy, or definiteness), and otherwise surfacing just when there is a nominal that needs licensing that would otherwise go unlicensed. This is precisely what I will argue arises in Hindi, which I discuss in the following section.

4.5 Extending the account: Hindi

In this section, I extend my account to DOM in Hindi to highlight several characteristics of DOM that have not yet been addressed, namely, raising for Case, raising for scope, and the appearance of dative.

4.5.1 Split ergativity and DOM in nonperfective aspects in Hindi

Hindi is well-known for its split-ergative system, where a nominative/accusative pattern is found in nonperfective aspects and ergativity is found in perfective aspect (Bhatt 2007:3):

- (48) a. Aruna gaanaa gaa-egii.
 Aruna.F song.M sing-FUT.FS
 ‘Aruna will sing a song.’ (Non-perfective)
- b. Aruna-ne gaanaa gaa-yaa.
 Aruna.F-ERG song.M sing-PFV.MS
 ‘Aruna sang a song.’ (Perfective)

In nonperfective (48a), the subject agrees with the verb and does not bear overt case, and the object neither agrees with the verb nor bears overt case. In perfective (48b), the subject bears overt case (ergative) and does not agree with the verb, while the object agrees with the verb but again does not bear overt case. The relevant generalization about verb agreement is that it tracks the highest non-case-marked nominal (Kachru 1987, Mahajan 1990, *i.a.*).

In nonperfective (48a), then, agreement is with the non-case-marked subject, whereas in perfective (48b), the subject is case-marked and so agreement is with the object.

Hindi is also a language that exhibits DOM (Junghare 1983, Mahajan 1990, Butt 1993, Mohanan 1993, *i.a.*). Let's begin with nonperfective aspects, where the subject is not overtly case-marked. In (48a) there is an unmarked object (it does not agree with the verb nor bear overt case), and it is necessarily interpreted as nonspecific. When the object is specific in such instances, it must be overtly case-marked with the dative case-marker *-ko*, as seen in the contrast between (49a) and (49b), repeated from the introduction to this chapter (Bhatt 2007:2):

- (49) a. Mina ek bacca uṭhaa rahii hai.
 Mina.F a/one child lift PROG.F be.PRES.3SG
 'Mina is picking up a (nonspecific) child.'
- b. Mina ek bacce-**ko** uṭhaa rahii hai.
 Mina.F a/one child-DAT lift PROG.F be.PRES.3SG
 'Mina is picking up a particular child.'

Only the *ko*-marked object in (49) can be interpreted as specific.

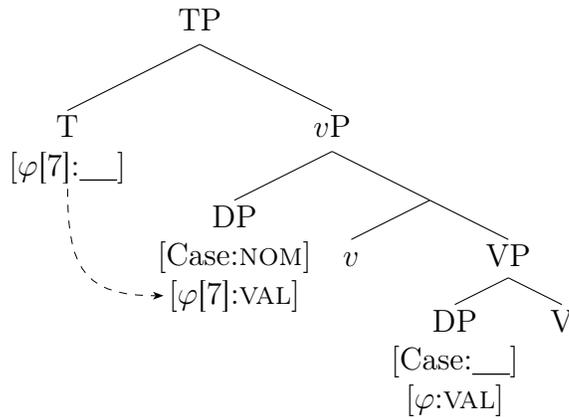
To start, then, it seems that nominals in Hindi are like nominals in Senaya: uninterpretable Case is introduced on the Specific head inside the nominal. As before (see §4.4.2), I will abbreviate the nominal structure of nonspecific nominals as (50a) and the nominal structure of specific nominals (50b), respectively.

- (50) a. Nonspecific nominals in Hindi b. Specific nominals in Hindi
- | | |
|---------------------------------------|---|
| DP
[Case:___]
[φ :VAL] | DP
[<i>u</i> Case:___]
[φ :VAL] |
|---------------------------------------|---|

Specific nominals have uninterpretable Case and therefore need licensing, while nonspecific nominals do not.

Following Mahajan (1989), Anand and Nevins (2006), Bhatt (2007), *i.a.*, I take agreement to come from T. T is an obligatory Case locus: T always merges with unvalued φ -features. In nonperfectives, the subject agrees with and is Case-licensed by T, as in the intransitive in (51) with a nonspecific subject (omitting movement to spec-TP):¹⁵

(51) Nonperfective, nonspecific subject, nonspecific object



Since T obligatorily merges with φ -features, T will agree with the subject regardless of whether the subject bears uninterpretable Case. There is thus no differential marking of subjects. The object in (51) is nonspecific (does not have uninterpretable Case) and so does not need to enter into any licensing relation.

A difference between DOM in Senaya and DOM in Hindi is seen in the form DOM takes. In Senaya, licensing of specific objects surfaces as φ -agreement on T. In Hindi (as shown in (49)), licensing of specific objects surfaces as dative case-marking on the object. Dative case canonically (and non-differentially) licenses indirect objects:

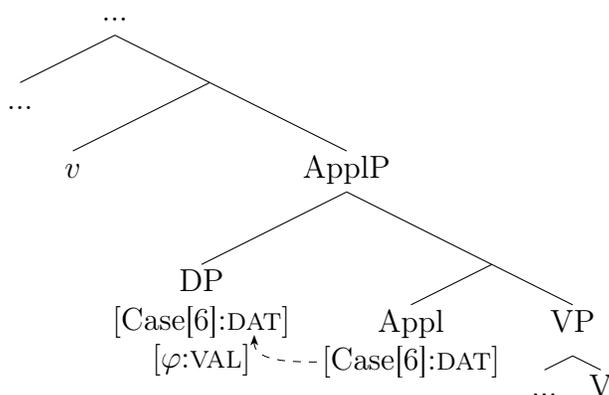
(52) Ram ek anaathaalaye*(-**ko**) kuch p̄ese de-gaa
 Ram a/one orphanage-DAT some money give-FUT.MS
 ‘Ram will give some money to an orphanage.’

¹⁵I ignore gender and number agreement on participles in Hindi for simplicity. I assume that this is the result of non-Case-licensing agreement.

The indirect object may be interpreted as specific or nonspecific in (52), but is marked with *-ko* obligatorily under both interpretations.

I propose that in Hindi, the Appl(icative) head (canonically associated with indirect object marking) is a Case-licensing locus. It is an optional Case locus in the sense that Appl does not merge in every derivation, but whenever Appl does merge, it bears a Case feature. Appl always merges when introducing an indirect object, (53).

(53) Indirect object licensing

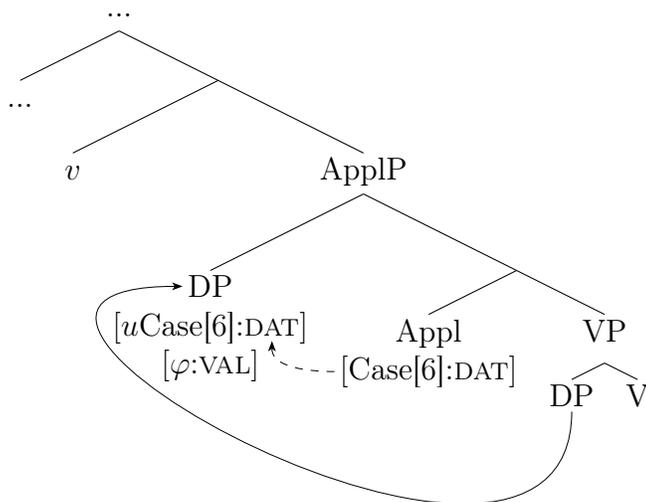


In (53), feature-sharing of Case between Appl and the indirect object (index 6) occurs upon merge of the indirect object in spec-AppIP. This feature-sharing can be characterized as occurring under sisterhood, since (under any version of Bare Phrase Structure), the features of Appl (at the very least, the unchecked features) are present at every level of the Appl projection—Appl is one and the same Appl in each location, and so Appl’s Case feature is also present in each location. It is natural for sisters to share features with each other, as sisterhood is essentially a selection relation, which we independently know to be featurally sensitive.¹⁶ Since Appl always bears Case, and indirect objects are introduced by Appl, indirect objects are not differentiated based on specificity, and so always get *-ko*, (52).

¹⁶Note that I assume that Appl bears only a Case feature, not φ -features, because (i) Appl cannot probe downwards (as having unvalued φ -features would allow it to do), (ii) there is no evidence of φ -agreement on Appl in Hindi, and (iii) Case-valuation on sisterhood voids the need for a φ -probe to mediate Case-licensing.

The grammar of Hindi also allows Appl to merge, optionally, when there is no indirect object. In these instances, Appl selecting for a nominal will result in re-merge of the direct object in spec-AppIP and subsequent feature-sharing of Case between Appl and the direct object (via sisterhood). Further, in these instances, Appl does not assign a theta role to the nominal it combines with,¹⁷ and so no additional meaning is associated with the presence of AppIP in (54). Note that since Appl does not bear unvalued φ -features, it cannot probe/Agree with the direct object in its base position.

(54) Direct object licensing in nonperfective

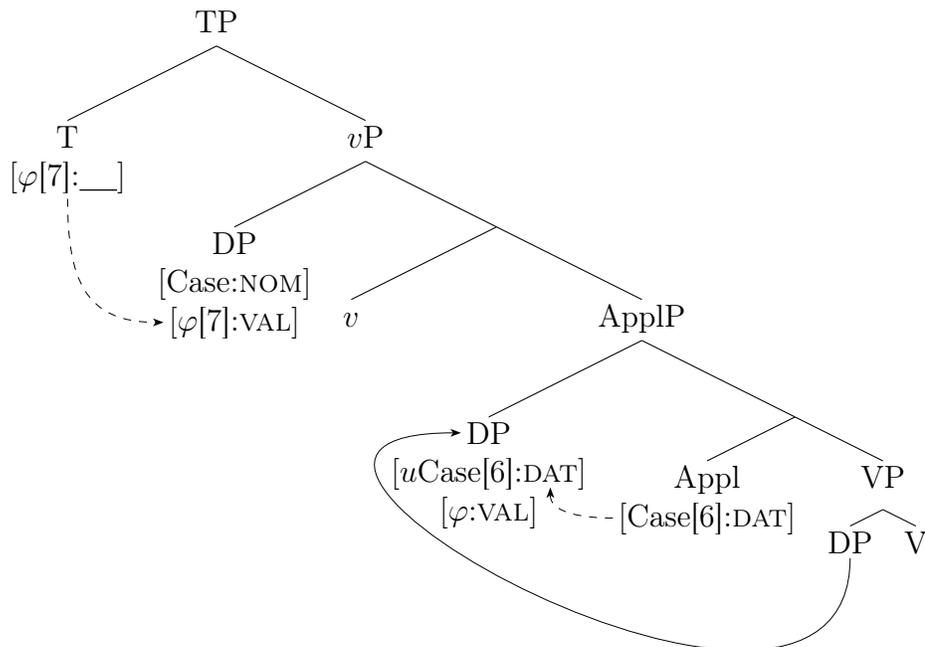


As a result of sharing Case with Appl, the direct object is licensed.

Putting (51), (53), and (54) together, we have derived a simple pattern of DOM in nonperfective transitives in Hindi, shown in (55).

¹⁷The fact that dative-marking does not seem to effect a goal/recipient meaning when it appears on direct objects can be understood in a couple of ways. First, if we limit theta-role assignment to the first-merge position of a nominal, then Appl will not assign a theta-role to the direct object precisely because this is not the first-merge position of that nominal. Alternatively, it may be that theta-roles are best conceived of as features themselves, and that—because the direct object will already have a valued theta-role from V—Appl cannot also assign a theta role to the direct object. Or, another possibility still is that the very reason that in Hindi Appl is allowed to merge without introducing an indirect object is because Appl is allowed to merge without a theta-role to assign/share in Hindi.

(55) Nonperfective, nonspecific subject, specific object



All subjects will agree with and be licensed by T (and move to spec-TP, though I omit this movement here). Objects that are specific will only be licensed if Appl merges (shown in (55)), and otherwise will go unlicensed and cause a crash at LF. (Note that *v*, then, must not be a possible Case locus in nonperfective aspects in Hindi, a point I return to in the conclusion of this chapter.) Objects that are nonspecific will simply remain caseless in nonperfective aspects—agreement with (i.e., merging of) Appl is ruled out on economy considerations if the direct object does not require licensing.

Empirical support for the raising of the direct object nominal in (54)/(55) is that *ko*-marked direct objects have higher scope than unmarked (and unscrambled) objects (Bhatt 2007:17), and *ko*-marked direct objects obligatorily precede indirect objects (Bhatt 2007:18). (56) shows the default word order for an indirect object co-occurring with a non-*ko*-marked direct object: subject followed by indirect object, followed by direct object.

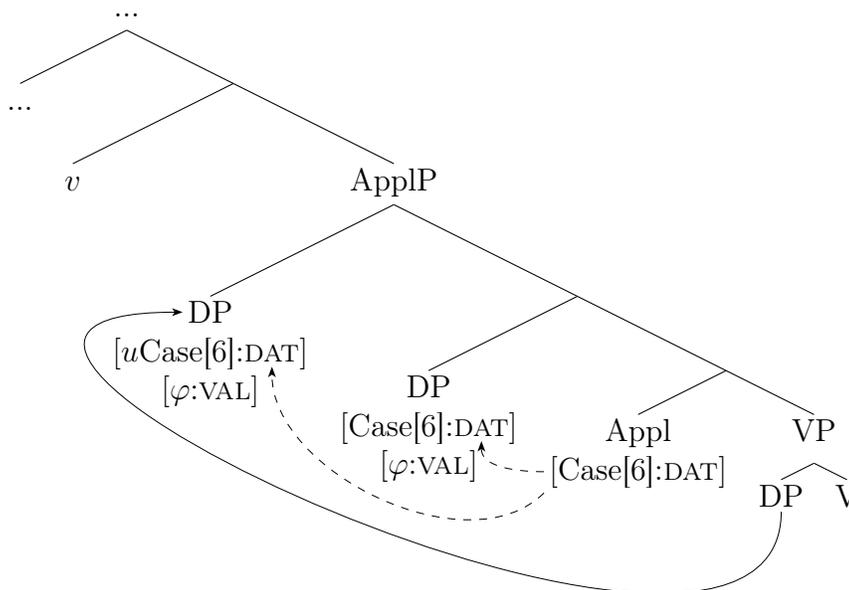
(56) Ram Anita-**ko** chitthii bheje-gaa.
 Ram Anita-DAT letter.F send-FUT.MS
 ‘Ram will send a letter to Anita.’

If the direct object in (56) is marked with *-ko*, then it must be interpreted as specific and must precede the indirect object:

- (57) a. Ram chitthii-**ko** Anita-**ko** bheje-gaa.
 Ram letter.F-DAT Anita-DAT send-FUT.3MS
 ‘Ram will send the letter to Anita.’
- b. ?*Ram Anita-**ko** chitthii-**ko** bheje-gaa.
 Ram Anita-DAT letter.F-DAT send-FUT.3MS
 ‘Ram will send the letter to Anita.’

Under the current account, the data in (56)-(57) follows from Appl first introducing its own argument (which it gives a theta role to), the indirect object (resulting in Case-sharing between Appl and the indirect object), and then the direct object raising to a second specifier of Appl (resulting in Case-sharing between Appl and the direct object).¹⁸ This is shown in (58) with a nonspecific indirect object and specific direct object.

- (58) Nonperfective, nonspecific indirect object, specific direct object.



¹⁸I am assuming that “tuck-in” movement is not possible here, i.e., movement of the direct object must extend the tree and therefore must be an outer specifier of ApplP.

Appl's Case value is able to be shared under sisterhood with both the indirect object and the direct object (index 6), and so both nominals surface with *-ko*. Further, since the direct object must raise past the indirect object and extend the tree, the direct object must linearly precede the indirect object.

Note that the direct object in double-*ko* constructions like that in (57a) can further scramble to precede the subject, but the indirect object cannot.

- (59) a. Chitthii-**ko** Ram Anita-**ko** bheje-gaa.
 letter.F-DAT Ram Anita-DAT send-FUT.3MS
 'Ram will send the letter to Anita.'
- b. ?*Anita-**ko** Ram chitthii-**ko** bheje-gaa.
 Anita-DAT Ram letter.F-DAT send-FUT.3MS
 'Ram will send the letter to Anita.'

This follows from the indirect object being trapped in an inner specifier position. The direct object, however, being the higher/outer specifier, is still mobile.

Another important data point to note here is that an un-*ko*-marked direct object in a ditransitive can in fact scramble past the indirect object (Mahajan 1990), e.g., (60), cf. (56):

- (60) Ram chitthii Anita-**ko** bheje-gaa.
 Ram letter.F Anita-DAT send-FUT.MS
 'Ram will send the letter to Anita.'

In (60), where the caseless direct object has scrambled past the indirect object, the direct object must be interpreted as specific. Following Lidz (2006), I propose that specificity of a nominal may come about (i) from nominal-internal structure that indicates specificity (i.e., the merging of SpecP, as has been the case so far in this chapter) or (ii) from a nominal raising outside of VP and thereby escaping Diesing-style existential closure (Diesing 1992). In (60), then, the object is necessarily interpreted as specific because of its syntactic scope, not because of containing a SpecP. (See Mahajan (1990) for extensive scrambling data and discussion.)

If the ungrammaticality of (59b) is indeed an effect of the direct object and indirect object being in specifier positions of the same projection (ApplP), then I predict the indirect object in (60) to be able to scramble past the subject. This is borne out, (61). (A high adverbial, *kal* ('tomorrow'), is included to ensure that the direct object has indeed scrambled to a high position.)

- (61) Anita-**ko** Ram chitthii kal bheje-gaa.
 Anita-DAT Ram letter.F tomorrow send-FUT.MS
 'Ram will send the letter to Anita tomorrow.'

The indirect object is not trapped in ApplP just in case the direct object has not raised to spec-ApplP, i.e., is not *ko*-marked.

4.5.2 DOM in perfective aspect in Hindi

Perfective aspect, where the subject has ergative case, provides a crucial counterpoint to what we have seen so far of Hindi DOM. A canonical perfective transitive is shown in (62):

- (62) Arun-ne kitaab khariidii thii.
 Arun.M-ERG book.F buy.PFV.F be.PST.F
 'Arun bought a book.'

The transitive subject has ergative case, and the object does not have overt case. The object does, however, agree with the verb.

Interestingly, precisely in this environment, the object can be interpreted as specific even though it is neither *ko*-marked nor scrambled to a high position. (62) can thus readily be interpreted as 'Arun bought a specific book' (Mahajan p.c.). This is seen also in the perfective sentences in (63), with a contrast between the non-case-marked object in (63a) (may be interpreted as specific or nonspecific) and the case-marked object in (63b) (must be interpreted as specific).

- (63) a. Mina-ne god me ek bacci uṭhaayii thii.
 Mina.F-ERG lap in a/one child lift.PFV.FS be.PST.FS
 ‘Mina held a (specific or nonspecific) child in her lap.’
- b. Mina-ne god me ek bacci-**ko** uṭhaayaa thaa.
 Mina.F-ERG lap in a/one child-DAT lift.PFV.DFLT be.PST.DFLT
 ‘Mina held a specific child in her lap.’

Specific objects in the perfective, then, do not uniformly require *-ko* in order to be interpreted as specific, and the specific interpretation is available even when the object is not scrambled, shown in (63) with the direct object following an adverbial PP.

The sentences in (63) can be contrasted with the same sentences in the progressive, which lack ambiguity of object interpretation (repeated from above (Bhatt 2007:2)):

- (64) a. Mina ek bacca uṭhaa rahii hai.
 Mina.F a/one child lift PROG.F be.PRES.3SG
 ‘Mina is picking up a (nonspecific) child.’
- b. Mina ek bacce-**ko** uṭhaa rahii hai.
 Mina.F a/one child-DAT lift PROG.F be.PRES.3SG
 ‘Mina is picking up a specific child.’

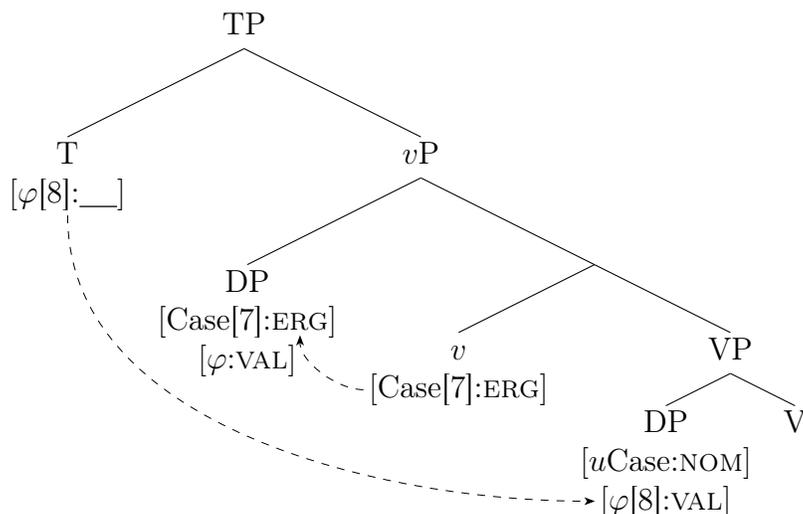
In the progressive, an unmarked (and unscrambled) object must be nonspecific, (64a), while a marked object must be specific, (64b).

Why should it be that bare (unscrambled) objects in perfective aspect are able to be interpreted as specific, (63a), while bare (unscrambled) objects in nonperfective aspects are not, (64a)? I propose that it is precisely because agreement with T is available for perfective objects (as a result of the subject being ergative) but not for nonperfective objects (because the subject always agrees with T).

A perfective derivation for a sentence with a nonspecific subject and specific object is shown in (65). Following Anand and Nevins (2006) and Mahajan (2011) among others, I assume ergative Case for the subject in the Hindi perfective comes “inherently” from *v*, and that the subject subsequently raises to spec-TP, though I omit this movement step here.

Note that T will not Agree with the subject nominal because it has a value for Case already and so is inactive in perfective aspect.

(65) Perfective, nonspecific subject, specific object



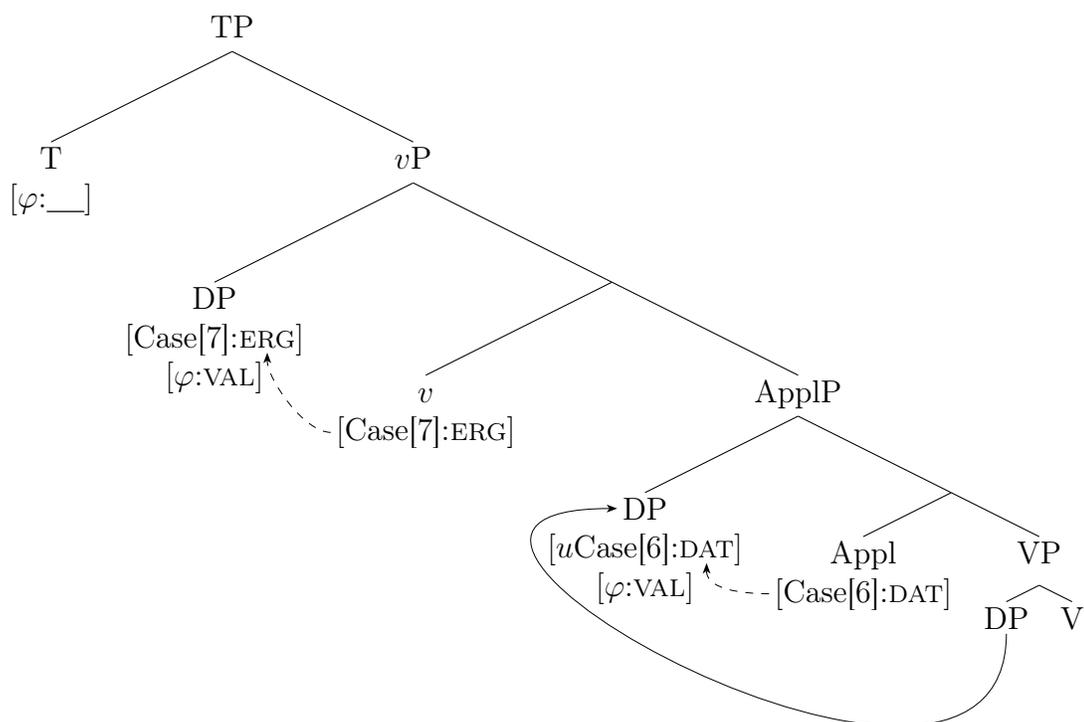
Uninterpretable Case on a specific object is able to be checked by agreement with T in the perfective. Further, since T obligatorily merges with φ -features, a nonspecific object in the same position will also agree with T, despite not “needing” this agreement/Case.

In (65), the object does not raise to agree with T, and this is supported by evidence from ditransitives. Just as in nonperfective aspects, (56)-(57a), non-case-marked direct objects canonically occur after the indirect object (though they may scramble to a higher position, cf. (60)), while case-marked direct objects obligatorily occur before the indirect object, as seen in (66) (adapted from Bhatt (2007:18)). Agreement with the direct object, as in (66a), must therefore be possible without movement.

- (66) a. Ram-ne Anita-**ko** koi ciiz bhej-ii.
 Ram-ERG Anita-DAT some thing.F send-PFV.F
 ‘Ram sent some (specific or nonspecific) thing to Anita.’
- b. Ram-ne kisi ciiz-**ko** Anita-**ko** bhej-aa.
 Ram-ERG some.DAT thing.F-DAT Anita-DAT send-PFV.DFLT
 ‘Ram sent some specific thing to Anita.’

As seen in (63b) and (66b), it is also possible to *ko*-mark an object in the perfective, and when this occurs, the result is unambiguous specificity of the object. In these instances, T has no nominal to agree with, and so default agreement surfaces. I again propose that in these instances, the direct object raises to spec-ApplP.

(67) Perfective, nonspecific subject, specific object



There are three relevant observations to make regarding (67). First, T's φ -probe does not Agree with either the subject or the object because Case is already valued for both by the time T merges. Second, T failing to Agree results in a default agreement morpheme, not a crash of the derivation (consistent with Preminger (2011) and also justifying φ -features being unvalued but not uninterpretable on T). And finally, *ko*-marking the object in the perfective is not ruled out on economy grounds because there are the same number of agreement relations in (67) as there would have been if the object had agreed with T, (65).

Note that my account predicts that, in nonperfective aspects, if the subject gets Case from somewhere other than T (enabling an object to agree with T), specific objects should again be able to be interpreted as specific without *-ko*. This is borne out with the dative-subject verb ‘like’ (Woolford (1999), cited in Bobaljik (2008)):

- (68) Siita-**ko** larke pasand the.
 Sita-DAT boys like be.PST.M.PL
 ‘Sita liked the boys.’

The fact that a non-*ko*-marked object can be interpreted as specific when it agrees with T is therefore not a peculiarity of perfective aspect.

Case and agreement in Hindi have many complexities which I have not touched upon here. One challenge for my account is that some objects *must* be *ko*-marked, even in the perfective. In particular, first and second person pronouns and names must have *-ko*:

- (69) a. Ram-ne Anita*(-**ko**) bulaayaa.
 Ram-ERG Anita-DAT call.PFV.DFLT
 ‘Ram kissed Anita.’
 b. *Ram-ne Anita bulaayii.
 Ram-ERG Anita call.PFV.DFLT
 Intended: ‘Ram kissed Anita.’

Agreement with T is not sufficient to license a name or first/second person pronoun in object position, in any aspect. I do not have anything particularly enlightening to say about such data aside from speculating that the long-distance nature of the agreement between T and an object in the perfective is not able to license nominals with certain “high” features (e.g., the feature Participant or Name). Perhaps (69) arises from a defective intervention effect, with the ergative-marked subject acting as the defective intervener, and something like the PLC (Person Licensing Condition; Béjar and Rezac 2003) or SCOPA (Structural Condition on Person Agreement; Baker 2008, 2011) coming into play and forcing such objects to get Case from lower in the structure, where there is no intervention.

Another challenge for my account is the fact that third person pronouns behave differently when animate or inanimate (Bhatt 2007:2).

- (70) a. Mina us-**ko** uṭhaa rahii thii.
 Mina.F 3SG-DAT lift PROG.F be.PST.FS
 ‘Mona is lifting it/him/her.’
- b. Mina vo uṭhaa rahii thii.
 Mina.F 3SG lift PROG.F be.PST.FS
 ‘Mona is lifting it/*him/*her.’

The *ko*-marked pronoun in (70a) can be interpreted as animate or inanimate, but the non-*ko*-marked pronoun in (70b) can be interpreted only as inanimate. In a system like mine, this entails that third person pronouns differ in their nominal structure depending on whether they are animate or inanimate, and that the former always have uninterpretable Case while the latter only optional do. Perhaps only animate third person pronouns necessarily have a Person projection and therefore also necessarily a Specific projection, such that third person inanimate pronouns can lack Specific.

I leave these puzzles for future work.

4.5.3 Interim summary

I have proposed that DOM in Hindi arises from: (i) uninterpretable Case being introduced on Spec inside nominal structure in Hindi, just as in Senaya, (ii) T being an obligatory Case locus in all aspects, (iii) Appl being a secondary Case locus in all aspects, and (iv) *v* being an inherent Case locus (ergative) in perfective aspect. In nonperfective aspects, Case for direct objects must come from the dative-licensing head Appl, as T’s Case is used up for the subject (typically, though see (68)). In perfective aspect, Case for direct objects may come from the dative-licensing head Appl or nominative-licensing T, with (non-name, non-pronominal) nominals therefore able to be specific without dative *-ko*.

There are three factors that influence DOM in Hindi that were not seen in Senaya. First, in Hindi, dative Case for differential-marking purposes is available only by raising to spec-AppIP. This turns out to be a characteristic of DOM in many languages: differentially marked objects are syntactically higher than unmarked objects. This correlation between height and Case does not seem to be universal, as seen (apart from Senaya) in Kannada (Lidz 2006) and Tatar (Lyutikova and Pereltsvaig 2013). However, if a language does require raising for Case-assignment, e.g., into a higher phase where the Case is available, or into a specifier position of an “inherent” Case head, then height and DOM will have a direct relationship. Second, Hindi displayed another way that a nominal can be interpreted as specific apart from having a SpecP projection. Namely, a nominal that lacks Spec (and therefore does not need Case) can be interpreted as specific by scrambling out of VP before existential closure (Diesing 1992, Lidz 2006). Third, Hindi revealed a new source of cross-linguistic variation in DOM. A language may make an inherent licenser (like Appl) available structurally (as in Hindi) or not (as in Senaya). Relatedly, a language may allow one Case to be assigned to multiple nominals (as in Hindi) or may not (as in Telkepe, as will be discussed briefly in the conclusion).

Having now presented a new account of DOM and applied it to two languages, Senaya and Hindi, I turn to previous accounts of DOM.

4.6 Previous accounts of DOM

There have been many different accounts of DOM, some attempting to characterize DOM in just one language, some attempting to account for DOM more widely. In this section I briefly review three types of accounts: OT accounts of DOM, NP vs. DP accounts of DOM, and movement accounts of DOM.

4.6.1 Functionalist-motivated OT approaches

In the functional/typological literature, DOM has been explained in terms of case-marking having two interacting functions, both of which favor the overt marking of “prominent” (more animate, more definite) objects (Hopper and Thompson 1980, Comrie 1989, *i.a.*).

This explanation starts from the basic assumption that subjects are canonically more prominent than objects. Next, it is proposed that (overt) case-marking surfaces for two primary functional reasons. First is the disambiguating/discriminating function: case serves to distinguish the subject from the object. In a “canonical” transitive, there will be an animate/definite subject and an inanimate/indefinite object, such that disambiguation is easy even without overt marking. However, when the object is prominent (e.g., definite, animate), it is more similar to the subject, and so the disambiguating function will drive overt case-marking of the object in such instances. The second function of case-marking is the identifying/indexing function: case serves to identify semantic role. The reasoning here is that when the object is prominent, it is (typically) semantically more affected than a non-prominent object, and so the identifying function will drive case-marking of the object. Both functions then motivate DOM across languages, though different languages may make the prominent/non-prominent cut off in different places.

In Senaya, it is clear at least that the identifying function is not responsible for DOM, since unaffected and affected objects equally trigger DOM so long as they are specific (see §4.4.1). It also does not straightforwardly seem that the disambiguating function is at work, since subjects always trigger agreement, and so are always distinguishable from the object, whether or not the object triggers agreement. The same is true in Hindi: subjects in nonperfective aspects uniformly trigger agreement, and subjects in perfective aspects are uniformly overtly case-marked. Simply distinguishing subject from object, then, cannot be the only reason that DOM surfaces in these languages. The disambiguating function, however, can be taken to operate “locally” (taking into account only the object) rather than “globally” (taking into account the relative prominence of the subject and object). In this

sense, DOM in Senaya and Hindi can be seen to have a local disambiguating function among different types of objects.

Optimality-Theoretic (OT) approaches to DOM have surfaced as a tool to investigate and predict DOM patterns based on the disambiguating and identifying functions (both locally and globally). OT is particularly useful on this front because it is able to model variation through constraint re-ranking as well as capture the effects of universal prominence scales. The intuition behind OT (Prince and Smolensky 1993) is that multiple possible outputs (candidates) compete to see which one will actually surface. This competition is regulated by constraints, which penalize candidates that are not “optimal” in some way. Constraints are also ranked: violating highly-ranked constraints is worse than violating low-ranked constraints.

Perhaps the most influential OT account of DOM is that of Aissen (2003). Aissen proposes a hierarchy of markedness constraints that target objects (formed by local conjunction of a markedness constraint penalizing the lack of case with a subhierarchy of markedness constraints penalizing prominent objects):

- (71)
- | | | |
|----|---------------------------------------|--------------------------------------|
| a. | *Object/Pronoun & * \emptyset_C » | (= *pronominal object lacking case) |
| b. | *Object/Name & * \emptyset_C » | (= *proper name object lacking case) |
| c. | *Object/Definite & * \emptyset_C » | (= *definite object lacking case) |
| d. | *Object/Specific & * \emptyset_C » | (= *specific object lacking case) |
| e. | *Object/Nonspecific & * \emptyset_C | (= *nonspecific object lacking case) |

If these were the only constraints, then all objects would be case marked. There is thus also an economy constraint:

- (72) *STRUC_C

This economy constraint penalizes (overt) morphological case.

I will illustrate with Aissen’s account applied to Hebrew (Aissen 2003:455). In Hebrew, DOM appears for definite objects, but not indefinite objects, regardless of whether they are specific. The *STRUC_C constraint is therefore ranked below *Object/Definite & *∅_C and above *Object/Specific & *∅_C. For a specific indefinite object, the OT competition looks as follows:

(73)

Input: /Specific Indefinite Object/	*Object/Definite & *∅ _C	*STRUC _C	*Object/Specific & *∅ _C	*Object/Nonspecific & *∅ _C
a. Case		*!		
b.  No Case			*	

The winning candidate is the one that does not bear morphological case. For a specific definite object, the OT competition is as follows:

(74)

Input: /Specific Definite Object/	*Object/Definite & *∅ _C	*STRUC _C	*Object/Specific & *∅ _C	*Object/Nonspecific & *∅ _C
a.  Case		*		
b. No Case	*!		*	

This time, the winning candidate is the one that does bear morphological case.

There are a couple of drawbacks to OT approaches like that of Aissen. One drawback is that they require reference to grammatical function (i.e., subject and object), when it is far

from clear that these terms are definable in a universal way (e.g., Schachter 1976) or that we should want our syntax to be able to refer to them as primitives. Further, Woolford (2008) examines a variety of differential subject marking (DSM) phenomena, and concludes that “we have seen no evidence for special principles or constraints designed to specifically target subjects and produce DSM effects.” In other words, the set of locally conjoined constraints that Aissen predicts to target subjects (those posited in (71), but applying to subjects and in the reverse hierarchy), does not seem necessary as a component of grammar, which calls into question the existence of the object constraints themselves. Further, Woolford argues that the DSM effects that we find in the syntax proper obey the same hierarchies with the same directionality as DOM (more animate/definite, more likely to be marked). This is precisely what an approach like mine predicts, since subjects and objects are essentially the same, differing only in relative syntactic height and therefore proximity to different licensors. A final drawback is that the definiteness and animacy hierarchies posited in Aissen’s approach are stipulated in a certain order rather than falling out from implicational hierarchies. For example, as seen in (71), pronouns are ranked above names, though a nominal being a pronoun clearly does entail it being a name.

I turn now to generative syntactic approaches to DOM.

4.6.2 Minimalist approaches

Several different types of approaches to DOM have been proposed within a Minimalist-type syntax. The two major types of DOM accounts fall into one of two categories: (i) DOM arises due to a split between NPs (cannot receive Case/Agree) and DPs (must receive Case/Agree) (Massam 2001, Danon 2006, Lyutikova and Pereltsvaig 2013, *i.a.*), or (ii) DOM arises due to movement of certain objects out of VP, e.g., to pick up a D layer (Sportiche 1998), to escape existential closure (Diesing 1992), or to enter the same Case domain as the subject and compete for Case (Baker and Vinokurova 2010). These accounts are of course closely related, as one might argue that DPs but not NPs need Case and raise out of VP to get it, as in Massam’s (2001) account of Niuean.

An immediate question that arises for the first type of account (DOM arises due to an NP/DP split, with NPs unable to get Case or enter agreement relations) is what counts as an NP and what counts as a DP. Given that DOM varies across languages as to which nominals get marked and which do not (e.g., animate vs. inanimate, specific vs. nonspecific), we have to allow for a wide range of variation with respect to what a language considers to be a DP as opposed to an NP. Let's assume that this is as simple as languages being able to draw the NP/DP boundary in different places. For example, in a language where only proper names and pronouns get marked, the boundary between DP and NP will be between proper names and definite nominals that are not proper names. However high or low the boundary is drawn, it must be that φ /Case features live above this boundary, not below.

Such an account will work to a large extent when looking only at objects and in fact is indistinguishable from my account in this domain. However, the NP/DP account crucially does not enable us to understand why this distinction is limited to objects and does not seem to affect subjects. If NPs lack φ /Case-features, then we expect NPs to categorically be unable to trigger agreement or get Case, even as subjects. In most languages with DOM, however, subjects categorically fail to participate in differential marking. In other words, no matter what the characteristics of the subject are (e.g., indefinite, nonspecific, inanimate, etc.), different types of subjects typically are not differentiated from each other, and often uniformly get overt case or uniformly trigger overt agreement. So something needs to stop (for example) nonspecific subjects from being NPs, or alternatively, allow subject NPs (in opposition to object NPs) to be visible to Case and agreement processes.

One way to restrict subjects to being DPs (while allowing objects to be NPs or DPs) is to say that surface position/movement determines what can be an NP and what can be a DP, or put another way, which nominals get Case and which do not. This leads us squarely into the second type of DOM account, one where DOM arises from movement. Perhaps only nominals that stay within VP throughout the course of a derivation can be NPs, as they need to be existentially closed over (along the lines of Diesing (1992)). This works well for DOM based on specificity (specific nominals are those that escape existential closure and therefore

pick out a unique referent), but not as well for DOM based on animacy, as it is not clear whether there is a VP-internal or VP-external correlation with being animate or inanimate. Further, if subjects are allowed to be nonspecific, there must be a locus of existential closure higher in the clause as well, and so NP subjects should also be able to appear.

Another major obstacle for accounts of DOM that hold that it universally derives from movement into a higher Case domain (e.g., for case competition, or for a high structural accusative position) is that there are instances of DOM where movement does not seem to be at play at all. This has been argued in this chapter for Senaya (objects in imperfective aspect get Case from T without moving) and Hindi (objects in perfective aspect get Case from T without moving) as well as extensively by Lidz (2006) for Kannada. Crosslinguistically, then, objects that do not receive Case can still raise out of VP, and conversely, objects that do receive Case may be inside VP.

A final type of DOM account that I will mention is one in which all objects get Case, but this Case is null for some objects (namely, the ones that are nonspecific, inanimate, etc.). One such account is that of Bhatt (2007), in which all objects in Hindi get Case, but there is a difference in spellout of this Case: null for nonspecific objects, *-ko* for specific objects. A second account of this sort is that of Rodríguez-Mondoñedo (2007), who proposes that *v* in Spanish is only able to license Case for nominals that lack a person feature; for nominals with a person feature, the nominal must raise and get Case from dative *a*. Under such accounts of DOM, it is completely accidental that the overt case is paired with prominent objects. We would expect, then, the reverse patterns to appear as well, where overt case is paired with non-prominent objects only. This is reverse DOM, and to my knowledge is not attested.

The account of DOM presented in this chapter captures the fact that subjects tend not to be differentially marked while objects frequently are, without distinguishing subject and object as primitives, without claiming a fundamental NP/DP distinction with φ and Case features absent from NPs, and without requiring movement to get Case. Rather, I appeal to an abstract licensing feature (uninterpretable Case) that can merge at different positions in nominal structure, which also captures (at least a subset of) the effects of Silverstein

hierarchies. While movement, structural size of the nominal, and merge position all play a role in ultimately determining the DOM profile of a particular language, none of these factors is universally at work. Further, in my account, I contend that all nominals are (in principle) able to enter into Case and agreement relations, regardless of their structural size. It is not accidental then that non-prominent objects are unmarked in DOM languages: this is because they do not get Case, not because their Case spells out as null.

4.7 Conclusion

In this chapter, I have outlined a new account of DOM and applied it to Senaya and Hindi. The core idea is that not all nominals need Case-licensing. Rather, uninterpretable Case may enter nominal structure at different points crosslinguistically. All nominals, however, are still able to get Case, since an unvalued Case feature is present at the lowest position in nominal structure, on N itself. In instances of DOM, certain objects do not get Case because they (i) do not require Case (do not bear uninterpretable Case) and (ii) are not the closest nominal to an obligatorily-merged Case licenser.

DOM more broadly may be seen as arising from a certain defectivity of *v*. In Senaya, I proposed that *v* is never a Case licenser, neither structurally nor inherently. In Hindi, I proposed that *v* only ever assigns inherent ergative Case to a nominal it theta-marks (and this is only available in perfective aspect), while never assigning structural Case. In both Senaya and Hindi, this defectivity means that if an object needs Case, it must get it elsewhere. For Senaya, “elsewhere” is T, and T is only available for objects in imperfective aspect. For Hindi, “elsewhere” is Appl in nonperfective aspects, and T or Appl in perfective aspect. Another way *v* might be defective is in being an optional secondary locus of Case. This may be the situation in Turkish, in which Case surfaces with a unique accusative (non-parasitic) form for prominent objects. Or, *v* might be defective by only being able to license Case for nominals that lack a person feature, as Rodríguez-Mondoñedo (2007) has proposed for Spanish, and so objects with a person feature must get Case elsewhere.

Uniform marking of objects in a language may come about from two different underlying sources under the account proposed in this chapter. First, it may be that v is completely non-defective, i.e., v is an obligatory Case-licenser. All objects would then get Case, regardless of their features. Alternatively, uniform Case-marking could arise from uninterpretable Case merging on N or Num. All objects would then require Case, and none could grammatically surface without it.

Needless to say, the account presented in this chapter is extremely preliminary and a lot of work needs to be done to show that the account is tenable both within a broader picture of Senaya and Hindi syntax, as well as for DOM in other languages. To wrap up this chapter, I briefly discuss some of the challenges and future work that remains for this account and make a note about feature bundling.

4.7.1 Future work

The first and foremost task in finding support (or lack thereof) for the account presented here is to look at languages with DOM and find instances of non-object nominals within these languages that display parallel differential licensing effects. This is no easy task, as the lack of differential patterning may simply indicate that the environments being looked at have an obligatory Case licenser, and so nominals in those environments will be uniformly marked. At a preliminary glance, it seems as though Turkish may prove to be a language where we can identify parallel DSM and DOM within a single language (Kornfilt 2008). One place where it seems my account makes the wrong predictions is in predicting, e.g., nonspecific nominals to have the same distribution as PRO. However, it may be that overt subjects are banned in the positions PRO occupies for independent reasons, as suggested by Danon (2006) who cites an alternative account of PRO such as that of Landau (2004).

A second task necessary for pursuing the account I have presented is characterizing DOM in a broader range of languages under the same system. While the system presented is well-equipped to handle instances of disjunctive DOM (e.g., objects are marked if specific or ani-

mate, as in Kannada (Lidz 2006)), it is not as well-equipped to handle conjunctive DOM (e.g., objects are marked only if both specific and animate, as in Spanish (Rodríguez-Mondoñedo 2007)). For the former, my account would simply hold that both Animate and Specific introduce uninterpretable Case, and either one merging is enough to require licensing; if both merge, there will simply be a larger feature-sharing chain of Case. For the latter, however, I would need to restrict Animate to merging with uninterpretable Case if and only if Specific has also merged, or vice versa. Yet another variation in DOM that may not be easy to handle under my account is optionality of DOM for a certain nominal (holding constant the interpretation and structural position of the nominal); in my account, I would be forced to say that uninterpretable Case only optionally merges on some functional head in the nominal in these instances.

A third task is determining how the general system of Case-licensing and agreement proposed here is compatible with the phenomenon of clitic-doubling, which also seems to provide Case-licensing (at least in some instances). I proposed in Chapter 2 that clitic-doubling can license an argument even though it may only involve agreement with a person probe (as in complete agreement reversal languages). If this is correct, and if the system of licensing I proposed here is also correct, then it must be that multiple Case-licensing can come from a single φ -probe, namely, Case must be able to come separately from person-agreement and number-agreement. I also proposed multiple Case-licensing from a single head in Hindi, in clauses with double *ko*-marking. The plausibility of such configurations merits further investigation.

The last task that I will mention involves empirically supporting the expanded nominal structure that I have proposed, which has separate projections for features like animacy, humanness, being a proper name, etc. It remains to be seen whether the existence of each of these projections can be justified, though it seems clear that at least some of them are highly plausible, e.g., animacy, definiteness, and specificity, as there are languages that morphologically mark these semantic features on nominals. The implicational hierarchies

that I proposed also merit further investigation, especially with regard to pronouns, which typically look morphologically quite small.

Finally, I will leave the reader with a DOM puzzle in the Neo-Aramaic language Telkepe, which proves challenging for any type of account of DOM. All Telkepe data comes from Coghill (2010, To Appear) and Coghill (p.c.). In Telkepe, DOM takes a mixed form: agreement and a dative preposition. Specific direct objects obligatorily trigger agreement on the verb, and are also optionally marked with the dative preposition *ta*, but always in addition to agreement. Nonspecific direct objects cannot trigger agreement or be marked with dative.

- (75) a. B-šaqł-a barānɒ.
 FUT-take.IMPF-S.3FS ram
 ‘She will take a ram.’ (indef., nonspec.)
- b. B-šaqł-ā-lə (ta) barānɒ.
 FUT-take.IMPF-S.3FS-L.3MS DAT ram
 ‘She will take a (specific) ram / the ram.’
- c. *B-šaqł-a ta barānɒ.
 FUT-take.IMPF-S.3FS DAT ram
 Intended: ‘She will take a (specific) ram / the ram.’

There are, however, some contexts where specific direct objects may be unmarked, namely when the object is inalienably possessed by the subject, (76a), is an inalienable family member of the subject, (76b), or is a reflexive bound by the subject, (76c).

- (76) a. Se mxalləl(-lə) pāθ-ax!
 Go.IMPER.FS wash.PART.SG-L.3FS face-your.FS
 ‘Go wash your face!’
- b. Muθé-li bāb-i ’āxɒ.
 bring.PFV-L.1SG father-my here
 ‘I brought my father here.’
- c. Zi-mxáll-ən gyān-i.
 FUT-wash.IMPF-S.1SG self-1MS
 ‘I’m going to wash myself.’

Further restrictions include dative-marking being ruled out when the direct object is topic-fronted, (77), and when there's an indirect object, (78).

- (77) a. (***Ta**) sókθɒ g-dār-á-wā-lɒ b-hòjar.
 DAT ploughshare INDIC-put.IMPF-S.3PL-PST-**L.3FS** in-plough
 ‘The ploughshare, they used to put (it) on the plough.’
- b. (***Ta**) hójar k-ār-é-∅-lɒ palāxɒ.
 DAT plough INDIC-hold.IMPF-S.3MS-**L.3MS** ploughman
 ‘The plough, the ploughman holds (it).’
- (78) B-yāw-i-lɒ (***ta**) kθāwɒ ta baxɒ.
 FUT-give.IMPF-S.3PL-**L.3MS** **DAT** book **DAT** woman
 ‘They will give the book to a/the woman.’

Unlike comparable data in Hindi, (78) shows that indirect object dative and direct object dative are in complementary distribution: Dative may only appear once per clause, and indirect objects take precedence over direct objects.

Indirect objects are always introduced with the dative marker (whether specific or non-specific), just as in Hindi. When agreement on the verb is not being taken up by the direct object, specific indirect objects may also trigger agreement on the verb, though this is not obligatory, (79).

- (79) B-yāwəl-∅(-lɒ) [ta ʔaxone] pāre.
 FUT-give.IMPF-S.3MS-**L.3MS** **DAT** brother.his money.PL
 ‘He will give some money to his brother.’

Again we see complementary distribution, but this time of agreement as DOM: either the direct object or indirect object may trigger agreement when specific, but not both. Finally, indirect objects that are topic-fronted retain dative marking (unlike direct objects):

- (80) [Ta man] b-qāre-∅-lɒ kθāwɒ?
 DAT who **FUT**-read.IMPF-S.3MS-L.3MS book
 ‘To whom will he read the book?’

Making sense of this pattern is left as a puzzle and challenge for future work.

4.7.2 A note on feature bundling

One idea that surfaces several times in the dissertation is feature “bundling”. In Chapter 2, I proposed that person and number features on T are bundled in Senaya, and together trigger clitic-doubling of the nominal they agree with. In Jewish Zakho and Christian Barwar, however, person and number on T probe separately (they are not bundled), with person alone triggering clitic-doubling of the nominal it agrees with. Similarly in Chapter 4, I argued that in Senaya-type languages (where person and number are bundled), Case is bundled with uninterpretable φ -features, such that φ -agreement results in Case valuation, and only nominals that need Case can be φ -agreed with. Though not discussed in this dissertation, it seems that in some languages, Case and φ -features are not bundled, e.g., Nepali (Bobaljik 2008), such that φ -agreement is not restricted to Caseless nominals, and not all instances of φ -agreement are also instances of Case-licensing.

Bundling likely also interacts with the EPP (taken simply to be a movement trigger), though I have not touched on this topic in the dissertation. As per Preminger’s (2011) operation Move-to-Canonical-Subject-Position, in some languages, T’s EPP feature seems to be bundled with its φ -features (and therefore the nominal that is targeted by T’s φ -features raises to subject position) and in others, T’s EPP feature seems to act independently (and therefore the closest nominal to T, whatever it is, will raise to subject position). It remains to be seen which features can and cannot be bundled crosslinguistically, and how much empirical coverage such manipulations can give us.

CHAPTER 5

Conclusion

5.1 Brief summary of the dissertation

This dissertation has examined three interrelated phenomena in Northeastern Neo-Aramaic: aspect splits (Ch. 2), a secondary perfective strategy (Ch. 3), and Differential Object Marking (Ch. 4). The analyses offered work together to account for a wide array of data. The aspect splits arise from there being an additional argument licenser in the imperfective as compared to the perfective (Ch. 2), and this, in turn, affects which sorts of nominals can appear in the different aspects, since some nominals require licensing while others do not (Ch. 4). Though the canonical perfective lacks one of the argument licensers of the imperfective, the argument licensing power of imperfective aspect can be harnessed by stacking perfective aspect on top of imperfective aspect (Ch. 3).

To conclude, I lay out the broad contributions that this dissertation makes.

5.2 Contributions

Independent of the particular technical machinery that I propose and utilize in the dissertation, what I hope to have shown is the following. First, aspect splits are more diverse than previously thought, and in particular, aspect splits need not involve any ergativity. Second, at least some aspect splits arise because of changes in clause structure related to syntactic and semantic properties of nonperfective aspects, which can add syntactic complexity (following Laka (2006), Coon (2010, 2012), Coon and Preminger (2011, 2012)). In particular,

I argued that the projection involved in introducing imperfective aspect can itself be an argument licenser (Kalin and van Urk To Appear). Third, the stacking of seemingly contradictory aspects (e.g., perfective and imperfective) is robustly attested crosslinguistically and can be given a compositional syntactic and semantic analysis. There must be multiple locations (and forms), then, in which aspect can enter the syntactic structure.

Fourth, I have argued that nominals should be partitioned into two basic types to account for Differential Object Marking: (i) nominals that can get Case and in fact require Case-licensing, and (ii) nominals that can get Case but do not require Case-licensing. Whether a nominal that does not need Case gets Case or not is regulated by the nominal's proximity to an obligatory Case locus. This account is an alternative to many previous approaches to DOM, in which nominals are differentiated based on whether they can get Case (DPs) or cannot get Case (NPs); exactly and only those nominals that can get Case (i.e., DPs) require Case. Under such accounts, it is difficult to explain why nominals that are not marked in object position (e.g., inanimate, indefinite, nonspecific nominals) can and do get marked in subject position; if such nominals cannot get Case, they should never be able to get Case in any position. Under my account, all nominals can get Case, even those that do not require it, and so this conflict does not arise.

Finally, this dissertation makes a contribution in the form of bringing Neo-Aramaic languages to the attention of theoretical linguists, as these languages have rich contributions to make to linguistic theory far beyond what has been discussed in this dissertation. Neo-Aramaic languages are unique in that they are highly endangered but also (due to diaspora) accessible for fieldwork across the United States and much of Europe. My hope is that some readers will be inspired to start working on Neo-Aramaic languages themselves and to contribute to the growing body of documentation and theoretical work on these fascinating languages.

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