

## RESEARCH

# The morphosyntax of aspect stacking in Northeastern Neo-Aramaic

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Many Northeastern Neo-Aramaic languages have two distinct strategies for marking perfective aspect, both morphosyntactically restricted in different ways. The canonical perfective strategy – the perfective verb base – typically *bans* certain types of objects, while the secondary perfective strategy – the imperfective verb base bearing the perfective prefix QAM- – *requires* a certain type of object. This paper deals mainly with the secondary perfective strategy, attempting to understand and formally characterize its distribution and structure. While this phenomenon is well-known in the descriptive and historical literature (see Coghill 1999 and references therein), it has never before received theoretical treatment. I argue that QAM- is a high perfective aspect marker analogous to certain so-called “superlexical” prefixes in Slavic languages, which have a perfectivizing function and select for an imperfective stem (Babko-Malaya 1999; 2003; Ramchand 2004; Romanova 2004; Tatevosov 2008; Gribanova 2013; *i.a.*). Slavic-like stacking of high aspects is thus shown to exist in languages that lack a corresponding system of rich lexical aspect (cf. the Slavic “lexical” prefixes). The secondary perfective in Northeastern Neo-Aramaic also illuminates another cross-linguistic pattern: apparent temporal or aspectual mismatches between the clause level and the verb-stem/base level, like those found in Indo-Iranian languages (Haig 2008), need not imply that the verb bases/stems lack tense and aspect. Finally, I show that the secondary perfective furnishes a new type of argument for the syntactic nature of  $\varphi$ -agreement.

**Keywords:** syntax; morphology; aspect; agreement; Neo-Aramaic

## 1 Introduction

This paper examines a secondary strategy for marking perfective aspect that is found in a range of Northeastern Neo-Aramaic (NENA) languages, including Jewish Zakho, Jewish Amadiya, Senaya, Christian Telkepe, and Christian Barwar (Coghill 1999). 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. The other core characteristics of the secondary perfective strategy are that (i)  $\varphi$ -agreement surfaces in the way typical of the imperfective side of the NENA perfective/imperfective aspect-based agreement splits, even though the clause is perfective overall, and (ii) object agreement – and therefore a corresponding suitable object – is obligatory.

The secondary perfective in NENA has implications for our understanding of the nature of high aspect crosslinguistically, as it has much in common with “superlexical” prefixation in Slavic languages (Babko-Malaya 1999; 2003; Filip 2003; Romanova 2004; 2006; Svenonius 2004; 2008; Ramchand 2004; 2008; Di Sciullo & Slabakova 2005; Tatevosov 2008; Gribanova 2013; *i.a.*). The secondary perfective, with its imperfective agreement alignment, also bears on the analysis of apparent mismatches between verb bases/stems and clause-level semantics, like those found in Indo-Iranian (Haig 2008). Finally, a close

examination of the secondary perfective prefix, QAM-, reveals a new sort of argument that  $\varphi$ -agreement is syntactic, rather than morphological/post-syntactic (contra, e.g., Marantz 1991; Bobaljik 2008).

### 1.1 Overview of the phenomenon

In many NENA languages, instead of using the perfective verb base – which I consider to be the primary/canonical perfective strategy – a perfective verb can be formed by prefixing the morpheme *qam-/qem-/qum-/kim-/kəm-/kem-/tem-* onto an imperfective verb base (Coghill 1999). I will refer to this prefix language-neutrally as QAM- (considered in some Neo-Aramaic scholarship to be a “preverb”) and to this strategy as the secondary perfective. Aspectually, perfectives formed from the perfective base and the secondary perfective are semantically equivalent, sharing the same range of temporal and aspectual meanings (Coghill 1999: 26; Khan 2008: 609; Cohen 2012: 442; *i.a.*). The two perfective strategies, however, have distinct restrictions on their distribution. Consistent across all the languages under discussion is that the canonical perfective strategy can be used when there is no object at all, while the secondary perfective strategy can only be used when there is an object and that object is the right sort to trigger object agreement (and does, in fact, trigger agreement). Object agreement, in turn, is determined by the specificity, topicality, alienability, etc. of the object, constituting an instance of Differential Object Marking (Comrie 1979; Croft 1988; Bossong 1991; Enç 1991; *i.a.*), as discussed for Neo-Aramaic by Coghill (2014).

The crucial verb forms in the languages under discussion are exemplified in (1).

- (1) *Amadiya*, selected forms of *q-ṭ-l* (‘kill’) (Coghill 1999: 14)
- a. Canonical perfective (“perfective base”):  
**qṭil** (‘killed’)
  - b. Canonical imperfective (“imperfective base”):<sup>1</sup>  
**qaṭl** (‘kills,’ ‘is killing,’ ‘may kill’)
  - c. Secondary perfective (QAM- + imperfective base):  
**qam-qaṭl** (‘killed’)

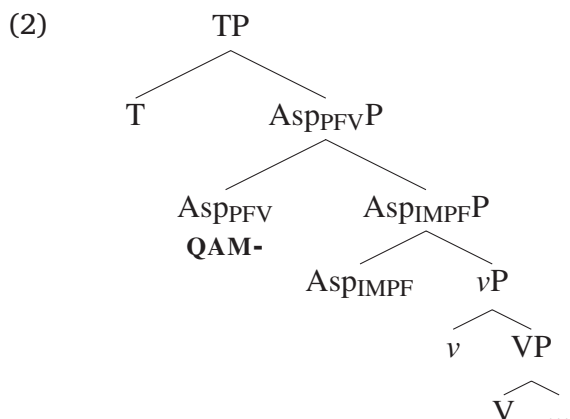
Pairwise comparisons of these forms highlight the puzzle. First, (1a) and (1b) differ from each other both morphologically and semantically – the trilateral root appears with a different morphemic vowel ‘pattern’ in the two verb bases, resulting in an aspectual distinction of perfective versus imperfective. 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 secondary perfective. On the other hand, (1b) and (1c) are aspectual opposites semantically but are morphologically related, differing only in the addition of QAM-. Finally, with respect to object marking, both (1a) and (1b) are well-formed without object agreement, while (1c) requires object agreement.

### 1.2 Overview of the analysis

I propose a morphosyntactic account of the secondary perfective in NENA and discuss, in particular, the similarities between the secondary perfective and “super-lexical” perfective prefixes in Slavic. I argue that QAM- is the spellout of a stranded perfective Asp head,

<sup>1</sup> 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 & 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). I return to this tense morphology in §2.1.

which is stacked on top of an imperfective AspP, which in turn determines the morphological form of the verb base, (2).



The imperfective aspect head,  $Asp_{IMPFP}$ , is crucially implicated in triggering the special agreement pattern of imperfective aspect (Kalin 2015; Kalin & van Urk 2015). Since agreement in the secondary perfective patterns like a true imperfective with respect to agreement, I take  $Asp_{IMPFP}$  to be fully contentful in the secondary perfective – not a dummy head or a default.

I show that the most obvious (and tempting) analysis of the secondary perfective cannot be right. In particular, the interaction of QAM- with objects suggests that QAM- is a low Appl/Res/P/Asp head, itself responsible for introducing the object, on par with Slavic “lexical” prefixes and Germanic particles (Svenonius 2004). I will show, however, that QAM- does not enter directly into a relation with an object, but rather is licensed by (successful)  $\varphi$ -agreement in T.  $\varphi$ -agreement in T in the secondary perfective is in turn sensitive to the presence and properties of the object (following Doron & Khan 2012; Kalin 2015; Kalin & van Urk 2015). Finally, given that QAM- (high perfective) is licensed in the syntax if and only if T has successfully entered into  $\varphi$ -agreement, it must also be the case that  $\varphi$ -agreement takes place in the syntax, rather than in the post-syntax.

The account put forth in this paper has connections with several broader theoretical issues. First, this proposal supports the existence of two high Asp-related positions that can introduce seemingly oppositional aspects, as has been proposed for high aspect stacking in Slavic (Ramchand 2004; Gribanova 2013; *i.a.*). It must be the case, then, that imperfective aspect and perfective aspect can combine compositionally in an interpretable way.

Second, the fact that the agreement alignment in NENA always patterns with the aspect of the verb base (one agreement pattern with the imperfective base, another with the perfective base), rather than with clause-level aspect (one pattern with an imperfective clause, another with a perfective clause), is part of a bigger cross-linguistic pattern. In Indo-Iranian languages, for example, whenever there is a seeming conflict between clause-level tense and aspect and the usual tense and aspect of the verb stem, agreement follows the canonical pattern of the stem (Haig 2008). This pattern in Indo-Iranian has been taken to indicate that the verb stem in fact lacks temporal and aspectual semantics, and thus that the case/agreement splits are conditioned by the choice between “morphomic” stems, rather than by tense or aspect. However, the account of Neo-Aramaic offered here derives an analogous pattern without recourse to tense-less/aspect-less verb bases, an approach which may be able to be applied to Indo-Iranian as well.

### 1.3 Roadmap

This paper has three goals: (i) to empirically characterize where and when the secondary perfective strategy appears; (ii) to arrive at a synchronic morphosyntactic account of this phenomenon; and (iii) to understand what the secondary perfective can tell us about aspect and agreement crosslinguistically.

The paper is structured as follows. In §2, I introduce the secondary perfective empirically, along with other relevant components of NENA morphosyntax. Along the way, I briefly review previous literature that sets the stage for the account to be pursued later. §3 lays out a morphosyntactic account of the secondary perfective and argues against other likely analyses. §4 draws connections between Slavic superlexical prefixes and the secondary perfective prefix QAM-. §5 addresses some broader implications of this analysis and concludes.

## 2 Aspect in Northeastern Neo-Aramaic

In this section, I briefly introduce certain grammatical properties that are constant across NENA languages and then discuss both canonical and secondary perfectives in detail. All NENA languages have a canonical perfective strategy that uses the perfective verb base. A number of NENA languages – diverse in their agreement patterns – also have a secondary perfective strategy. Differential Object Marking (as agreement) coupled with restrictions on the perfective base in most of the languages under discussion drives the need for this secondary perfective strategy. (Much of the discussion and descriptive insights in this section are based on Coghill 1999; 2014 and Doron & Khan 2012.)

### 2.1 Verbal morphology

Neo-Aramaic verbal morphology involves both root-and-template (non-concatenative) and affixal (concatenative) morphology. *Verb bases* are formed by non-concatenative processes, encoding grammatical distinctions of aspect, tense, and mood. For example, in Senaya, the trilateral root *d-m-x* surfaces as *damx-* in the imperfective, *dmex-* in the perfective, *dmox* in the imperative, and *dmāxa* in the infinitive. It will be the perfective and imperfective verb bases that concern us here. Both of these verb bases can further combine with other affixes that contribute additional aspect, tense, or mood. As will be seen in the examples in the following section, the imperfective verb base is by default interpreted as non-past, and the perfective verb base is by default interpreted as immediate or recent past. Both verb bases can combine with the past tense suffix; for the imperfective base, this renders the interpretation in the past, and for the perfective base, this results in a recent or distant past interpretation, overlapping somewhat with the interpretation of the plain perfective base (Khan 2008). The affix that will be of particular interest in this paper only attaches to the imperfective verb base, namely, the secondary perfective prefix QAM- (phonological realization varying across NENA).

NENA languages are rich in agreement, expressed via concatenative morphology on the verb. In NENA, there are two paradigms for person/number/gender agreement on verbs, the so-called S-suffixes and L-suffixes, exemplified in (3).

(3) Agreement morphemes in Amadiya (Hoberman 1989)

S-suffixes			L-suffixes		
	Singular	Plural		Singular	Plural
1st p.	-in(m.)/-an(f.)	-ax	1st p.	-li	-lan
2nd p.	-it(m.)/-at(f.)	-etun	2nd p.	-lax(m.)/-lax(f.)	-loxun
3rd p.	-∅(m.)/-a(f.)	-i	3rd p.	-le(m.)/-la(f.)	-lu

Which arguments are co-referenced by S-suffixes and L-suffixes depends on the aspectual form of the verb base and the particular language under discussion. While the configuration varies widely across languages with the perfective base, the imperfective base looks the same across NENA: S-suffixes agree with the subject, and L-suffixes agree with the object. The order and maximal number of morphemes in the verb is also fixed across languages, regardless of aspect, (4).

(4) prefix – V – S-suffix – past tense – L-suffix

These patterns are taken up in detail in the following section.

### 2.1.1 The canonical/primary perfective in NENA

At the heart of NENA languages is a split in agreement across verb bases: the perfective base presents a very different agreement configuration from the imperfective base. In particular, there is partial or complete agreement reversal across the two aspectual bases, and the perfective base is typically limited with respect to the sorts of objects it can appear with (Doron & Khan 2012; Kalin & van Urk 2015).

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 “differential”, e.g., specific or animate. This morphology is reversed on the perfective base: subjects are marked with L-suffixes and are always marked, while objects (if they are allowed to be marked at all) are marked with S-suffixes, and are only marked if “differential”. This reversal between the perfective and imperfective bases is schematized in (5). (SM = subject marking; DOM = Differential Object Marking; parentheses indicate markers that are optional in that they are absent when there is not the right sort of argument to agree with.)

- (5) NENA agreement reversal
- a. Canonical imperfective:  $V_{\text{IMPF}} - \text{S-suffix}[\text{SM}] (- \text{L-suffix}[\text{DOM}])$
  - b. Canonical perfective:  $V_{\text{PFV}} (- \text{S-suffix}[\text{DOM}]) - \text{L-suffix}[\text{SM}]$

Simply put, the subject and object markers of the imperfective base switch their functions on the perfective base. Regardless of which marker (S or L) co-references the subject, this marker is obligatory. Similarly, regardless of which marker co-references the object, this marker only surfaces when the object is differential. Since specificity is the most common and robust criterion for determining which objects trigger agreement in NENA, I take specificity to be the crucial differentiator here and put aside the role of animacy, etc.<sup>2</sup> (See Coghill 2014 for more on the complex factors conditioning Differential Object Marking in NENA.)

The following examples from Jewish Amadiya illustrate a complete symmetrical reversal, beginning with (unergative) intransitives:

- (6) *Jewish Amadiya*, intransitive reversal (Greenblatt 2011: 136–137)
- a.  $k^{-3}$  kaṭw -etun.  
IND- write.IMPF -S.2PL  
'You (PL) write.' (Canonical imperfective)
  - b. ktu -loxun.  
write.PFV -L.2PL  
'You (PL) wrote.' (Canonical perfective)

<sup>2</sup> What I intend here by the use of the term “specific” is the informal, intuitive notion of the speaker having a certain referent in mind. I put aside the highly contested precise semantics of specificity (see, e.g., Enc 1991), as a full exploration of these issues is outside the scope of this paper.

<sup>3</sup> Note that the indicative prefix *k-* (lost in some NENA languages) is morphologically visible only on the imperfective verb base, where it alternates with  $\emptyset$ - in the subjunctive. I do not take the lack of an overt indicative marker on the perfective base to be significant here.

With the imperfective verb base, (6a), an S-suffix marks the subject, while with the perfective verb base, (6b), an L-suffix marks the subject. The reversal in Amadiya extends symmetrically to transitive objects:

- (7) *Jewish Amadiya*, transitive reversal (Greenblatt 2011: 95/97,100)
- a. k- qatl -ən -noxun.  
IND- kill.IMPF -S.1MS -L.2PL  
'I kill you (PL).' (Canonical imperfective)
- b. qtil -ən -noxun.  
kill.PFV -S.1MS -L.2PL  
'You (PL) killed me.' (Canonical perfective)

With the imperfective verb base, (7a), an S-suffix marks the subject and an L-suffix marks the object, while with the perfective verb base, (7b), an L-suffix marks the subject and an S-suffix marks the object. Thus in (7) the same suffix sequence, *-ən-noxun* (S.1MS-L.2PL), indicates first person acting on second person on the imperfective base in (7a), but second person acting on first person on the perfective base in (7b).

Most NENA languages, however, do not have a complete reversal like Amadiya's. In particular, many of the languages rule out (7b), instead having a defective perfective base that can only express agreement with certain kinds of objects, or with no objects at all.

### 2.1.2 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), the perfective base is typically restricted with respect to object marking. For clarity, the basic agreement reversal template from above is repeated here from (5), with a box around the locus of (micro-)variation across NENA:

- (8) Agreement reversal: the locus of variation
- a. Canonical imperfective:  $V_{\text{IMPF}} - \text{S-suffix}[\text{SM}] (- \text{L-suffix}[\text{DOM}])$
- b. Canonical perfective:  $V_{\text{PFV}} [\text{- S-suffix} [\text{DOM}]] - \text{L-suffix}[\text{SM}]$

Restrictions on object marking on the perfective base range from banning all object marking (i.e., the boxed affix is entirely absent), to banning first/second person object marking (i.e., the boxed affix can only mark third person), to no restriction at all.

The precise restrictions attested in NENA are listed in (9) along with a few of the languages that instantiate this restriction.<sup>4</sup>

- (9) Restrictions on object marking with the perfective base
- a. Complete restriction: Senaya, Christian Peshabur  
(= *no object marking allowed on perfective base*)
- b. First/second person restriction: Jewish Zakho, Christian Barwar, Telkepe  
(= *only third person object marking allowed on perfective base*)
- c. No restriction: Jewish Amadiya, Christian Urmi, Christian Ashitha  
(= *all objects may be marked on perfective base*)

<sup>4</sup> There 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" set for the purposes of this paper.

In this section, we will see examples of each such system. The secondary perfective, §2.3, likely emerged as a patch for the expressive limitations of the perfective base in (9a)/(9b)-type languages.

The first type of system, (9a), is found in *Senaya*, originally spoken in Sanandaj, Iran (Panoussi 1990; Heinrichs 2002). Just as in *Amadiya*, (6)–(7), an S-suffix marks the subject on the imperfective base, (10a), and an L-suffix marks the subject on the perfective base, (10b). (*Senaya* data given in this paper are from original fieldwork collected by Laura McPherson, Kevin Ryan, and the author.)

- (10) *Senaya*, intransitive reversal
- a. kasw -iton.  
write.IMPF -S.2PL  
'You (PL) write.'  
(Canonical imperfective)
- b. ksū -lōxon.  
write.PFV -L.2PL  
'You (PL) wrote.'  
(Canonical perfective)

Transitive reversal, however, is blocked in *Senaya*, cf. (7):

- (11) *Senaya*, transitive reversal
- a. nashq -ā -lū.  
kiss.IMPF -S.3FS -L.3PL  
'She kisses them.'  
(Canonical imperfective)
- b. \*nsheq -ā -lū.  
kiss.PFV -S.3FS -L.3PL  
Intended: 'They kissed her.'  
(Canonical perfective)

Object marking in *Senaya* is possible only on the imperfective verb base, (11a), not on the perfective verb base, (11b). We will see in §2.3 that the way (11b) is expressed is using the secondary perfective strategy, which builds on the imperfective verb base and thus allows object agreement.

As a result of the ban on object marking on the perfective base in *Senaya*, objects that require marking (namely, specific objects) cannot co-occur with the perfective base, as seen in the series of ungrammatical sentences in (12):

- (12) *Senaya*, perfective base/canonical perfective, \*specific objects
- a. \*Paulus ō bēsa bnē-Ø-lē.  
Paul that house build.PFV-S.3MS-L.3MS  
Intended: 'Paul built that house.'  
(\*3MS spec. obj.)
- b. \*on yāle qat-wāse xzey-i-lū.  
those children cat-PL see.PFV-S.3PL-L.3PL  
Intended: 'Those children saw those cats.'  
(\*3PL spec. obj.)
- c. \*on yāle xzey-an-ū.  
those children see.PFV-S.1FS-L.3PL  
Intended: 'Those children saw me.'  
(\*1FS spec. obj.)

Note that removing the object marking (S-suffix) in (12) improves the sentences only if a nonspecific reading can be given to the object, which is only possible in (12b), cf. (13b).

Objects that do not require marking (i.e., nonspecific objects), on the other hand, are perfectly acceptable with the perfective base in *Senaya*:

- (13) *Senaya*, perfective base/canonical perfective, ✓nonspecific objects
- a. Paulus **bēsa** bnē-lē.  
Paul house build.PFV-L.3MS  
'Paul built a house.' (✓3MS nonspec. obj)  
(\*'a specific house', \*'the aforementioned house')
- b. on yāle **qaṭ-wāse** xzē-lū.  
those children cat-PL see.PFV-L.3PL  
'Those children saw cats.' (✓3PL nonspec. obj)  
(\*'some specific cats', \*'the aforementioned cats')

It is not the case, then, that the perfective base in *Senaya* is incompatible with all objects, just that it is incompatible with objects that require agreement on the verb.

The second type of system, (9b), involves a ban on non-third person objects appearing with the perfective base. This system exists in Christian Barwar and Jewish Zakho, two languages of Iraq. As can be seen in (14), specific third person objects can be marked on the perfective base (unlike in *Senaya*). However, (15) shows that non-third persons cannot. (Object marking bolded.)

- (14) *Jewish Zakho*, perfective base/canonical perfective (Cohen 2012: 19)
- a. šqil -∅ -li.  
take.PFV -**S.3MS** -L.1SG  
'I took him/it.' (✓3MS spec. obj.)
- b. šqil -**ā** -li.  
take.PFV -**S.3FS** -L.1SG  
'I took her.' (✓3FS spec. obj.)
- c. šqil -**ī** -li.  
take.PFV -**S.3PL** -L.1SG  
'I took them.' (✓3PL spec. obj.)
- (15) *Jewish Zakho*, perfective base/canonical perfective<sup>5</sup>
- a. \*šqil -**it** -ti.  
take.PFV -**S.2MS** -L.1SG  
Intended: 'I took you (M).' (\*2MS spec. obj.)
- b. \*šqil -**an** -ne.  
take.PFV -**S.1FS** -L.3MS  
Intended: 'He took me (F).' (\*1FS spec. obj.)

The restriction to marking third person has been argued to be an instance of a Strong Person Case Constraint (PCC) effect (see Doron & Khan 2012; Kalin & van Urk 2015), where the structurally lower of two arguments is restricted to third person (Bonet 1991).

The last type of system, (9c), is one in which there is no restriction on the perfective base: the perfective base may freely mark objects of any person. As we saw earlier in (7), this system is found in *Amadiya* (Hoberman 1989; Greenblatt 2011); additional examples are given in (16).

- (16) *Amadiya*, perfective base/canonical perfective (Greenblatt 2011: 100–101)
- a. qṭil -**ətu** -li.  
kill.PFV -**S.2PL** -L.1SG  
'I killed you (PL).' (✓2PL spec. obj.)

<sup>5</sup> All Jewish Zakho data comes from original fieldwork, unless otherwise noted.



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

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

An important thing to notice here is that the conditions on object-marking in general in NENA are distinct from the restrictions on the perfective verb base. Across NENA, it is (generally speaking) specific objects that require marking, regardless of aspect. Objects that do not require marking, i.e., nonspecific objects, can freely appear with the perfective verb base in all of the languages under discussion, since they will never run afoul of the restrictions on the perfective base. If an object requires marking, however, its appearance might be limited with respect to the perfective base: (i) in Senaya, no object marking is allowed, and since specific objects require marking, specific objects are therefore not allowed with the perfective verb base; and (ii) in Jewish Zakho and Christian Barwar, only third person object marking is allowed, and so specific third person objects are allowed with the perfective verb base, but not first/second person objects.

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

- (17) Argument-marking restrictions on the perfective base/canonical perfective across NENA (subject marking never restricted)

	Subj	3 Obj	1/2 Obj	Languages
Complete restriction		*	*	Senaya, C. Peshabur
1st/2nd restriction			*	J. Zakho, C. Barwar, . . .
No restriction				J. Amadiya, 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 saw 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.

Before we turn to the properties of the secondary perfective, I offer a brief review of what previous literature has to say about the data we have seen so far. Why is there variation across NENA with respect to agreement, and what is behind the changes in agreement across the canonical perfective and imperfective?

## 2.2 The basic syntax of NENA agreement reversal

For reasons of concreteness, I will adopt a specific account of the syntax of NENA. However, it is important to note that there are only two components of the following accounts that are crucial for the later analysis of secondary perfectives. First, object agreement in imperfective aspect (the L-suffix series) is high, on or near T. This proposal is, in fact, common across all existing morphosyntactic accounts of NENA agreement reversal (Doron & Khan 2012; Kalin 2015; Kalin & van Urk 2015). Second, the agreement split between canonical imperfective and canonical perfective aspect is triggered by the projection that introduces imperfective aspect syntactically and semantically, Asp<sub>IMPF</sub>P.

### 2.2.1 The general approach to aspect splits

Kalin & van Urk (2015) and Kalin (2015) propose that the basic difference between (canonical) perfective and imperfective aspect in NENA is essentially the “activity” of Asp. For Kalin & van Urk (2015), this correlates with whether or not Asp bears a  $\varphi$ -probe. For Kalin (2015), this correlates with whether Asp attracts  $\nu$  or not. For both, it is always imperfective Asp that is more “active” than perfective Asp. Before introducing the details of these syntactic proposals – and how they can account for agreement reversal – it is important to understand (i) why such accounts are plausible, and (ii) why the situation could not be reversed, with perfective Asp being more “active” than imperfective Asp.

Why should it be that imperfective Asp is more “active” than perfective Asp? The answer offered here comes from recent work on split-ergativity, in particular that of Coon (2010; 2013). As observed by Dixon (1994), there is a universal directionality to aspect-based splits, stated in (18).

- (18) If split-ergativity is conditioned by aspect, then an ergative alignment is found in perfective aspect, and an accusative/non-ergative alignment in imperfective aspect.

Coon (2010; 2013) argues at length that what is behind this generalization is a fundamental difference in the compositional semantics of perfective and imperfective aspect. In particular, imperfective aspect semantically contains a locative predicate that is absent from perfective aspect, as is seen overtly in a number of languages, e.g., Dutch (see also Bybee et al. 1994; Demirdache & Uribe-Etxebarria 2000; Laka 2006; *i.a.*):

- (19) *Dutch* (Demirdache & Uribe-Etxebarria 2000: 178)  
Ik ben het huis *aan* het bouwen.  
I am the house *at* the build  
'I am (at the) building (of) the house.'

Further, Coon (2010; 2013) proposes that a language that is ergative might only transparently display its underlying ergative alignment in simple clauses, i.e., in perfective aspect. In imperfective aspect, an additional predicate (an instantiation of the additional locative semantics) may surface and disrupt the language’s underlying alignment; this, in turn, could result in a new surface alignment that treats the hierarchically highest arguments (transitive subject, intransitive subject) alike, hence, a non-ergative alignment. (See also Coon & Preminger 2011; 2012.)

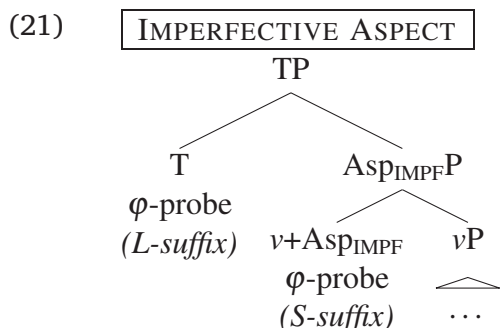
Coon (2010; 2013) thus offers a principled reason that (18) should hold, i.e., why it should be that ergativity – if present in a language – might surface just in perfective aspect, but never just in imperfective aspect. Kalin (2015) and Kalin & van Urk (2015) extend this type of reasoning to NENA agreement reversal. In particular, they observe that imperfective aspect typically has additional agreement/licensing capabilities as compared to canonical perfective aspect (cf. §2.1.2, where we see object agreement is restricted on the perfective verb base). In NENA, as in split-ergative languages, imperfective aspect adds something that alters the simpler agreement/licensing pattern of perfective aspect. Further, this additional “something” is located precisely in the imperfective Asp head. Notably, there is no NENA language where canonical perfective aspect has additional agreement as compared to imperfective aspect.

### 2.2.2 Canonical imperfective aspect in NENA

Recall that across NENA, the verbal complex in imperfective aspect looks the same on the surface, and there are no restrictions at all on objects/object agreement. The abstract configuration is given in (20), with the location of past tense morphology indicated.

(20)  $V_{\text{IMPF}} - \text{S-suffix}[\text{SM}] - \text{PST} - \text{L-suffix}[\text{DOM}]$

Kalin (2015) and Kalin & van Urk (2015) hold that – consistent with the uniform verbal complex across NENA – the syntactic configuration underlying (20) is also shared across NENA, (21).

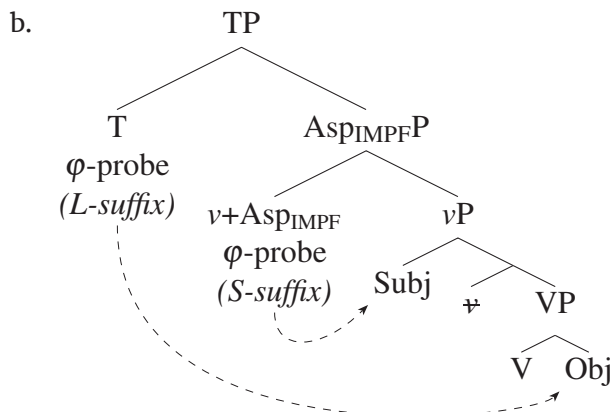


There are two agreement/licensing loci – one on T, and one in the position of imperfective Asp, which has joined with  $v$  via head movement of  $v$  to Asp. Agreement with the  $\varphi$ -probe on T results in an L-suffix, while agreement with the  $\varphi$ -probe in  $v + \text{Asp}$  results in an S-suffix.

The agreement relations with the subject and object are shown in (22).

(22) IMPERFECTIVE TRANSITIVE

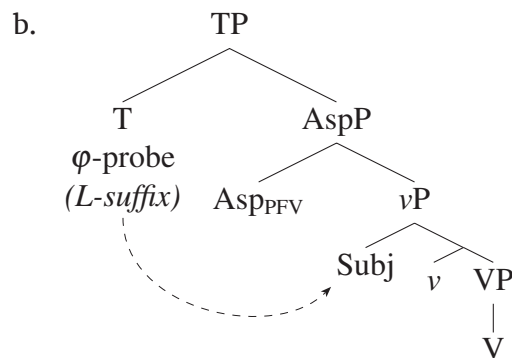
a. *Senaya*  
 Axnī ō ksūta kasw-ox-lā.  
 we that book write.IMPFF-S.1PL-L.3FS  
 ‘We write that book.’



The Asp head, merging before T, establishes an Agree relation with the subject. T then establishes an Agree relation with the object; this is possible either due to the subject becoming “inactive” after having been agreed with, or due to the subject raising to spec-TP before T probes, in the style of Anand & Nevins (2006).<sup>6</sup> Note also that this structure correctly predicts that subject agreement will appear closer to the verb than tense marking, cf. (20), since the location of the S-suffixes is below (closer to V than) the location of tense and L-suffixes. To account for the presence of DOM (only certain objects trigger agreement), Kalin & van Urk (2015) assume that non-agreeing objects are pseudoincorporated (immobile/inert in VP, but not syntactically incorporated, à la Massam 2001), and

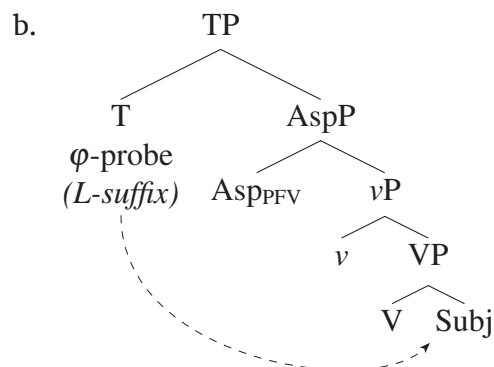
<sup>6</sup> In addition, it must either be that  $v$  is not a phase head in NENA, or that spellout of the  $v\text{P}$  phase is delayed until the next phase head – C – merges. Hence, “long distance” agreement with the object is possible.





## (25) PFV UNACCUSATIVE

- a. *Senaya*  
 axnī pleq-**lan**.  
 We leave.PFV-L.1PL  
 ‘We left.’



A transitive verb with a nonspecific object is also allowed (though not shown above) because such an object does not require agreement; the structure would be the same as (24b), with the addition of a non-agreeing complement of V. In contrast to the imperfective, (22), no object agreement is possible and so objects that require agreement (specific objects) are ruled out in *Senaya* canonical perfectives.

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. Kalin & van Urk (2015) propose that in these languages, the  $\varphi$ -probe on T splits into person and number, with person triggering clitic-doubling. The clitic-doubling property of the person probe is a language-specific choice, again not correlating with any external factors. As a result, T can 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 Kalin & van Urk 2015 for more detail; see also Preminger 2011 on the “featural coarseness of clitic-doubling”, which predicts subject marking to still be able to include person, number, and gender.)

Finally, Kalin (2015) extends this sort of analysis to Amadiya-type languages, in which there is complete agreement reversal with no restriction on object marking in the perfective. Kalin argues that in these languages,  $v$  is an agreement locus, and that what happens to cause the agreement reversal is movement of  $v$  to Asp in the imperfective, but not in the perfective. As a result, the lower agreement locus is below the external argument in perfectives (the agreement locus is in the position of  $v$ ) but above the external argument in imperfectives (the agreement locus has raised to Asp). (See Kalin 2015 for more detail.)

The crucial component of this account that unifies it with Kalin & van Urk (2015) is that agreement with the subject in imperfective aspect comes from the position of Asp, while agreement with the object in imperfective aspect comes from T.

Taking stock, the variability of agreement in canonical perfective aspect across NENA comes from the languages having different underlying agreement properties – namely, with respect to whether  $v$  is an agreement locus or not (yes in Amadiya-type languages, no in the others) and whether the  $\varphi$ -probe on T is split or not (yes in Jewish Zakho-type languages, no in the others). Imperfective aspect is the great unifier: Asp<sub>IMPF</sub> is the main locus of  $\varphi$ -agreement in the imperfective. The most important points to take away from this section are (i) that across the NENA languages under discussion, the locus of object marking in imperfective aspect is always high, on T, and (ii) further, that in the imperfective, subject marking comes from Asp. As will be seen later, this means that when QAM-merges, the subject has already agreed, namely, with a  $\varphi$ -probe in Asp.

The following section lays out the form and distribution of the QAM-perfective.

### 2.3 The secondary perfective in NENA

Returning now to the data, the secondary perfective is formed by prefixing the morpheme QAM-<sup>7</sup> 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 (26), with examples from Senaya (whose QAM- morpheme is *tem-*) in (27).

- (26) a. Canonical imperfective: V<sub>IMPF</sub> – S-suffix[SM] – L-suffix[DOM]  
 b. Secondary perfective: QAM – V<sub>IMPF</sub> – S-suffix[SM] – L-suffix[DOM]

(27) *Senaya*

- a. on yāle qaṭūsa xāz-ī-lā.  
 those children cat see.IMPF-S.3PL-L.3FS  
 ‘Those children see the cat/a (specific) cat.’ (Canonical imperfective)
- b. on yāle qaṭūsa **tem**-xāz-ī-lā.  
 those children cat QAM-see.IMPF-S.3PL-L.3FS  
 ‘Those children saw the cat/a (specific) cat.’ (Secondary perfective)

The addition of *tem-* in (27b) changes only the aspect of the clause, and nothing else. In particular, notice that the agreement suffixes remain the same across (27a) and (27b) (rather than a reversal, cf. (5)/(10)), and so for both the canonical imperfective and the secondary perfective, an S-suffix marks the subject and an L-suffix the object. Notice also that a specific object is now allowed in perfective aspect in Senaya, as was not possible with the canonical perfective strategy, cf. (11)–(12).

#### 2.3.1 The semantics of the secondary perfective

The canonical perfective strategy (the perfective base) “has a syntactic and semantic range that is identical to the [secondary perfective]” (Hoberman 1989: 52); the two perfective strategies are aspectually and temporally identical (Coghill 1999: 26; Khan 2008: 609; Cohen 2012: 442; *i.a.*). I will briefly illustrate this with four environments that reveal this patterning using data from Jewish Zakho.<sup>8</sup> Note that while many more tests should be done to be exhaustively sure of the aspectual and temporal equivalence of the secondary

<sup>7</sup> Synchronically, QAM- surfaces nowhere else in the grammar of these languages (to my knowledge).

<sup>8</sup> These judgments have also been checked for Senaya, with the caveat that all objects with the perfective base in Senaya must be nonspecific, and so it is not possible to construct truly minimal triplets.



It is perfectly felicitous to follow up the imperfective in (30a) with a negation of the completedness of the event, (30b). Unlike the imperfective in (30a), both the secondary perfective and the canonical perfective do entail completedness, (31), such that negating the completedness of the event in (31a) or (31b) with (31c) is infelicitous.

- (31) *Jewish Zakho* (PFV & SEC-PFV: completedness entailment)
- a. *tımmal* *ʔāna* *bnē-∅-li* *ō* *bēsa...*  
 yesterday I build.PFV-S.3MS-L.3SG that house  
 ‘Yesterday I built the house...’ (PFV)
- b. *tımmal* *ʔāna* *qam-bān-in-ne* *ō* *bēsa...*  
 yesterday I QAM-build.IMPV-S.1MS-L.3MS that house  
 ‘Yesterday I built the house...’ (SEC. PFV)
- c. #... *ū* *la-xliṣ-li.*  
 but NEG-finish.PFV-L.1SG  
 #‘... but I didn’t finish (it).’ (#negation of completedness)

Finally, we can see in clauses embedded under a perfective report verb (which, like all perfective verbs in NENA, is interpreted as past tense by default) that imperfective verbs can be interpreted as cotemporal with the matrix event time, (32a). This interpretation is not possible for a canonical perfective verb or a secondary perfective verb, (32b–c).

- (32) *Jewish Zakho*
- a. *ʔāna* *mır-ri* *ta* *Yona* [ *did* *g-zon-in-na* *ṭlımsa* ].  
 I tell.PFV-L.1SG to Yona that IND-buy.IMPV-S.1MS-L.3FS flatbread  
 ‘I told Yona that I was buying the flatbread.’  
 (IMPV: Buying cotemporal with telling)<sup>10</sup>
- b. *ʔāna* *mır-ri* *ta* *Yona* [ *did* *zwın-ā-li* *ṭlımsa* ].  
 I tell.PFV-L.1SG to Yona that buy.PFV-S.3FS-L.1SG flatbread  
 ‘I told Yona that I bought the flatbread.’  
 (PFV: Buying precedes telling)
- c. *ʔāna* *mır-ri* *ta* *Yona* [ *did* *qam-zon-in-na* *ṭlımsa* ].  
 I tell.PFV-L.1SG to Yona that QAM-buy.IMPV-S.1MS-L.3FS flatbread  
 ‘I told Yona that I bought the flatbread.’  
 (SEC. PFV: Buying precedes telling)

In these and all environments that I have tested, the secondary perfective patterns with a true perfective on an aspectual and temporal level.<sup>11</sup>

### 2.3.2 The morphology of the secondary perfective

Returning now to the morphological properties of the secondary 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 secondary 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, (5)). Most importantly, object-marking on the imperfective verb base (regardless of QAM-) may freely be first, second, or third person. The secondary perfective – which employs the imperfective base – therefore

<sup>10</sup> Another possible interpretation of this clause is “I told Yona that I habitually buy bread.” In this case, the habitual buying overlaps with both the telling time and the actual speech time.

<sup>11</sup> The core analysis presented in the following section does not entirely rule out some semantic divergence between the canonical perfective and the secondary perfective. It is noteworthy, however, that across all the dialects with QAM-, no such difference has been observed, to my knowledge.



allows specific objects to be expressed in perfective aspect, solving the expressivity problem of the perfective base.

The secondary 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 not obligatory. In the secondary perfective, object marking on the verb is obligatorily; correspondingly, there *must* be a specific object, as only specific objects trigger object marking on the verb. The (non-)optionality of agreement in the three constructions is schematized in (33):

- (33) Optionality of object marking by aspect
- Canonical perfective:  $V_{\text{PFV}}$  (– S-suffix[DOM]) – L-suffix[SM]<sup>12</sup>
  - Canonical imperfective:  $V_{\text{IMPF}}$  – S-suffix[SM] (– L-suffix[DOM])
  - Secondary perfective: QAM- $V_{\text{IMPF}}$  – S-suffix[SM] \*(– L-suffix[DOM])

The optionality of object marking in the canonical aspects, (33a) and (33b), 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, (33c), is obligatory: there must be DOM on the verb, triggered by a specific object. In other words, a speaker wanting to express a nonspecific object in perfective aspect is forced to use the canonical perfective strategy, rather than the secondary perfective.

The dependence of QAM- on object agreement is illustrated in (34) and (35) for Senaya, with specific objects and object marking bolded.

- (34) *Senaya*, ✓QAM- with object agreement
- āna* **tem-xazy-an-ox**.  
I QAM-see.IMPF-S.1FS-L.2MS  
‘I saw you.’
  - āna* **ksūta** **tem-kasw-an-ā**.  
I book QAM-write.IMPF-S.1FS-L.3FS  
‘I wrote the book/a (specific) book.’

QAM- is allowed to appear in (34) because there is object-marking on the verb; further, the object is necessarily interpreted as specific. If object-marking is removed from the verb, the QAM- perfective is ungrammatical:

- (35) *Senaya*, \*QAM without object agreement
- \**āna* (*yāle*) **tem-xazy-an**.  
I (children) QAM-see.IMPF-S.1FS  
Intended: ‘I saw (children).’
  - \**āna* (*ksūta*) **tem-kasw-an**.  
I book QAM-write.IMPF-S.1FS  
Intended: ‘I wrote (a book).’

Notably, (35a) and (35b) form grammatical imperfectives once QAM- is removed. Finally, adding a default 3MS L-suffix (evidenced elsewhere in Senaya; Kalin & McPherson 2012) does not satisfy the secondary perfective:<sup>13</sup>

<sup>12</sup> For Senaya, the canonical perfective is as in (i):

(i)  $V_{\text{PFV}}$  (\*– S-suffix[DOM]) – L-suffix[SM]

<sup>13</sup> The examples in (36) are not grammatical on the intended interpretations, but they can be given an alternative interpretation where *-(l)ee* agrees with a null pronominal benefactive. We will see agreement with a benefactive in §3.2. The crucial observation here is that dummy agreement does not license QAM-.

- (36) *Senaya*, \*QAM with dummy object agreement
- a. \*āna (yāle) tem-xazy-an-ē.  
I (children) QAM-see.IMPF-S.1FS-L.3MS  
Intended: ‘I saw (children).’
- b. \*āna (ksūta) tem-kasw-an-ē.  
I book QAM-write.IMPF-S.1FS-L.3MS  
Intended: ‘I wrote (a book).’

Throughout the languages discussed in this paper, QAM- is banned from appearing unless there is object-marking on the verb that corresponds to an object that triggers that marking.

### 2.3.3 Distribution of the canonical and secondary perfectives

In *Senaya*, the secondary perfective plays a vital role: it is the only way to express a perfective clause with a specific object. At first glance, then, the secondary 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, (37)–(38).

- (37) *Senaya*, canonical perfective
- a. on yāle qaṭūsa xzē-lū.  
those children cat see.PFV-L.3PL  
‘Those children saw a cat.’ (✓PFV, nonspec. obj.)
- b. \*on yāle **qaṭūsa** xzey-ā-lū.  
those children cat see.PFV-S.3FS-L.3PL  
Intended: ‘Those children saw the cat/a (spec) cat.’ (\*PFV, spec. obj.)
- (38) *Senaya*, secondary perfective
- a. on yāle **qaṭūsa** tem-xāz-ī-lā.  
those children cat QAM-see.IMPF-S.3PL-L.3FS  
‘Those children saw the cat/a (specific) cat.’ (✓SEC. PFV, spec. obj.)
- b. \*on yāle qaṭūsa tem-xāz-ī.  
those children cat QAM-see.IMPF-S.3PL  
Intended: ‘Those children saw a cat.’ (\*SEC. PFV, nonspec. obj.)

With a specific object and object marking on the verb, only the secondary perfective may be used, (38). Without a specific object and without object marking on the verb, only the perfective base may be used, (37).

It is not always true, however, that the secondary perfective is in complementary distribution with the perfective verb base. In Christian Barwar and Jewish Zakho, both the secondary perfective and the perfective base can express a third person object, (39). Complementary distribution is only found for first and second person objects, where the secondary perfective is grammatical but the perfective base is not, (40). (Object agreement is bolded throughout these examples.)

- (39) *Jewish Zakho* (Cohen 2012: 19), equivalent perfectives
- a. šqil-ā-li.  
take.PFV-S.3FS-L.1SG  
‘I took her.’ (✓PFV, 3rd spec. obj.)
- b. qam-šaq-l-an-**na**.  
QAM-take.IMPF-S.1FS-L.3FS  
‘I took her.’ (✓SEC. PFV, 3rd spec. obj.)

- (40) *Jewish Zakho* (Cohen 2012: 19), non-equivalent perfectives
- a. \*šqīl-**it**-ti.  
take.PFV-S.2MS-L.1SG  
Intended: ‘I took you.’ (PFV, 1st/2nd obj.)
- b. qam-šaqī-an-**no**x.  
QAM-take.IMPV-S.1FS-L.2MS  
‘I took you.’ (SEC. PFV, 1st/2nd obj.)

Unlike in Senaya, then, the secondary perfective is not plausibly a last resort strategy, since it can be used when the perfective base is a grammatical option, as seen in (39). Finally, in Amadiya, where all objects can be marked on the perfective base, the secondary perfective and the perfective base are in free variation when there is object agreement.

- (41) *Amadiya* (Greenblatt 2011: 100–101), equivalent perfectives
- a. qṭīl-**a**-li.  
kill.PFV-S.3FS -L.1SG  
‘I killed her.’ (PFV, 3rd spec. obj.)
- b. qam-qṭīl-**ən**-na.  
QAM-kill.IMPV-S.1MS-L.3FS  
‘I killed her.’ (SEC. PFV, 3rd spec. obj.)
- (42) *Amadiya* (Greenblatt 2011: 100–101), equivalent perfectives
- a. qṭīl-**ən**-na.  
kill.PFV-S.1MS-L.3FS  
‘She killed me.’ (PFV, 1st/2nd obj.)
- b. qam-qṭīl-**a**-li.  
QAM-kill.IMPV-S.3FS-L.1SG  
‘She killed me.’ (SEC. PFV, 1st/2nd obj.)

In Amadiya, the secondary 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 secondary perfective.

## 2.4 Interim summary

The empirical observations detailed in this section are summarized in (43).

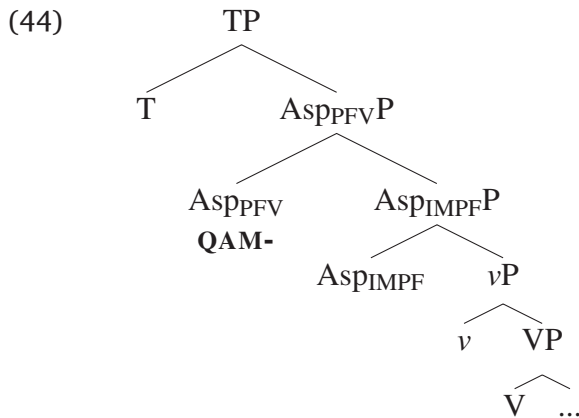
- (43) Core empirical observations
- a. Canonically, perfective aspect is expressed with the perfective verb base, imperfective aspect is expressed with the imperfective verb base.
  - b. There is a (partial or complete) reversal of agreement markers (S-suffixes, L-suffixes) across the aspectual verb bases.
  - c. Objects trigger agreement if and only if they are specific.
  - d. The canonical perfective strategy (the perfective verb base)...
    - (i) does not require an object/object agreement;
    - (ii) may disallow object agreement entirely (Senaya), may disallow first/second person object agreement (Jewish Zakho), or may have no restrictions on object agreement.
  - e. The secondary perfective...
    - (i) is formed from the imperfective verb base with the prefix QAM-;
    - (ii) has the agreement pattern of a canonical imperfective;
    - (iii) requires a specific object/object agreement;
    - (iv) does not place any further restrictions on this object/agreement.

- f. The secondary perfective and canonical perfective are semantically equivalent.
- g. The secondary perfective and canonical perfective are in free variation in contexts where both have their restrictions satisfied.

In the following section, I propose a morphosyntactic account of the secondary perfective that can make sense of these various properties of the aspectual verb forms in NENA.

### 3 Analysis of the secondary perfective

There are two aspectual fields in the clause: a field inside *vP* (“low Asp”) and a field between *T* and *v* (“high Asp”) (Travis 1991; 2010; Verkuyl 1993; Fukuda 2012; *i.a.*). In this section, I will argue for an analysis of *QAM-* as an instantiation of high perfective aspect, stacking over high imperfective aspect, (44), and against analyses in which *QAM-* is a low head inside *vP*.



#### 3.1 *QAM-* as high(est) aspect

Recall that there are three surface oddities of the secondary perfective: (i) *QAM-* attaches to the imperfective base; (ii) secondary perfectives have the same agreement profile as the imperfective, with an *S*-suffix marking the subject and an *L*-suffix marking the object and no person restrictions on this object agreement; and (iii) object agreement is obligatory in secondary perfectives. These properties are schematized in (45), repeated from (33).

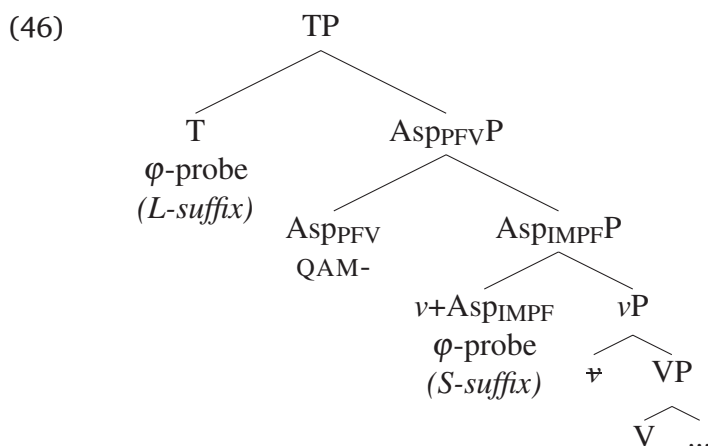
- (45)
- a. Canonical perfective:  $V_{PFV}$  (– *S*-suffix[DOM]) – *L*-suffix[SM]
  - b. Canonical imperfective:  $V_{IMPF}$  – *S*-suffix[SM] (– *L*-suffix[DOM])
  - c. Secondary perfective:  $QAM-V_{IMPF}$  – *S*-suffix[SM] \*(– *L*-suffix[DOM])

I assume, following Kalin & van Urk (2015), that it is the *Asp* head that is closest to *v/V* that determines the form of the verb base as being in the perfective root-and-template form or the imperfective root-and-template form. In a canonical imperfective or canonical perfective, there is only one *Asp* head, and so it is this *Asp* head that determines the form of the verb base. The fact that the verb base in the secondary perfective is imperfective suggests that the verb root has a close morphological connection to the imperfective *Asp* head; if the verb root were to combine with the perfective *Asp* head first, we would expect the perfective base to appear.

Confirming the presence of the imperfective *Asp* head in secondary perfectives is the fact that the additional licensing associated with imperfective *Asp* is also present in secondary perfectives (cf. §2.2), as seen by the fact that – for the languages with perfective base object restrictions – objects banned in the canonical perfective are not banned in the secondary perfective. Along these same lines, imperfective *Asp* has the exact same effect on agreement in the secondary perfective as it does in the canonical imperfective, namely,

imperfective Asp triggers agreement reversal. The imperfective Asp visible morphosyntactically in the secondary imperfective thus has exactly the same properties that it has in isolation in a canonical imperfective.

In order for perfective aspect and QAM- to enter the picture, I propose a second Asp head above main (imperfective) Asp, introducing perfectivity. This perfective Asp head also has all the same properties that it would have in isolation in a canonical perfective: namely, it neither introduces additional agreement nor acts as an agreement locus. The only difference between the canonical aspects and the secondary perfective is the presence of two AspP projections, both contributing their own individual, stable properties. However, since only one Asp head can combine with the verb root to form the root-and-template verb base, the other is left stranded. The proposed structure is shown in (46).



Imperfective Asp, as always (cf. (23)), is the locus of a  $\varphi$ -probe that spells out as an S-suffix. Perfective Asp, again as usual, is not an agreement locus. And finally, as usual, T introduces an agreement locus that spells out as an L-suffix. Since Asp<sub>PFV</sub> is stranded, it surfaces as an independent morpheme, realized as QAM-. Evidence that perfective Asp is higher than imperfective Asp comes both from the form of the verb base (imperfective) and the overall clause-level aspectual semantics (perfective).

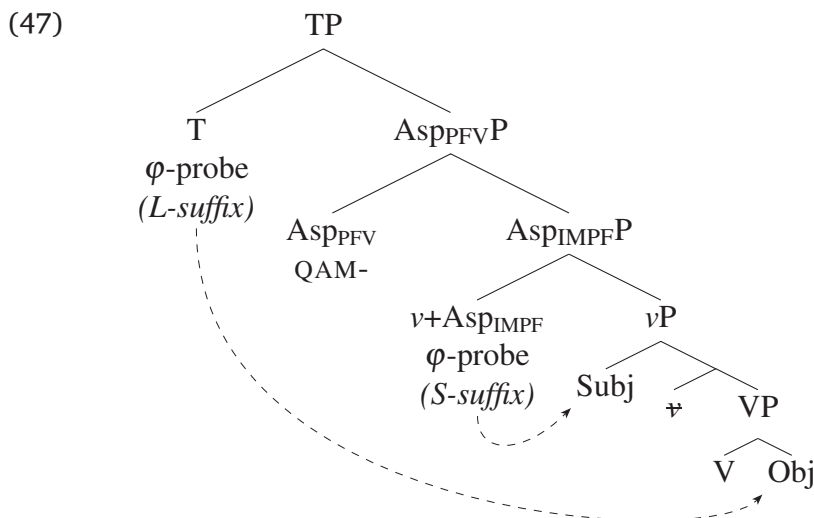
Although imperfective semantics seems to be absent from the secondary perfective, there are several reasons to posit that the imperfective verb base in the secondary perfective is truly imperfective. In particular, having the lower aspect head in (46) be a true Asp<sub>IMPF</sub> – rather than a dummy or default head – accounts for (i) the fact that the verb appears in its imperfective base form, and (ii) the fact that agreement looks as it would in a canonical imperfective: Asp’s  $\varphi$ -probe initiates agreement with the subject, resulting in an S-suffix marking subject agreement and subsequent “inactivity” (or displacement) of the subject. If the imperfective verb form in the secondary perfective were simply a default realization of the verb base, there would be no motivation for the appearance of the additional agreement locus typical of imperfective aspect; further, it would be completely accidental that the secondary perfective is virtually identical to a canonical imperfective (without QAM-, of course), and there would be no explanation for why the perfective Asp head does not condition the form of the verb base. A final motivation for a true Asp<sub>IMPF</sub> in the secondary perfective is that this is absolutely vital for maintaining a principled analysis of the directionality of aspect splits in Neo-Aramaic (cf. §2.2.1).

Finally, I propose that QAM- appears only with object agreement (and a specific object) because of idiosyncratic lexical properties of QAM-, possibly arising from its diachronic development (a point I return to below). In particular, I propose that QAM- is only licensed in the scope of (successful) agreement; in other words, QAM- is something like

an “Agreement Polarity Item”, allowed to appear only when it is c-commanded by agreement. This licensing condition may in fact be a general property of the  $Asp_{PFV}$  head in NENA: in the canonical perfective, T always agrees with the subject, and so  $Asp_{PFV}$  will always be in the scope of successful agreement; in the secondary perfective, T only hosts agreement if there is a specific object, and so it is object agreement that is required to satisfy the needs of the perfective Asp head, which spells out as QAM- in this case due to being stranded. It is thus possible to posit a single  $Asp_{PFV}$  head in the lexicon, which is an Agreement Polarity Item and whose phonological spell-out depends on whether it is adjacent to  $v/V$  or not. (In §3.2, I argue against the obvious counter-proposal that QAM- itself enters into a relation with the object, rather than having a relation with object agreement in T.)

It is worth noting that the prefixal status of QAM- (while agreement and tense are suffixes) likely stems from its historical origin as an independent preverbal element (Maclean 1895; Pennacchietti 1997; Khan 2008). Various 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 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. An anonymous reviewer adds that, given what is now known about pre-modern Aramaic, the source for QAM- is most plausibly the verb root *qūm* “to stand (up)”, which had an aspectual use as an ingressive phasal verb “to begin to”. 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). Synchronically, I take the prefixal status of QAM- to simply be encoded in its lexical entry: QAM- linearizes to the left of its host. While this is entirely speculation for now, it may be that the reason QAM- requires agreement in T is that this periphrastic perfective strategy surfaced during the transition of the NENA passive participle to the perfective base; since the passive participle could not bear full object agreement, the periphrastic strategy (which utilized the active participle) surfaced just in case full object agreement was needed, i.e., with specific objects.

Putting it all together, the only way for T to successfully agree in the secondary perfective – and therefore the only way for QAM- to be licensed – is for there to be the sort of object that requires agreement, i.e., a specific object, (47).



Having a T that *must* agree (in order to license QAM-) limits QAM- to appearing when there is an object of the right sort, since the subject has already agreed below QAM-’s position.

Note that positing an (albeit very strange) licensing condition on  $\text{Asp}_{\text{PFV}}$  correctly predicts that it is exactly and only in a canonical imperfective that T need not agree.

Linearization of the morphemes in the verbal complex in (47) to produce what we see on the surface (QAM-V-S-PST-L) might proceed in two different ways, depending on whether the verb raises all the way to T or not (to which I make no commitment here). If the verb raises all the way to T, then fairly straightforwardly, the verbal complex in  $\text{Asp}_{\text{IMPF}}$  (the imperfective verb base plus S-suffix agreement) raises to  $\text{Asp}_{\text{PFV}}$ , picking up QAM- as a prefix, and then further to T, picking up tense and the L-suffix as suffixes. Alternatively, the verb may stay in  $\text{Asp}_{\text{IMPF}}$ , taking the prefix QAM- via adjacency at PF and a head-final T (not pictured above) as a suffix, again via adjacency.

Earlier research, in particular Iatridou et al. (2001) and Gribanova (2013), has also proposed that the high Asp region may contain stacked aspects, similar to what I have argued for in NENA. For Gribanova, the higher Asp head is the position of superlexical perfective prefixes in Slavic, which can combine with an imperfective main Asp, §4. For Iatridou et al., a higher Asp head is responsible for introducing perfect aspect.<sup>14</sup>

In the next section, I argue against another possible analysis of QAM-, namely, that it occupies a low position close to the object.

### 3.2 Against other positions for QAM-

I proposed that QAM- occupies a high aspectual head, in the high Asp middlefield region. In this section, I discuss the obstacles for an analysis in which QAM- occupies a lower position, an Appl/Res/P/Asp head inside  $\nu\text{P}$ .

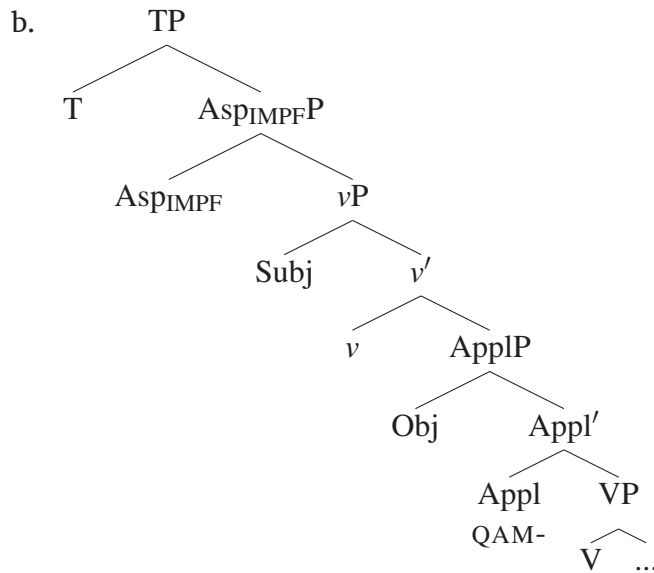
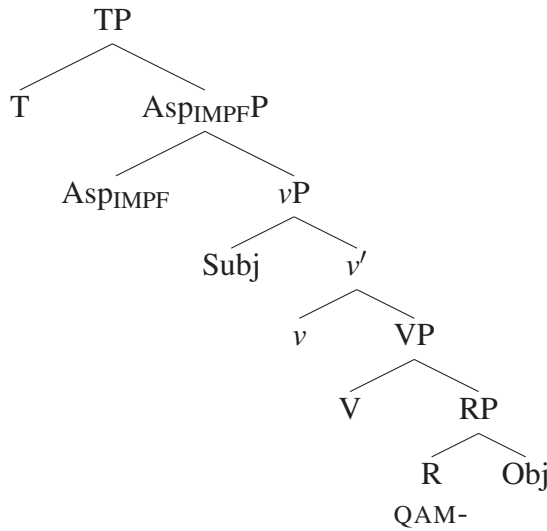
Given QAM-'s sensitivity to the specificity of the object, it is tempting to take QAM- to be introduced very low in the structure, where it enters into a local relationship with the object. Two hypothetical structures bearing out such an analysis are given in (48a) and (48b). In (48a), I have labeled QAM-'s projection RP, meant to reference Svenonius's (2004) Result Phrase, where "lexical" perfective prefixes are introduced in Slavic and particles are in Germanic (cf. §4). In (48b), I have labeled QAM-'s projection ApplP, intended to stand in for an applied argument introducer. (Main Asp in both cases is imperfective, in accordance with the form of the verb base in secondary perfectives.)

<sup>14</sup> Iatridou 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 secondary perfective is a universal perfect, since QAM- occupies the highest aspect head and combines with the imperfective verb base. However, the meanings of all the secondary perfectives we have seen are clearly not universal perfects, but rather perfectives, and so are not on par with (ib).

(48) a. (hypothetical)



Under these accounts, the reason QAM- can only appear with a specific object is because R or Appl itself selects for such an object. T later agrees with this object, and so (unlike in my account) there is only an indirect relationship between QAM- and object agreement.

There are several major problems with the analyses in (48). One obstacle for the structures in (48) involves the relationship of QAM- to main aspect. If QAM- is not local to main Asp, then the fact that main Asp must be imperfective just in case QAM- appears lower in the structure is puzzling, especially given that the clause-level interpretation is perfective. We might instead predict that QAM- could appear in all aspects, as well as with nonfinite verbs or in imperatives, which it cannot.

The second major problem is that the secondary perfective never allows an additional argument to be introduced that could not have been there in a canonical perfective or canonical imperfective; in other words, there is no real sense in which QAM- “introduces” its own, additional argument. Along the same lines, specific objects do not *need* QAM- in order to enter a derivation; recall that specific objects are perfectly grammatical in a canonical imperfective, e.g., (27), and even certain specific objects are grammatical in a canonical perfective (depending on the language in question), e.g., (16). Further, notice that according to (48), all that QAM- should need to be satisfied is a local specific argument. This predicts (counter to fact) that the argument introduced by QAM- could become



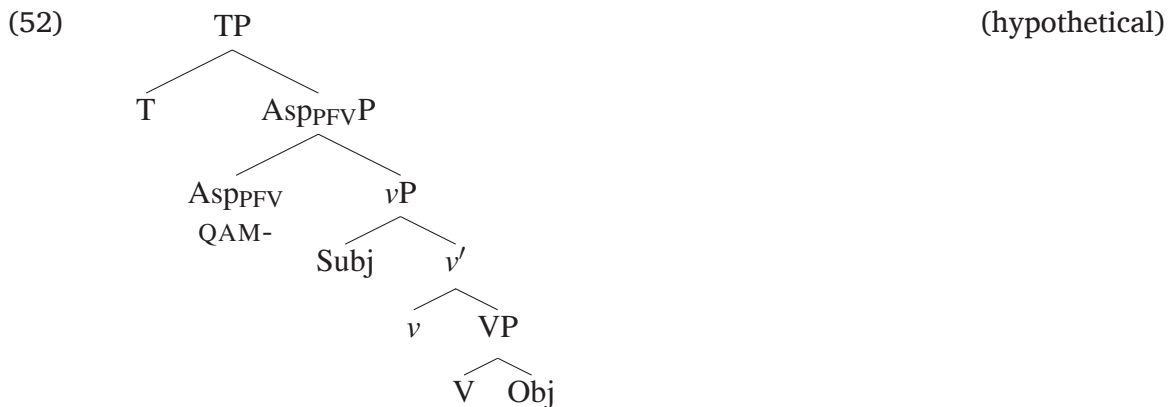


- (51) *Telkepe* (Coghill 2014: 349–350)
- a. q̄təl-lə                    **bàxt-ən-malko** 'u    ba'dèn, q̄təl-lə                    **malko**.  
kill.PFV-L.3MS    wife-of-king    and then    kill.PFV-L.3MS    king.  
'He killed the WIFE of the king and then he killed the KING.'
  - b. muθé-li                    **bàb-i**                    'āxɔ.  
bring.PFV-L.1SG    father-1SG    here  
'I brought my father here.'
  - c. zi-mxáll-ən                    **gyàn-I**.  
FUT-wash.IMPF-S.1SG    self-1MS  
'I'm going to wash myself.'

Despite the objects in (51) being specific, they do not trigger agreement, and likewise these objects could not appear in a secondary perfective. Again, if QAM- is not dependent on object agreement, then the ban on QAM- with these specific objects is a mystery.

To sum up here, it is clearly L-suffix agreement in the secondary perfective that makes the secondary perfective grammatical, *not* the mere presence of a certain type of object. In other words, it must be that QAM- is dependent on object agreement, not on the object itself. Giving QAM- a low, fixed argument-introducing position is not tenable. I therefore reject the hypothesis that QAM- and T independently establish a relationship with the object; rather, only T establishes a relationship with the object.

One final potential analysis of the secondary perfective that is worth considering is one where QAM- is generated in the position of main Asp, (52).



(52) is appealing because it does not require us to posit any “stacked” projections, and the clause is perfective precisely because QAM- is perfective and is in the position of main Asp. However, a big problem arises for this analysis as well. We would need to stipulate that, despite being perfective, QAM- on Asp triggers the imperfective verb base as well as the extra  $\varphi$ -probe that is characteristic of imperfective aspect (Kalin & van Urk 2015), cf. §2.2. This analysis of QAM- thus makes it entirely coincidental that the secondary perfective looks *exactly* like an imperfective (minus QAM-), and offers no explanation as to why the canonical perfective cannot show full object agreement.

The best fit analysis for QAM- is that it sits in a high aspectual projection, stacking on top of imperfective AspP, and sensitive to successful object agreement.

### 3.3 A note on the timing of agreement

In the previous section, I showed (i) that QAM- can grammatically appear only when there is successful  $\varphi$ -agreement in T; and (ii) that QAM- does *not* have a direct relation with the nominal triggering agreement in T. In other words, it is crucially  $\varphi$ -agreement in T that licenses QAM-, and not anything else. I further suggested that the need for  $\varphi$ -licensing

(by a c-commanding agreement locus) may be a general property of  $\text{Asp}_{\text{PFV}}$  in NENA, and not a peculiarity of QAM-/the secondary perfective, since in the canonical perfective, the subject will always agree with T.

Assuming that the licensing of  $\text{Asp}_{\text{PFV}}$  takes place in the syntax, it must also be the case that  $\varphi$ -agreement (or at least the first step of  $\varphi$ -agreement, Match) takes place in the syntax as well. This goes against the view in Distributed Morphology that  $\varphi$ -agreement is entirely post-syntactic, involving Agr nodes added only after the syntactic structure has been sent to PF (Marantz 1991; Halle & Marantz 1993; Embick & Noyer 2007; Bobaljik 2008; *i.a.*). The NENA secondary perfective thus furnishes a new type of argument that  $\varphi$ -agreement is (at least partially) syntactic, adding to a number of existing empirical arguments (see, e.g., Preminger 2011; Arregi & Nevins 2012; Bhatt & Walkow 2013).

#### 4 Slavic aspect

Slavic languages are well-known for their complex aspectual systems, 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.<sup>15</sup> There is an extensive literature on both the syntax and semantics of these prefixes (Piñon 1994a; b; Klein 1995; Babko-Malaya 1999; 2003; Borik 2002; Filip 2003; Ramchand 2004; 2008; Svenonius 2004; 2008; Romanova 2004; 2006; Di Sciullo & Slabakova 2005; Tatevosov 2008; Gribanova 2013; *i.a.*). In this section, I introduce the Slavic data, and show how, morphosyntactically, the secondary perfective is analogous to (at least certain) superlexical prefixes in Slavic.

##### 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 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, (53), are verb-adjacent, may add an argument to the verb or otherwise alter argument-structure, cannot co-occur with each other, and often compose with the verb idiomatically. Superlexical prefixes, (53b), on the other hand, occur outside of lexical prefixes (when they co-occur), typically cannot add an argument to the verb or alter argument structure, may stack (subject to restrictions), and contribute systematic meanings. It is important to note here, as pointed out by an anonymous reviewer, that there is great variation across Slavic with respect to these properties, and the characteristics of the different classes of prefixes might better be seen as general tendencies, not absolute generalizations; see, e.g., Filip (2003). All examples in this section come from Russian. (Following Svenonius 2004 and Gribanova 2013, I gloss lexical prefixes in italics as their prepositional counterparts and superlexical prefixes with small caps.)

- (53) *Russian*, lexical prefixes (Gribanova 2013: 97–98)
- a. ot-pečatat’  
*away-type*.INFIN  
‘print’
  - b. za-kusit’  
*behind-bite*.INFIN  
‘snack (e.g., after drinking)’

<sup>15</sup> The 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).

- (54) *Russian*, superlexical prefixes (Gribanova 2013: 98)
- a. *za-plavat'*  
INCP-swim.INFIN  
'begin swimming'
  - b. *na-brat'*  
CMLT-take.INFIN  
'take (enough of something)'

Some prefixes lead double lives as both lexical and superlexical, as seen with *za* above. There are also several 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 2IMPF), *-yva*, which attaches to a perfective form and derives an imperfective one, (55).

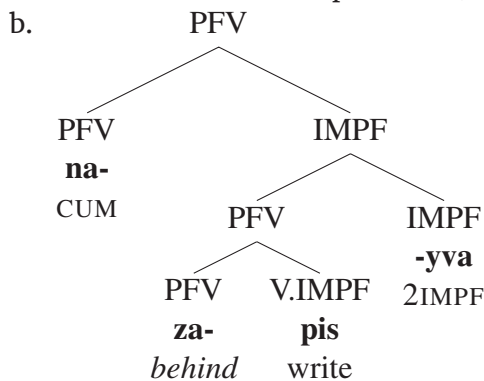
- (55) *Russian* (Svenonius 2004: 233)
- a. On *na-kal-yva-l* klientov.  
he *on-crack.IMPF-2IMPF-PST.MS* clients.ACC  
'He was cheating the clients.' (imperfective)
  - b. [<sub>IMPF</sub> [<sub>PFV</sub> *na-* [<sub>IMPF</sub> *kal* ] ] -yva]

The idiomatic interpretation of the verb in the presence of the prefix in (55) is indicative of the prefix being lexical, rather than superlexical. The secondary imperfective scopes over lexical prefixes (such that the verb is imperfective overall when they co-occur, as in (55)) but under superlexical prefixes (such that the verb is perfective overall when they co-occur, as will be seen below). Derived imperfectives like that in (55) can have a progressive, habitual, or iterative meaning (Ramchand 2008).

Perfective prefixes (both lexical and superlexical) as well as the secondary imperfective typically attach to verbs of the opposite aspect. While this is just a tendency for lexical prefixes, which may sometimes attach to perfective verbs, the generalization holds strongly for superlexical prefixes and absolutely for the secondary imperfective suffix. Tatevosov (2008) argues for Russian that once certain *vP*-internal “intermediate prefixes” are recognized, true superlexical prefixes in fact combine only with an imperfective verb form.

A verb showing all of these complexities is given in (56a), with its internal morphological structure (with respect to aspect) given in (56b).

- (56) *Russian* (Tatevosov 2008)
- a. *na-za-pis-yva-t'* diskov  
CUM-*behind*-write.IMPF-2IMPF-INFIN CD.GEN.PL  
'record a lot of CDs' (perfective)

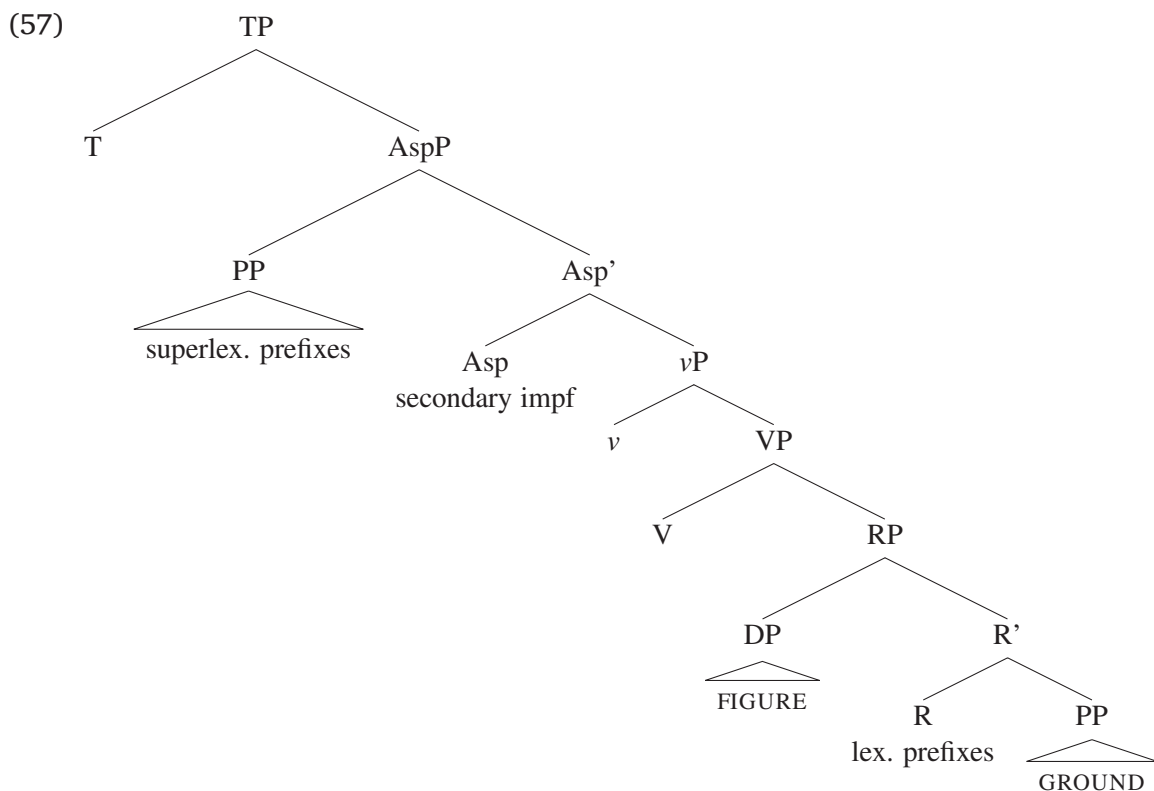


The verb root *pis* is imperfective, and combines first with a lexical prefix, becoming perfective, *za-pis*. This then is imperfectivized by the secondary imperfective suffix, and the resulting complex verb combines one last time with a superlexical prefix to become perfective again.

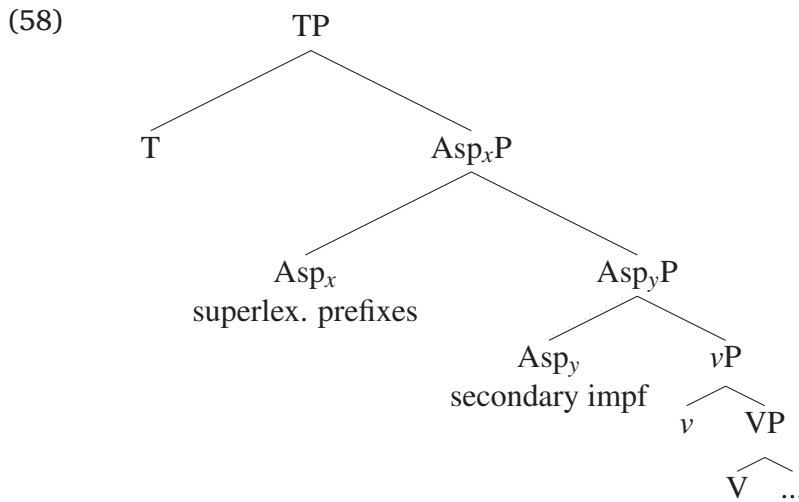
While it might seem that QAM- has properties in common with both lexical and superlexical affixes, the similarities to the former are only apparent. QAM- requires its complement to be imperfective (it attaches only to the imperfective verb base), it has a fixed/non-idiomatic meaning, and it does not alter argument structure (cf. §3.2). Lastly, as will be shown in the following section, both QAM- and superlexical prefixes are generated above the main Asp head.

#### 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 – in the high Asp region – while lexical prefixes are low, very close to the verb, in the low Asp region (Babko-Malaya 1999; 2003; Ramchand 2004; Romanova 2004; Svenonius 2004; Gribanova 2013; *i.a.*). 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:



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 vPs, even though on the surface, V is not inside the elided vP; this indicates that lexical prefixes originate inside vP. Superlexical prefixes and the secondary imperfective, on the other hand, may mismatch (need not be identical) across elided vPs; this indicates that they originate outside of vP. The following example shows a representative data point for the acceptability of mismatching superlexical prefixation, with the elided vP (containing just the object because V has raised out of vP) struck out in (59b):

- (59) *Russian*, VVPE (Gribanova 2013: 122)
- a. Kažetsja čto nikto ne **pod-njal** vazu, kotoraja  
 seem.3SG.REFL that no-one NEG *under*-hold.MS vase.ACC which.NOM  
 uže ne pervyj raz padaet.  
 already NEG first time fall.3SG  
 ‘It seems that no one picked up the vase, which fell not for the first time.’
- b. %Naoborot, uže prišël čelovek, kotoryj **pere-pod-njal**  
 on-contrary already came.MS person who.NOM RPET-*under*-hold.MS  
**vazu.**  
 vase  
 ‘On the contrary, a person who picked (it) up again already came.’<sup>16</sup>

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 Gribanova 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 vP and subsequent elision of the whole vP.

<sup>16</sup> An anonymous reviewer points out that this is starkly ungrammatical for some speakers of Russian. It might be that those speakers lack VVPE altogether, or that a processing cost results in degradedness to the point of ungrammaticality (Vera Gribanova, pc). Regardless of the judgment of this sentence, however, there is ample evidence for the high position of superlexical prefixes (see references at beginning of §4.2).

Gribanova's syntactic proposal in (58) is identical to the proposal that I have made for NENA's secondary perfective. In the structure of a secondary 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 most or perhaps all superlexical prefixes). The morphosyntactic analysis that I have proposed for the secondary perfective, then, receives support from the Slavic literature. Further, NENA shows us that at least a subpart of the extremely complex situation in Slavic – with interleaved aspectual affixes – is attested in an unrelated language group. Of course, since there are only two relevant morphological pieces in NENA (the imperfective verb base and QAM-), there is far greater diversity among aspectual affixes in Slavic.

### 4.3 A note on the semantics of superlexical prefixes

If superlexical prefixes combine with imperfective verb forms (either an imperfective verb root or a verb bearing the secondary imperfective), there must then be a way for imperfective aspect and perfective aspect to compositionally combine, without inducing a contradiction. Work on the semantics of aspect is vast and varied, and I cannot do it justice here. For Slavic alone, there have been many different semantic accounts of aspectual affixation (Verkuyl 1993; 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).

Regardless of the specific analysis adopted, it is clear from Slavic languages that aspects are able to morphologically stack, and this is semantically interpretable. Ramchand (2008), for example, proposes that the perfective involves a sort of narrowing down of the imperfective, such that a specific time point/interval is identified; hence perfective may combine with imperfective, non-contradictorily and non-vacuously. It is interesting to note that in the high aspect region (above  $\nu P$ ), where superlexical prefixes and the secondary imperfective reside, superlexical prefixes reside outside/over the secondary imperfective. Perhaps significantly, this is the same in NENA: QAM- scopes over imperfective aspect. Adopting a Ramchand-type account, it is clear why this hierarchy would be so: stacking a high imperfective over a high perfective would have a vacuous result, since the imperfective identifies a less specific time span. Ultimately, understanding the semantic composition of Slavic verbs can thus also help us better understand the semantics of the NENA secondary perfective.

## 5 Broader connections and conclusion

This paper has explored the morphosyntax of a secondary perfective strategy in Neo-Aramaic. This strategy is interesting on its surface because it involves the use of the imperfective verb base to express perfective aspect, with the resulting verb form semantically indistinguishable from a canonical perfective that uses the perfective verb base. I have suggested that the secondary perfective strategy surfaced as a patch in certain NENA languages to compensate for restrictions on the perfective base's object agreement, yet it is not – synchronically at least – a last resort strategy. I proposed that QAM- is the spell-out of a stranded perfective Asp, stacked on top of an imperfective Asp, which in turn combines with the verb, resulting in the appearance of the imperfective verb base and the agreement pattern typical of an imperfective. My account provides support for an articulation of the Asp field into (at least) two stackable projections, and for a semantics of imperfective and perfective aspect where the two are not opposed to each other.

One issue raised by this paper is what limitations there are on aspect stacking, both syntactically and semantically. In Neo-Aramaic, we saw that an imperfective verb could be

turned into a perfective verb through the addition of QAM-. This ordering is also attested in the high aspect region in Slavic, with superlexical prefixes stacking on top of the secondary imperfective suffix. If perfective aspect is indeed “more specific” than imperfective aspect, it may be that – crosslinguistically – 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); this is perhaps the case with Slavic secondary imperfectives when they combine with a perfective stem.

Another issue raised here is why it should be that an aspect head needs licensing under  $\varnothing$ -agreement, as I argued to be the case for QAM-. While not totally unlike the licensing of the “spurious antipassive” in Chuckchi (Bobaljik & Branigan 2006), this does not seem to be a crosslinguistically robust phenomenon. What mechanism achieves and encodes such licensing? Is there an alternative way to encode this licensing via local selection? I leave this question for future work.

Finally, this paper has implications for the analysis of apparent mismatches between verb bases/stems and clausal semantics, suggesting that such mismatches do not necessarily imply that the verb base/stem is void of tense/aspect semantics. I have argued that in Neo-Aramaic, the fact that we see the imperfective verb base in a clause that is perfective does not necessitate that the imperfective verb base does not contribute its usual semantics. The key point is that a higher aspect (in the case of Neo-Aramaic, a high perfective aspect) can essentially override the contribution of a lower aspect, even though both are (independently) contentful. Slavic languages show this even more clearly: superlexical perfectivizing prefixes productively combine with verbs bearing the secondary imperfective suffix.

In Indo-Iranian, mismatches between clause-level semantics and the form of the verb stem have been taken as an indication that the verb stems are conventionalized, not tied to tense and aspect (Haig 2008). For example, one argument against attributing consistent perfective semantics to the so-called “past stem” in Indo-Iranian is that this stem can bear an imperfective affix. Divorcing the stems from tense/aspect semantics has implications for the analysis of the “splits” in Indo-Iranian: Haig notes that whenever there is a mismatch between the verb stem and clause-level semantics, the case/agreement alignment patterns with the stem rather than clause-level semantics. As a result, various analyses of these splits (e.g., Haig 2008; Baker & Atlamaz 2014) argue against tying the case/agreement alignment to tense or aspect. If the analysis that I have proposed for NENA is on the right track, then it may be that there is contentful tense and aspect hidden below the clause level. A reanalysis of Indo-Iranian verb stems along these lines, then, may be able to reconnect their case/agreement splits with tense and aspect. I leave this, too, for future research.

## Abbreviations

1, 2, 3 = first, second, third person, ACC = accusative, CUM = cumulative, DOM = Differential Object Marking, F = feminine, FUT = future, GEN = genitive, IMPF = imperfective, INCP = inceptive, IND = indicative, INFIN = infinitive, L = L-suffix, M = masculine, NEG = negation, PART = participle, PST = past, PFV = perfective, PL = plural, QAM- = secondary perfective prefix, REFL = reflexive, RPET = repetitive, S = S-suffix, S(G) = singular, SM = subject marking



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## Competing interests

The author has no competing interests to declare.

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
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