Aspect splits without ergativity: Agreement asymmetries in Neo-Aramaic*

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This paper looks at two different aspect splits in Neo-Aramaic languages that are unusual in that they do not involve any ergativity. Instead, these splits are characterized by agreement reversal, a pattern in which the function of agreement markers switches between aspects, though the alignment of agreement remains consistently nominative-accusative. Some Neo-Aramaic languages have *complete agreement reversal*, affecting both subject and object agreement (Khan 2002, 2008; Coghill 2003). In addition to this, we describe a different system, found in Senaya, which we call *partial agreement reversal*. In Senaya, the reversal only affects the marker of the perfective subject, which marks objects in the imperfective. We show that a unifying property of the systems that we discuss is that there is additional agreement potential in the imperfective. We develop an account in which these splits arise because of an aspectual predicate in the imperfective that introduces an additional φ-probe. This proposal provides support for the view that aspect splits are the result of an additional predicate in nonperfective aspects (Laka 2006; Coon 2010; Coon and Preminger 2011), because it allows for the apparently disparate phenomena of split ergativity and agreement reversal to be given a unified treatment.

1 Introduction

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 we will show in this paper, however, there are indeed languages that display aspect splits of this kind.[1]

The languages we will discuss are part of a group of northeastern Neo-Aramaic languages which 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 paper is on two different aspect splits in this group, which stand out because they 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.

We distinguish two such systems. In the first, a system found in Senaya and previously undescribed in the theoretical literature, agreement reversal is only partial. The object marker of the

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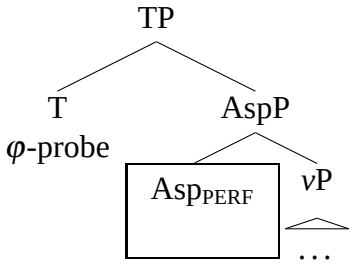
[1]The rarity of such systems is probably due to the fact that aspect splits tend to have little impact on surface case and agreement relations in nominative-accusative languages (see Coon 2010, 2012 and Coon and Preminger 2011, 2012 for discussion of this point).

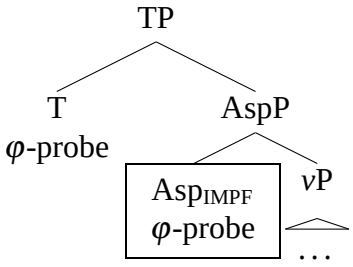
imperfective switches functions between aspects, becoming the subject marker of the perfective. But the same does not happen to the subject marker of the imperfective — instead, this agreement series disappears entirely in the perfective, so that there is no object agreement at all. The second system, found in Christian Barwar, Qaraqosh, and Telkepe, among others, displays *complete agreement reversal*. In these languages, perfective and imperfective aspects have both subject and object agreement, but the functions of the agreement markers reverses entirely: the marker of subject agreement in one aspect is the marker of object agreement in the other, and vice versa (Khan 2002, 2008; Coghill 2003).[2]

Our main goal in this paper 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. Such a predicate is absent in the perfective, so that the syntax of the perfective and of the imperfective looks like (1) and (2), respectively.

(1) *Perfective aspect:*



(2) *Imperfective aspect:*



Given this syntax, we will show that the differences between partial and complete agreement reversal can be made to fall out from lexical variation in T's properties.

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. Intruigingly, it is the direct object that is referenced in this way, such that the *highest* agreement marks the *lowest* argument, the direct object. We will demonstrate that this puzzling constellation of facts follows *exactly* 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 have the semantics of locative predicates and so may be expressed as embedding 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 absent in the perfective. For the Neo-Aramaic languages that we discuss, however,

[2]We are focusing here on the complete agreement reversal languages 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 (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, we think a morphological analysis is more appropriate, as argued in detail by Baerman (2007).

we show that this predicate does not bifurcate the clause into separate case/agreement domains, but instead must be treated as a restructuring predicate. 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. This results in an aspect split in which there is no additional clausal domain in imperfective aspect, but rather 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 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 paper then is to show that diversity in aspect splits across languages can 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. The imperfective Asp head is merged before T, and so takes over the role of licensing the subject. This leaves T free to instantiate agreement with an object, resulting in apparent agreement reversal.

Let's now preview briefly what the splits we will discuss look like. The first type of split, found in Senaya, is characterized by *partial agreement reversal*: some agreement markers switch functions, others do not. This is illustrated in the examples in (3) and (4), with the agreement morphemes bolded.[3]

(3) *Perfective in Senaya:*
axnii dmex-**lan**.
we sleep.PERF-**L.1PL**
'We slept.'

(4) *Imperfective in Senaya:*
ooya molp-**a-lan**.
she teach.IMPF-**S.3FS-L.1PL**
'She teaches us.'

As these examples show, the morpheme that marks subject agreement in the perfective, *-lan* (L.3PL), marks object agreement in the imperfective. A unique series of agreement suffixes surfaces to mark subjects in the imperfective, *-a* (S.3FS) above. As such, the perfective verb can only host one agreement morpheme, while the imperfective verb can host two.[4]

The second type of split, found in Christian Barwar, Christian Qaraqosh, and several other languages, involves *complete agreement reversal* (Khan, 2002, 2008; Coghill, 2003; Doron and Khan, 2012). We exemplify this pattern with data from Christian Barwar (Khan 2008:167,282):

[3]We make use of the following abbreviations: 1, 2, 3 = 1st, 2nd, 3rd person, I = noun class 1, III = noun class 3, ABS = absolutive, AUX = auxiliary, CL = clitic, CONJ = conjunction, ERG = ergative, EXPL = expletive, F = female, FUT = future, GEN = genitive, IMPF = imperfective, INDIC = indicative, INF = infinitive, L = L- suffix, M = male, NMLZ = nominalization, PART = participle, PASS = passive, PERF = perfective, PL = plural, PRES = present, S = S-suffix, S = singular, SC = small clause.

[4]This asymmetry is the reason for our choice of examples above (intransitive perfective in (4), transitive imperfective in (3)): the perfective verb base simply cannot appear with a definite object, as there is only one agreement slot, always occupied by subject agreement; this is discussed at length in §3.1.

(5) *Perfective in C. Barwar:*
qṭil-**í-le**.
kill.PERF-**S.3PL-L.3MS**
'He killed them.'

(6) *Imperfective in C. Barwar:*
qaṭl-**í-le**.
kill.IMPF-**S.3PL-L.3MS**
'They kill him.'

As can be seen in (5) and (6), the same exact sequence of agreement markers (*i-le*, S.3PL-L.3MS) conveys opposite grammatical relations in the perfective and imperfective. As in Senaya, the 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 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.

As previously mentioned, despite their surface differences, we will argue that these splits arise for the same underlying reason: the presence of an aspectual predicate in the imperfective that introduces an additional locus of agreement. For Senaya, it is clear how this syntax will map onto the morphological pattern described above. The additional agreement morpheme present in the imperfective (the subject agreement marker), 4, corresponds to the additional φ-probe on imperfective Asp in 2. For complete agreement reversal languages, things are a little more complicated. We will argue that the appearance of two agreement morphemes in the perfective of these languages, (5), reflects agreement of a single φ-probe (on T) with multiple arguments; on the other hand, the appearance of two agreement markers in the imperfective, (6), reflects agreement with two distinct φ-probes (on T and Asp). The empirical motivation for this will come from a Person Case Constraint (PCC) effect in the perfective, which is absent in the imperfective.

The paper is structured as follows. Section 2 presents some background information on verbal morphology in Neo-Aramaic. In section 3, we examine *partial agreement reversal* in Senaya and derive it from the presence of an additional φ-probe in the imperfective. Section 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 section 5, we relate our account to recent work on split ergativity (Laka 2006; Coon 2010; Coon & Preminger 2011) and the idea that nonperfective aspects may be expressed as independent locative predicates (Demirdache & Uribe-Etxebarria 2000; Coon 2010).

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 we discuss here. In this section we introduce some of the properties that will be constant in the systems we discuss and the terminology that we will use to describe these systems. Much of this description is adapted from earlier theoretical work on Neo-Aramaic, in particular that of Doron and Khan (2012).

2.1 Agreement

The template in (7) schematizes the maximal verbal template that can appear in perfective and imperfective aspect in all of the languages that this paper deals with:

(7) *Verbal template in Neo-Aramaic languages:*
Verb stem - 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, as it was historically subject agreement and is still most frequently used in this function.[5] The term L-suffix derives from the fact that all these suffixes start with an *l-*, historically a dative/accusative preposition, reflecting the origin of these suffixes as oblique pronominal suffixes (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).[6]

(8) *Christian Barwar perfect:*
qṭíl-t-ɛla-**le**.
kill.PART-FS-COP.3FS-**L.3MS**
'She has killed him.' (Christian Barwar; Khan 2008:284)

The clitichood of the L-suffixes will play a crucial role in our analysis of complete agreement reversal, §4.[7]

The S- and L-suffixes mark person, number, and sometimes gender. The paradigms for both in Senaya, the first language we will discuss, are in Tables 1 and 2.

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

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

(i) qày-ilə k-áxəl
why-COP.3MS INDIC-eat.IMPF.S.3MS
'Why is he eating?' (Christian Qaraqosh; Khan 2002:332)

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

[7] In 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 whereas adding the enclitic auxiliary does not – but their status as syntactic clitics is unknown. For the purposes of this paper, we will consider L-suffixes to be clitics in order to unify Senaya with the other Neo-Aramaic languages. Nothing crucial in our analysis hinges on this; see fn. 13 for a discussion of how our analysis of Senaya would change if we treated L-suffixes in this languages as true agreement rather than as clitics.

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.)	-lɛ́xi
3rd p.	-le(m.)/-la(f.)	-lɛ/-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 paper (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 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 paper 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).

Note that, unlike what is generally claimed for Semitic (see, e.g., 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.
we each day milk drink.IMPF-S.1PL
'We drink milk (every day).'
b. aana ʿel suusii rakw-an-waa.
I on horse ride.IMPF-S.1FS-PAST
'I used to ride horses.' (Senaya)

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 dialects, a past perfect).

(10) a. aawa (temal) mpel-ee.
he yesterday fall.PERF-L.3MS
'He fell (yesterday).'
b. aana ʿel suusii rkuu-waa-lii.
I on horse ride.PERF-PAST-L.1SG
'I rode a horse (a long time ago).' (Senaya)

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')	raakw	rkuu
q-ṭ-l ('to kill')	qaaṭl	qṭeel
sh-t-y ('to drink')	shaaty	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 our information about argument alignment 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 – partial agreement reversal, §3, and complete agreement reversal, §4 – both involving agreement morphemes swapping their functions across perfective and imperfective aspect.

3 Partial agreement reversal

In this section, we discuss 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 and Australia.[8] We will refer to Senaya's system as *partial agreement reversal*, and we will argue that this system comes about as the result of the presence of an additional locus of agreement in the imperfective.

3.1 The data

Agreement in Senaya tracks both subjects and definite or pronominal 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 §2.1 that despite the label "L-suffix," we are taking these agreement markers to be clitics across Neo-Aramaic; see also fn. 7.

As discussed in §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):

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

a. axnii dmex-**lan**.
   we sleep.PERF-**L.1PL**
   'We slept.'

b. axnii pleq-**lan**.
   we leave.PERF-**L.1PL**
   'We left.'

c. axnii xa ksuuta ksuu-**lan**.
   we one book write.PERF-**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* (1PL.L) above. Indefinite objects do not trigger agreement, (11c).

Since definite or pronominal objects require agreement and there is only one slot for agreement in the perfective (always occupied by subject agreement), it follows that a definite or pronominal object cannot appear with a perfective base:

(12) *No definite or pronominal object with the perfective base:*

*axnii oo ksuuta ksuu**(-laa/-a)-lan(-laa/-a)**.
we that book write.PERF**(-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

[8] The Senaya data in this paper comes from original fieldwork by Laura McPherson and Kevin Ryan (with recent participation by Laura Kalin), which has graciously been shared with us.

when there is a definite or pronominal object in the perfective. Instead, the perfective base is completely ungrammatical with a definite or pronominal object. (We return to the language's strategy for marking definite objects in the perfective at the end of this section, 15.)

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.'

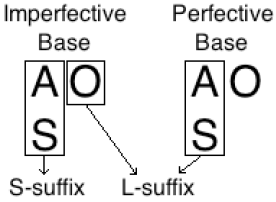
c. axnii xa ksuuta kasw-**ox**.
   we one book write.IMPF-**S.1PL**
   'We write a book(fem.).'

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* (1PL.S) above (cf. subject agreement as the L-suffix *-lan* (1PL.L) in 11). Indefinite objects do not trigger agreement, (13c), while definite or pronominal objects trigger an L-suffix following subject agreement, *-laa* (3FS.L) 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).[9,10]

(14) SENAYA'S ALIGNMENT



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 definite object with the perfective base; we attributed this restriction to the fact that the

[9]This way of presenting the agreement alignment was originally conceived by Kevin Ryan.

[10]The transitive perfective thus construed looks like an antipassive (since the object seems to be demoted, i.e., must be indefinite and cannot trigger agreement), while the transitive imperfective is the regular (non-antipassive) 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 (especially unaccusatives) should not be able to be antipassivized.

perfective base only has one agreement slot (always taken up by subject agreement), whereas a definite object requires agreement. Senaya does, however, have a last resort strategy for expressing a definite object in the perfective: in just these instances, the language allows for the use of the imperfective verb base, and agreement appears just as it does in the imperfective (S-suffix marking the subject and L-suffix marking the object); the addition of the prefix *tm-* to the verb base serves to indicate that it should be interpreted as perfective, (15), cf. 13d.

(15) axnii oo ksuuta tm-kasw-**ox-laa**.
we that book PERF-write.IMPF-**S.1PL-L.3FS**
'We wrote that book(fem.).'

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 (*citation omitted for anonymity*).[11] This phenomenon will not play a role in our analysis, though see fn. 23 for how complete agreement reversal languages handle a similar expressivity limitation on the perfective.

In §3.2 and §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.

3.2 Agreement in the perfective

We begin with the perfective, which we take to have a less articulated structure. Recall that there is only one agreement marker in the perfective, the L-suffix (a clitic), which always agrees with the subject, (16).

(16) PERFECTIVE *No S-suffix; L-suffix = subject:*
axnii dmex-**lan**.
we sleep.PERF-**L.1PL**

[11] The 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 definite (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 an indefinite object), given that the imperfective verb base (used as the basis of the construction in 15) is perfectly capable of hosting just 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: definite 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 §4, since they, too, have restrictions on object agreement in the perfective (though the restrictions are different from those in Senaya).

A different way of looking at the phenomenon in 15 is to take it to reveal a covert blocking effect in Senaya. Under such an account, the underlying structure of the perfective would consist of the verb base (which in isolation surfaces as what we have been calling the imperfective base) plus *tm-*, whereas usually *tm-* incorporates into the verb base in the perfective, resulting in the morphological perfective base. The perfective would thus always have an additional φ-probe available for object agreement (contra our claim), but the employment of this φ-probe would block the incorporation of *tm-* into the verb base, resulting in their being pronounced separately. There are two big obstacles to pursuing such an account. First, it is not clear why *tm-* should be unable to incorporate into the verb base just in case there is object agreement. Second, if there is always a φ-probe (e.g., on Asp) available in the perfective, why does the nature of subject agreement (as an L-suffix) change in the unincorporated structure (to an S-suffix)? A final problem is that this construction is *not* in complementary distribution with the perfective base in complete agreement reversal languages (Khan 2008). Overcoming these obstacles requires several unmotivated stipulations, and so we reject a blocking account of this data.

'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, located on T.[12] This φ-probe clitic-doubles the argument that it agrees with, resulting in an L-suffix clitic on T reflecting the φ-features of the perfective subject. In contrast, we posit that Senaya *v* is inactive and does not assign case, register agreement, or trigger spell out of a VP phase. This last property results in the object inside VP remaining accessible to agreement and case processes higher in the clause.

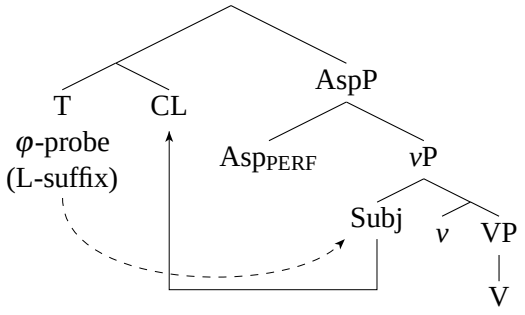
There is thus only one source for agreement in the perfective — the φ-probe on T. It follows from this that only one argument can be licensed in the perfective, assuming that DP arguments need to agree with a φ-probe to be licensed (for instance, because they need Case, Chomsky 1995, 2000, 2001). Definite or pronominal objects are therefore banned in the perfective, 12, since T will always probe the higher argument, the subject, and then be unavailable to license an object.[13]

In this proposal, perfective intransitives look just like intransitives in other nominative-accusative languages. When unergative, they have the structure in (17b). When unaccusative, they have the structure in (18b).

(17) PERF. UNERGATIVE

a. axnii dmex-**lan**.
we sleep.PERF-**L.1PL**
'We slept.'

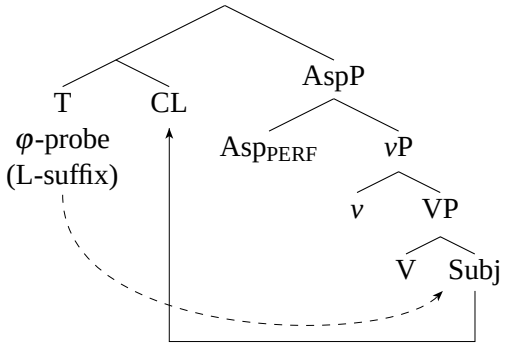
b.



(18) PERF. UNACCUSATIVE

a. axnii pleq-**lan**.
we leave.PERF-**L.1PL**
'We left.'

b.



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

The Senaya perfective differs from the standard transitive nominative-accusative syntax because *v* is inactive. As a result, no additional agreement locus appears in transitive structures,

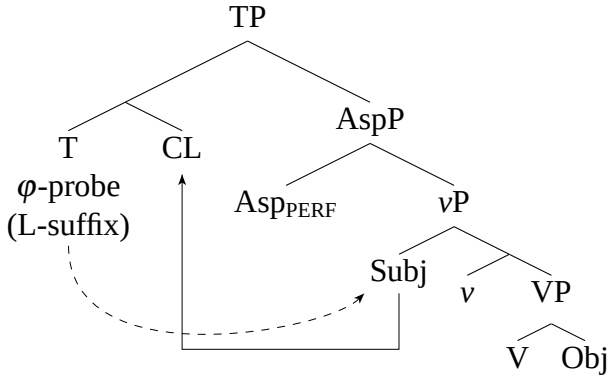
[12] One might wonder whether L-suffixes might be the result of agreement with *v*. This would work in the perfective, so long as we give *v* the ability to probe upwards if it fails to find a goal when probing downwards, such that *v* can agree both with unaccusative subjects (complement of V) and with transitive/unergative subjects (Spec-*v*P), along the lines of Béjar and Rezac's (2009) Cyclic Agree. However, such an approach would crucially fail in imperfective intransitives; see fn. 16.

[13] As noted in fn. 7, there is little evidence internal to Senaya that bears on whether the L-suffixes represent true agreement or a clitic series. We take the L-suffixes here to be clitics, but our account would require minimal modification to accommodate the L-suffixes as true agreement. In particular, instead of T bearing a φ-probe that triggers clitic-doubling, this probe would instantiate true agreement. Since T and Asp would then both be instantiating true agreement, we would need the additional stipulation that agreement with T spells out as an L-suffix, while agreement with Asp spells out as an S-suffix.

resulting in the syntax in (19b).

(19) PERFECTIVE TRANSITIVE

a. axnii xa ksuuta ksuu-**lan**.
we one book write.PERF-**L.1PL**
'We wrote a book(fem.).'

b. 

The φ-probe on T agrees with the highest argument, the subject. A definite object cannot be licensed in this structure because no φ-probe is available to agree with it.

A question that arises here is how indefinite objects are licensed in the perfective, 11c/(19a), when definite/pronominal objects are not. To explain this, we adopt Massam's (2001) proposal for Niuean that indefinite objects in some languages are exempt from the licensing-via-agreement requirement because they are NPs. Because of this, indefinite objects do not undergo movement. If the verb itself does not move, indefinite objects will always appear adjacent to the verb as a result. We propose that all indefinite objects that can licitly appear with the perfective base in Senaya are NPs. In accordance with this approach, indefinite objects in Senaya may contain material aside from N.[14]

One thing that is initially puzzling under an NP analysis of Senaya indefinite objects is that such objects may appear with the element *xa* ('one'/'a'), a numeral that is also used to mark specific indefinites. Our NP analysis commits us to analyzing of *xa* as a numeral, or at least not a true D head. There is some evidence in favor of this. Although *xa* can be used to mark specific indefinites, it is more limited in its distribution than indefinite articles in other languages. For example, *xa* is not used in negative contexts, (20a) (see also Khan 2002 on Qaraqosh). It can only be used with an emphatic meaning, (20b).

(20) *'Xa' is not used in negative contexts:*

a. Aana kalba laa-xzee-lii.
I dog NEG-see.PRF-L.1SG
'I didn't see a/any dog.'

b. Aana xa kalba laa-xzee-lii.
I a dog NEG-see.PRF-L.1SG
'I didn't see ONE/a SINGLE dog.'

We have adopted Massam's account for the sake of clarity, but it should be clear that, cross-

[14]Indefinite objects may even be separated from the verb by adverbial material. We propose that this is because the verb *does* undergo movement in Neo-Aramaic (as we also propose in §4.3.2).

linguistically, something systematically exempts indefinite objects from the requirements a language places on definite objects (e.g., Aissen 2003). Thus, if it turns out that this NP analysis is incorrect for Senaya, there must be some other mechanism that exempts such objects from case and/or agreement processes.

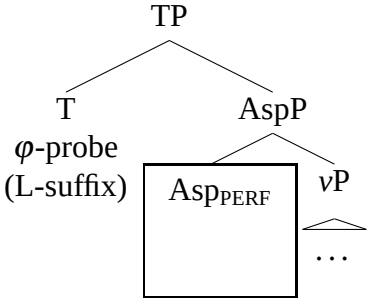
3.3 Agreement in the imperfective

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), (21).

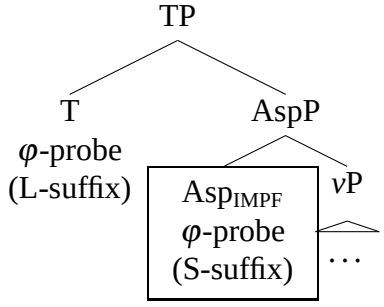
(21) IMPERFECTIVE *S-suffix = subject; L-suffix = object:*
axnii oo ksuuta kasw-**ox-laa**.
we that book write.IMPF-**S.1PL-L.3FS**
'We write that book(fem.).'

To derive the differences between the perfective and imperfective, we propose that an additional φ-probe is introduced on the imperfective Asp head.[15] We posit that this probe is not a clitic-doubler like T, but registers true agreement, which is spelled out with an S-suffix. This distinction between T and Asp is not crucial for Senaya, but will become important when we discuss complete agreement reversal. The resulting syntax is represented in (22a–b).

(22) a. *Perfective aspect:*



b. *Imperfective aspect:*



There is a φ-probe on T in both the perfective and the imperfective. However, while Asp_{PERF} in (22a) is empty, Asp_{IMPF} in (22b) 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 (a result of agreement with T) but is instead cross-referenced with an S-suffix. In addition, since the subject is licensed by Asp, this proposal 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, associated with clitic-doubling T in the perfective, agrees with the object.

[15] Other 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 (2012a) proposes that in Zulu, a licensing head L is situated directly above *v*P and structurally licenses the highest nominal in *v*P.

The question that arises, however, 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 propose that the imperfective subject *moves around* the φ-probe on T, to Spec-TP, before T actually probes. As a result, when T probes for φ-agreement, the subject is no longer in an intervening position, and the object may be targeted.

We implement this movement to Spec-TP technically in the following way. Suppose that T in Senaya is endowed with an EPP feature, which triggers movement to Spec-TP, and φ-features, which trigger agreement/clitic-doubling. In addition, suppose that these features are freely ordered, so that either may be activated first. In an imperfective transitive, as we will see in 25 below, if the EPP feature is activated first, the subject is moved to Spec-TP before φ-probing, such that T's agreement may target the object. If the φ-features on T are activated first (before the EPP), T's agreement will target the subject. In this case, the object never ends up being licensed and so the derivation crashes. In this way, only the derivation in which the EPP is activated first (causing the subject to move around the φ-probe on T) is possible. In the perfective, 19, the ordering of EPP and agreement must be the opposite: activating the EPP feature on T first ends up preventing the licensing of the subject (as T is the only licenser around), rendering all such derivations unavailable; agreement in the perfective must be instantiated first.

The idea that arguments can move out of the way of a φ-probe, circumventing an intervention effect, has been exploited in a number of ways in recent literature. Such a mechanism is necessary, for example, to deal with the facts of defective intervention in Icelandic (Holmberg and Hróarsdóttir, 2003). In Icelandic, a dative experiencer (*einhverjum stúdent* below) blocks agreement between a verb and a lower nominative (*tölvurnar* below); hence, the verb 'find' appears in its default singular form in (23).

(23) *Dative experiencer blocks agreement in Icelandic:*

Það finnst(/*finnast) [einhverjum stúdent]$_{DAT}$ [$_{SC}$ tölvurnar ljótar].
EXPL find.SG/*find.PL some student.SG.DAT the.computers.PL.NOM ugly
'Some student finds the computers ugly.'
(Icelandic; Holmberg and Hróarsdóttir, 2003:1000)

However, when the dative is moved to initial position, (24), agreement with the plural embedded nominative becomes possible; 'find' surfaces with plural agreement.

(24) *Movement of experiencer alleviates intervention:*

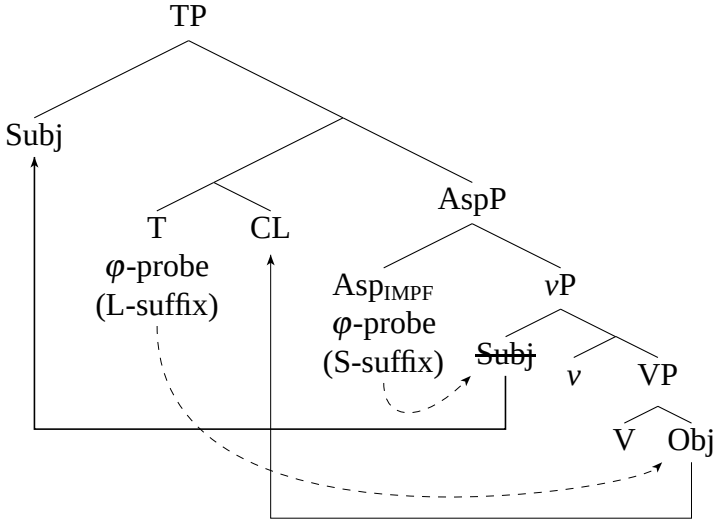
[Einhverjum stúdent]$_{DAT}$ finnast [$_{SC}$ tölvurnar ljótar].
some student.SG.DAT find.PL the.computers.PL.NOM ugly
'Some student finds the computers ugly.'
(Icelandic; Holmberg and Hróarsdóttir, 2003:1000)

This shows us that an intervener may move to a position above a φ-probe to alleviate intervention, just as we proposed for the imperfective subject in Senaya. Other problems for which such a mechanism has been employed are: (i) in ergative languages in which absolutive arguments agree with T (Anand and Nevins, 2006; Legate, 2008); and (ii) to account for the conjoint/disjoint alternation in Zulu (Halpert 2012). We thus believe there to be independent empirical motivation for such a mechanism.

An imperfective transitive functioning as described above is schematized in (25). Looking at the derivation from the bottom up, we see that 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 EPP feature draws up the closest DP, the subject, to spec-TP. T's φ-probe then encounters the object and clitic-doubles it, resulting in object-marking in the form of an L-suffix. Recall that T is able to probe the object precisely because *v* is inactive and therefore is not a phase head.

(25) IMPERFECTIVE TRANSITIVE

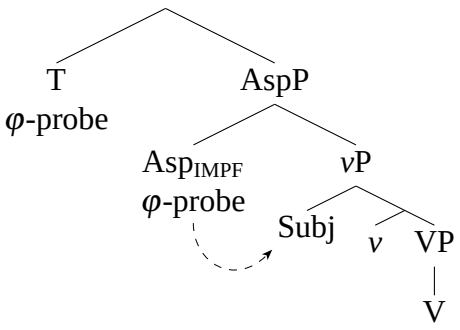


Let us turn finally to imperfective intransitives. As imperfective Asp is merged before T, Asp is responsible for subject agreement in these derivations as well, regardless of whether we are dealing with an unergative, (26), or an unaccusative, (27).

(26) IMPERF. UNERGATIVE

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

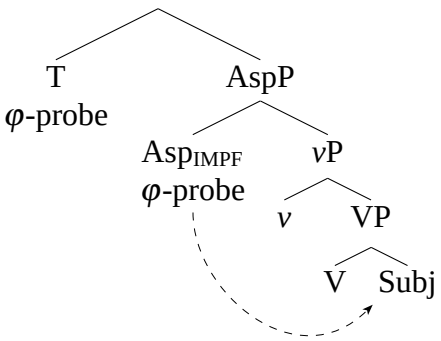
b.



(27) IMPERF. UNACCUSATIVE

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

b.



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.[16] We propose that this

[16]Fn. 12 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* has the ability to probe upwards if it fails to find a goal when probing downwards. However, in the imperfective, this proposal would fail outright. In particular, having a

agreement relation, which licenses the subject, makes the subject inactive for further agreement. As a result, when T probes, it does not find an appropriate goal.[17] 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, but that the derivation does not crash if agreement is impossible (contra e.g. Chomsky 2000).[18] This can be seen, for example, in the grammaticality of the Icelandic example in 23. Despite the fact that the verb does not successfully agree with the embedded subject, the sentence is grammatical, and the verb hosts default (singular) morphology. For Senaya, this means that T in imperfective intransitives can consistently fail to enter into an Agree relation (and trigger the concomitant clitic-doubling) without inducing ungrammaticality.

To conclude this section, we turn to two pieces of empirical support for our proposal. First of all, the clausal position of modals indicates that the subject is high, as the example in (28) illustrates.[19]

(28) *Subject appears before modal:*

aana gerek an klooche ʼaxl-**an-uu**.
I must the.PL cookies eat.IMPF-**1FS.S-3PL.L**
'I must eat the cookies.'

Assuming that the position of the modal *gerek* ('must') is high, at least above *v*P, then the subject must have moved from its base position to some higher specifier in order to appear before the modal. Movement to Spec-TP accomplishes exactly this.

Our proposal also sheds light on the order of morphemes in the verbal complex. L-suffixes appear higher than S-suffixes. S-suffixes appear before the past tense marker (*-waa*, underlined below), whereas L-suffixes appear outside of the past tense marker:

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

ooya k-axl-**aa**-waa-**lee**.
she INDIC-eat.IMPF-**S.3FS**-PAST-**L.3MS**
'She used to eat it.'

Our analysis for Senaya provides an explanation for this fact, since L-suffixes are generated on a higher head (T) than S-suffixes are (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

v that is endowed with Cyclic Agree properties (Béjar and Rezac, 2009), and whose *φ*-probe spells out as an L-suffix, would predict 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. We thus reject the hypothesis that L-suffixes are the result of agreement with *v*.

[17] This assumption is necessary for those derivations in which the *φ*-features on T are activated first. If the EPP feature is activated first, the subject is not a viable agreement target anyway, as it has already moved to a position above the *φ*-probe.

[18] It falls out naturally here that a clitic is not generated when the *φ*-probe on T fails to agree, resulting in the absence of an L-suffix in imperfective intransitives.

[19] The most natural/canonical position for the modal *gerek* is directly following the subject. The modal may also appear sentence-initially (in which case the modal is interpreted as focused) or following the object (in which case the object is interpreted as focused). We take the unmarked position of the modal – shown in 28 – to reflect its base position.

morpheme, which is what we find.[20]

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 syntax we have proposed for Senaya, in which imperfective Asp introduces an additional φ-probe.

4 Complete agreement reversal

This section discusses the second aspect split that this paper is concerned with, *complete agreement reversal*. This pattern surfaces in a wider range of Neo-Aramaic languages, including Alqosh, Christian Barwar, Christian Qaraqosh, and Jewish Zakho (Khan, 2002, 2008; Coghill, 2003; Doron and Khan, 2012).[21] All of the data presented here comes from Christian Barwar and Christian Qaraqosh, as these languages are particularly well-described (Khan, 2002, 2008; Doron and Khan, 2012).

In the imperfective, this system looks like the Senaya pattern just discussed. S-suffixes mark subject agreement in transitives, (30a), unergatives, (30b), and unaccusatives, (30c), while the L-suffix marks agreement with transitive objects, (30a).

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

a. mɛy-**ə́n-na** ’ay-bàxta.
bring.IMPF-**S.1SG-L.3FS** DEM-woman
‘I shall bring that woman.’

b. xošéba lá-palx-**i** nàše.
Sunday NEG-work.IMPF-**S.3PL** people
‘On Sunday, people do not work.’

c. ’ána mɛ́θ-**en** ’aṣə̀rta.
I die.IMPF-**S.1SG** evening
‘I shall die in the evening.’
(Christian Barwar; Khan 2008:115,132,135)

In the perfective, these languages differ from Senaya. Like Senaya, subject agreement is expressed with L-suffixes in the perfective, (31a–c). Unlike Senaya, however, these languages retain a system of object agreement in the perfective. Strikingly, this object agreement is expressed with *S-suffixes*, the subject agreement markers of the imperfective, (31a).

[20] Another way in which we explain why the L-suffix appears outside the S-suffix is by treating the L-suffix as a clitic, since clitics appears outside other affixes. This is actually what we will propose for complete agreement reversal languages, in which the same ordering facts hold.

[21] As 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.

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

a. xawr-ăwaθ-i brat-i griš-**a**-**la**.
friend-PL-1SG.GEN daughter-1SG pull.PERF-**S.3FS**-**L.3PL**
'My friends pulled my daughter.'

b. kalba nwix-**le**.
dog bark.PERF-**L.3MS**
'The dog barked.'

c. brat-i qim-**la**.
daughter-1SG.GEN rise.PERF-**L.3FS**
'My daughter rose.'
(Christian Barwar; Doron and Khan 2012:23)

As such, we are dealing with a different 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.[22]

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. Specifically, a Strong PCC effect obtains in the perfective, restricting 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 T. To be precise, we derive the appearance of two agreement morphemes in the perfective, (31a), from the idea that, unlike in Senaya, it is only the person probe on T that is a clitic-doubler, leaving a separate number probe free to host object agreement. This syntax also derives the existence of a Strong PCC effect, as it implements exactly Béjar and Rezac's (2003) account of the Strong PCC.

4.1 The perfective and the PCC

We will start by developing our account of the perfective, since, as in Senaya, we take it to have a less complicated syntax. As noted above, we will argue that, as in Senaya, there is only one φ-probe in the perfective, which is on T. This probe clitic-doubles the subject, while registering true agreement with the object, creating the appearance of two separate agreement morphemes. The motivation for this way of viewing the perfective will come from the presence of a Strong PCC effect in the perfective, §4.1.1, and our syntax for the perfective mirrors exactly the Béjar and Rezac (2003) account of this effect, §4.1.2.

[22] It is not the case 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.

4.1.1 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 prohibits the lower argument of two arguments from being anything but the 3rd person. We can state the Strong PCC roughly as in (32).

(32) *Strong PCC (Bonet, 1991):*
For two arguments in a domain X, the lower argument has to be 3rd person.

The Strong PCC is typically found in ditransitives. For example, in Greek, direct object clitics in the context of indirect object clitics are only grammatical if they are 3rd person (33a–b) (Bonet, 1991; Anagnostopoulou, 2003, 2005).

(33) *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)

Interestingly, as observed by Doron and Khan (2012), the Strong PCC 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. The following examples from Christian Barwar demonstrate, (34a–d).[23]

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

a. *griš-**an-le**.
pull.PERF-**S.1FS-L.3MS**
'He pulled me.'

b. *griš-**at-le**.
pull.PERF-**S.2FS-L.3MS**
'He pulled you.'

c. griš-**í-le**.
pull.PERF-**S.3PL-L.3MS**
'He pulled them.'

d. 'an-šədle šalx-**i**-wa-**la** mən-tama.
DEM-seedlings uproot.PRF-**S.3PL**-PST-**L.3FPL** from-there
'They uprooted the seedlings from there.'
(Christian Barwar; Doron and Khan 2012:232, Khan 2008:1181)

[23] In order to express a 1st or 2nd person object with the perfective, these languages make use of two strategies. The object can be embedded under a preposition, in which case all persons are acceptable, or the perfective is expressed periphrastically, by putting a perfective prefix on the imperfective base (agreement is just as in the imperfective). See the discussion at the end of §3.1 and in fn. 11 on this phenomenon in Senaya.

The significance of this effect lies in the fact that most minimalist accounts of the PCC have argued that PCC effects arise when two arguments compete for the attention of one φ-probe (e.g. Anagnostopoulou 2003; Béjar and Rezac 2003; Nevins 2007; Rezac 2011), although the details of how this assumption is implemented vary.[24] As such, we will take the existence of a PCC effect 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 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, the account developed in Béjar and Rezac (2003).

As in other accounts of the Strong PCC (e.g. Anagnostopoulou 2003; Nevins 2007), Béjar and Rezac (2003) assume that such effects arise when one φ-probe has to license multiple arguments. The first question they address is why one φ-probe can come to agree with more than one argument. To deal with this, they propose that a φ-probe may sometimes agree with multiple arguments because φ-probes consist of separate person (π) and number (#) probes, which can be activated separately and at different points in the derivation.[25] These probes can then end up targeting different DPs if the one that probes first, which Béjar and Rezac assume is 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, this change induced by the person probe is *clitic-doubling* of the goal DP. Clitic-doubling affects the conditions on subsequent Agree relations because it displaces the head of 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 it c-commands other arguments.[26] This means that cliticization can rescue constructions that would otherwise involve intervention (Anagnostopoulou, 2003; Preminger, 2009). For example, Anagnostopoulou (2003) observes that, in Greek unaccusative ditransitives, a genitive indirect object may only surface if it is clitic-doubled (35a–b), even though clitic-doubling is otherwise not obligatory.

(35) *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 in his dream.'

[24]Note that the syntactic signature of the PCC means that a morphological analysis of agreement reversal, as suggested by Baerman (2007) for the Neo-Aramaic language Amadiya, is not appropriate for Barwar or the other complete agreement reversal languages. For detailed argumentation that the PCC is syntactic, see Rezac (2011).

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

[26]This implies that only the head of the chain counts for intervention (Chomsky, 2000; Béjar and Rezac, 2003; Anagnostopoulou, 2003; Holmberg and Hróarsdóttir, 2003; Sigurðsson and Holmberg, 2008).

(Greek; Anagnostopoulou 2003:23)

The genitive indirect object *tu Pari* can only grammatically surface in (35b), where it has been clitic-doubled by *tu* preverbally. Taking the direct object (the lower argument) to be in a high, spec-TP position, and in an agreement relation with T, this data suggests that the direct object can only move over the indirect object into subject position if the indirect object has been clitic-doubled; clitic-doubling makes the indirect object invisible for intervention.

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, (36a–b).

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

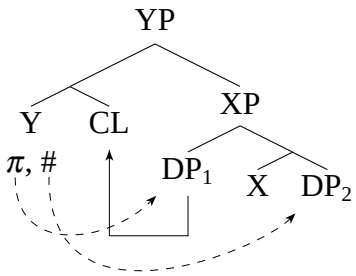
a. Nelson semble (*à Mari-Jo) être intelligent.
Nelson seems to Mari-Jo be.INF intelligent
'Nelson seems to Mari-Jo to be intelligent.'

b. Nelson **lui** semble être intelligent.
Nelson **her.DAT** seems be.INF intelligent
'Nelson seems to her to be intelligent.'
(French; Béjar & Rezac 2003:50–51)

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 (37), which represents this configuration.

(37)



In this tree, Y is a φ-probe consisting of a separate person (π) and number (#) probe. Person probes first, by assumption, and has the property of triggering clitic-doubling. The person probe agrees with the highest argument, DP_1, and, as a part of this Agree relation, clitic-doubles it, so that DP_1 adjoins to Y as a clitic. Number then probes, ignoring the adjoined DP_1, and agrees with DP_2. In this way, 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 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 (38).

(38) *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 (37), only the higher argument can be 1st or 2nd person, since only the higher argument, DP_1, enters into person agreement. In contrast, the lower argument in (37), DP_2, only agrees with a number probe and so the PLC will be violated if DP_2 is first or second person. The lower argument in such configurations, DP_2, is then effectively restricted to 3rd person.

In sum, taken together, the PLC and the idea that one φ-probe may split its agreement between multiple arguments then derive the existence of the Strong PCC effect in environments in which two arguments must be licensed by a single φ-probe.

4.1.2 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 (37). This is why two separate agreement 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.

We then assume the same basic elements are present in the perfective as we did for the Senaya perfective. Like Senaya, complete agreement reversal languages have an inactive *v*, which does not assign Case or host agreement. As a result, there is no head dedicated to licensing objects and this job falls to T.[27]

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 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 the subject), and so may agree with an object, if one is present.

We draw the same distinction between clitic-doubling and true agreement as in Senaya. All true agreement is represented by the S-suffix series, while clitics are represented by the L-suffix series. To unify these patterns, we posit the following spell-out rule for S-suffixes, which holds in all agreement reversal languages:

[27] It 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 §4.2.

(39) *S-suffix spell-out rule:*
S-suffix ↔ [φ,+verbal] / [___ V]

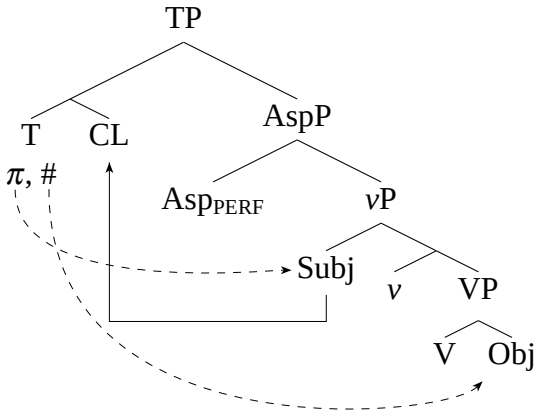
This rule spells out any bundle of φ-features that forms a complex head with the verb as an S-suffix. The specification [+verbal] restricts the application of this rule to heads that are part of the extended projection of the verb, such as T and Asp, so that it does not apply to clitics.[28] We propose that this spell-out rule obtains in all agreement reversal languages, including Senaya, so that true agreement on the verb is always spelled out as an S-suffix. Given Senaya's properties, this rule only ever applies at Asp, but, in complete agreement reversal languages, the rule applies both at T and at Asp (as we will shortly see).

The proposal outlined above allows us to account for the syntax of agreement in the perfective. Consider, for example, perfective transitives, in which an L-suffix cross-references the subject and an S-suffix the object, (40).

(40) PERFECTIVE TRANSITIVE *S-suffix = object, L-suffix = subject:*
xawr-ăwaθ-i brat-i griš-**a-la**.
friend-PL-1SG daughter-1SG pull.PERF-**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, (41):

(41)



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.[29] This clitic-doubling spells out 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 case assigner and so does not constitute a phase

[28] Our thanks to an anonymous reviewer for discussion of this point.

[29] We take it to be the case that the subject concomitantly checks the EPP feature on T, so that it moves to Spec-TP. We might wonder whether it should be possible for the object to check the EPP feature, since it too enters into an Agree relation with T. We propose that this is ruled out by an Economy condition along the lines of Pesetsky and Torrego (2001), which says that a probe-goal relation must check as many features as possible. In this case, this means that, because both the clitic-doubling needs of the person probe and the EPP feature can be satisfied at the same time, movement of the subject to Spec-TP is obligatory.

head.[30] 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 for number, this structure will crash due to the PLC, 38, if the object is 1st or 2nd person. As such, the perfective object is restricted to 3rd person.[31]

Note that, 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 pure agreement, involves movement of a part of the goal, the clitic. Movement may involve pied-piping and, as a result, the clitic may drag along features that are not agreed with. This is why both the person and number features of the subject are reflected on the L-suffix, even though it 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 pied-pipe additional features.[32]

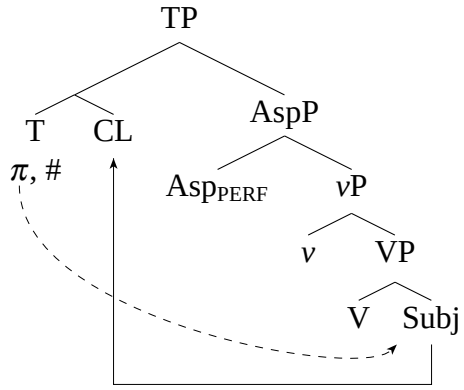
The current proposal also explains the behavior of perfective intransitives. Recall that intransitives in these languages, regardless of whether they are unergative or unaccusative, use L-suffixes to mark subject agreement, (42).

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

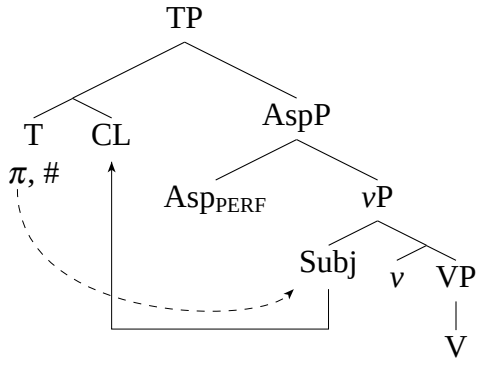
brat-i qim-**la**.
daughter-1SG rise.PERF-**L.3FS**
'My daughter rose.' (Christian Barwar; Doron and Khan 2012:231)

For an unaccusative like (42), we propose the derivation in (43). Unergatives have the structure in (44).

(43) PERF. UNACCUSATIVE



(44) PERF. 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 S-suffix is null, as it is in all of the relevant languages, and so no agreement appears.[33]

[30] An alternative approach would be to say that all definite objects move to Spec-*v*P (Diesing 1992), thus putting all such objects within range of T.

[31] We then take the 3rd person forms of the S-suffixes to encode the absence of person, so that they spell out only number and gender agreement in these cases.

[32] This assumption is implicit in Béjar and Rezac (2003) also. See Preminger (2011, 2.4.2) for extensive discussion.

[33] Another 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, 2012b).

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.

4.2 Agreement in the imperfective

The imperfective in complete agreement reversal languages looks basically identical to the imperfective in Senaya. S-suffixes mark subject agreement, while L-suffixes cross-reference definite or pronominal objects. In addition, there is no PCC effect, so the object may be a local pronoun, (45):

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

ʾu-bṭ-amr-**ə̀n-nux**.
CONJ-FUT-say.IMPF-**S.1SG-L.2MS**
'And I shall say to you.' (Christian Barwar; Khan 2008:175)

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. Crucially then, we have the same asymmetry between T and imperfective Asp as in Senaya: only T is a clitic-doubler.[34]

Note that we proposed in the previous section that S-suffixes in these languages are realized whenever a head with unvalued φ-features forms a complex head with V. As a result, both agreement that is triggered by imperfective Asp and agreement triggered by number on T is spelled out as an S-suffix. Imperfective subjects and perfective objects are thus marked with the same suffix not because they agree with the same head, but because both are the target of true agreement and not clitic-doubling.

This proposal derives agreement in the imperfective in much the same way as in Senaya. For example, an intransitive like (46a), an unaccusative, will have the structure in (46b).[35]

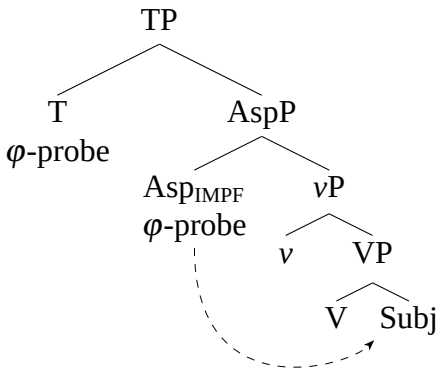
(46) IMPERFECTIVE INTRANSITIVE *S-suffix = subject:*

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

[34] We might wonder whether we also expect to find Neo-Aramaic languages in which we see variation in the properties of Asp (i.e. whether it or its person/number probe is a clitic-doubler), since we are claiming that these are just lexical differences. We are not aware of any such dialect, but this is perhaps not surprising. Neo-Aramaic varieties all obey the verbal template S-suffix - Past tense - L-suffix. Because the S-suffix then reliably appears inside past tense morphology, it is unlikely to be reanalyzed as a clitic. The L-suffix, on the other hand, is always on the outside edge of the verb and so we might expect this position to be the source of variation, given that this makes the L-suffix compatible with a variety of analyses (e.g. as agreement, as a clitic, as a separate head).

[35] Although we represent Asp as an undifferentiated probe here, it is also assumed to consist of a separate person and number probe. Since neither is a clitic-doubler, these probes will just always agree with the same argument.

b.



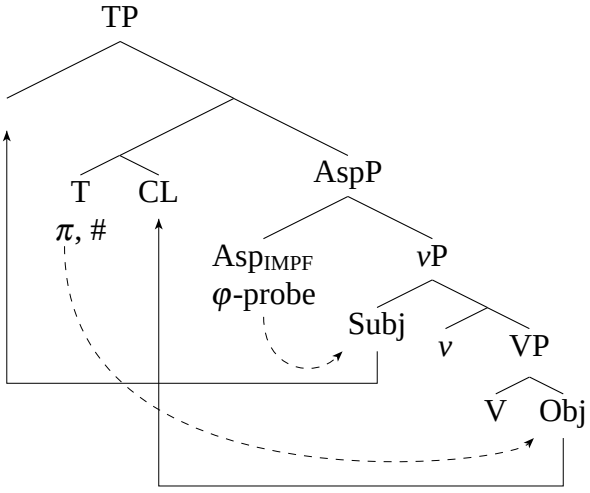
In this structure (as in unergatives, though we do not show this above), the φ-probe on imperfective Asp is merged before T and so agrees with the subject. Because S-suffixes spell out agreement both on T and on Asp, this spells out as an S-suffix. Now, T probes, but, because the subject is already licensed and agreed with, it is no longer a possible target for agreement. As such, T's probing triggers neither clitic-doubling (resulting in the lack of a clitic) nor agreement (resulting in a default null S-suffix).

Transitives are subtly different from Senaya. Recall that on the surface, these look the same as in Senaya, (47a). We assume the underlying structure in (47b), however.

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

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

b.



This derivation initially proceeds just as in Senaya, §3.3. The φ-probe on imperfective Asp agrees with the subject, and this agreement spells out as an S-suffix. T's EPP feature then draws up the subject, out of the way of T's φ-probe. This allows 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 moved out of the way of

the probe on T, and so the number probe spells out as the default S-suffix, which is null.

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 probe jointly trigger clitic-doubling. All of these languages have the same inventory of probes, but the properties of T are subtly different, and this has syntactic repercussions. The common thread that emerges is the presence of additional agreement in the imperfective.

4.3 Independent evidence for this account

This section discusses some independent support for the theory 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 strong 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.

4.3.1 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 (47), the number probe on T remains free, unlike in perfective transitives, 41 (and also unlike in Senaya). As a result, if we add an extra argument, as in ditransitives, 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.

As Coghill (2010) shows, in Telkepe ditransitives, multiple object agreement is indeed possible in imperfective ditransitives, (48). Strikingly, the perfective base (unlike the imperfective base) cannot appear with agreement representing both the direct and indirect object in a ditransitive. Additional agreement for a third argument is thus only available on the imperfective base.

(48) *Multiple object agreement in imperfective ditransitives:*
b-yāwə́l-**∅-lan-ilə**.
FUT-give.IMPF-**S.3MS-L.1PL-AUX.3MS**
'He will give it to us.'
(Telkepe; Coghill 2010:228)

The first suffix in (48) marks subject agreement, which appears in the position closest to the verb base as an S-suffix, as usual (though the morpheme is null here). Indirect object agreement appears next, as an L-suffix, again as is usual for objects on an imperfective verb. What is exceptional in this example is that, following the regular L-suffix, we find direct object agreement, which appears on the enclitic auxiliary; we return to this point in detail below.

In addition, as predicted, imperfective ditransitives with multiple object agreement are subject to the Strong PCC. The direct object can only be 3rd person, as in (48). If the direct object is 1st or 2nd person, the indirect object must be expressed in a PP, (49). This PP then prevents the indirect object from agreeing with the verb, and the direct object is marked on the verb base with an L-suffix, as is typical in regular transitives.

(49) *Strong PCC effect in ditransitives:*
b-yāwɔ́l-**∅-li** ṭāl-e.
FUT-give.IMPF-**S.3MS-L.1SG** to-P.3MS
'He will give me to him (e.g., in marriage).'
(Telkepe; Coghill, p.c.)

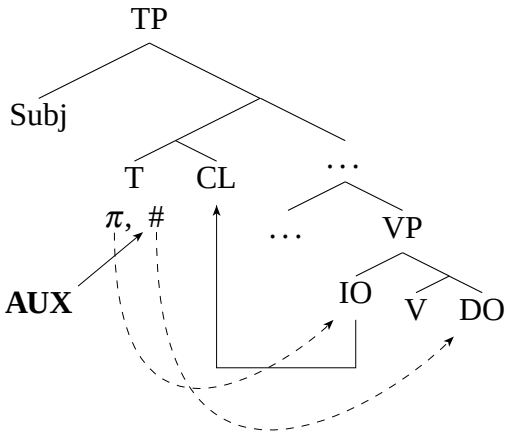
Our proposal predicts exactly this. Assuming that the indirect object is merged as the highest of the two objects, it is targeted by the person probe on T and clitic-doubled; it is then referenced with an L-suffix, the clitic series. The number probe then agrees with the direct object, as the indirect 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.

There is a complication, however. The agreement used to reference the direct object is not an S-suffix, as we might expect. Instead, as (48) 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 then 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 insertion account of auxiliaries.)

Under this proposal, ditransitives in Telkepe and related varieties have the structure in (50) (we omit subject agreement with imperfective Asp for ease of exposition).

(50)



This derivation proceeds as follows. Imperfective Asp agrees with the subject, creating an S-suffix which attaches to the verb. The subject then moves out of the way of T, putting it in Spec-TP

as shown 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 has been moved out of the way 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 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.

In addition, observe that our analysis provides a principled explanation of the asymmetry between perfectives and imperfectives: the perfective base cannot host agreement with an indirect object at all, whereas the imperfective base can, with the addition of the auxiliary. 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.

4.3.2 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.[36] In this section, we show that our analysis extends straightforwardly to cover these and correctly predicts the surface order of the various elements.

We will focus specifically on the perfect[37] and progressive in Christian Barwar, as described in Khan (2008). Both of these constructions make use of a special verb base. In the perfect, the verb shows up in a participial form, (51a). In the progressive, the verb is in its infinitival form, (51b).

(51) *Christian Barwar perfect and progressive:*

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

[36] In 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.

[37] Note 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).

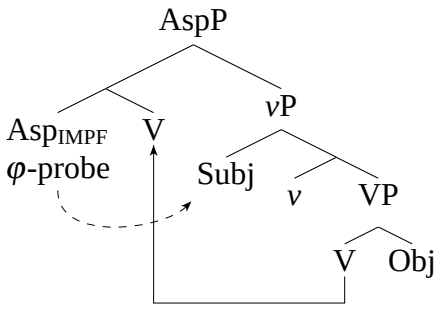
b. qṭál-**etu-le**.
kill.INF-**AUX.2PL-L.3MS**
'You are killing him.' (Christian Barwar; Khan 2008:284)

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.[38]

We assume that perfect Asp and progressive Asp involve the same clausal structure that we gave for the imperfective, with a φ-probe on Asp that agrees with the subject (see fn. 41 for why these aspects pattern together in our proposal). 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 trigger head movement of the verb to 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 for the imperfective in section 4.2, the verb raises to Asp (presumably stopping off at *v* on the way, though we omit this in the representation for clarity), as in (52).

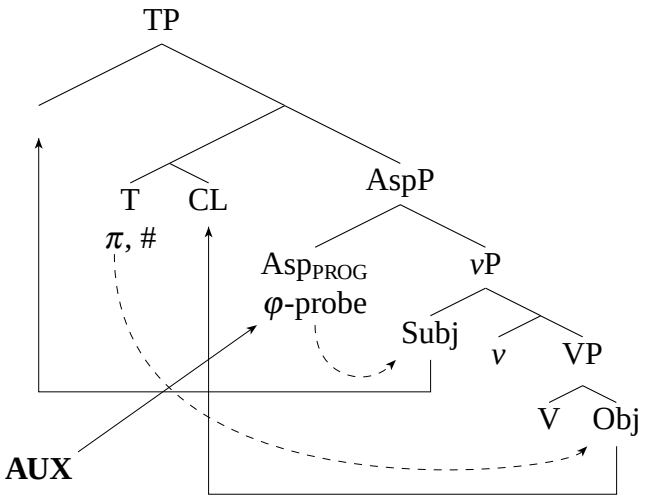
(52)



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 these Asp heads. As a result of this, the φ-agreement on Asp cannot be hosted on V (taking the S-suffix to be the spell out of φ-features that form a complex head with V, as we did in section 4.1.2). To avoid stranding the inflectional features on Asp, an enclitic auxiliary is inserted at Asp, as shown in (53).

[38] In 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.

(53)



After the subject raises to spec-TP, the person probe on T then triggers clitic-doubling of the lower argument, as usual, resulting in an L-suffix outside of the enclitic auxiliary. Because this creates a clitic, no inflectional features are stranded and no second auxiliary needs to be inserted.

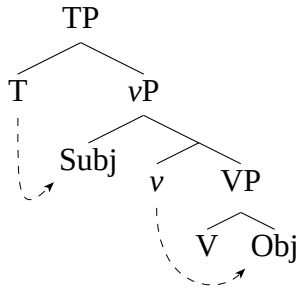
In this way, our account allows us to explain the differences between imperfective aspect and the perfect and the progressive in Barwar. We naturally capture both the fact that perfect and progressive pattern with the imperfective and the order of clitics on the verb, specifically the fact that the L-suffix, which is adjoined to T, appears *outside* the enclitic auxiliary, which is inserted at the Asp head.

4.4 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 different split-ergative Neo-Aramaic languages. Since our focus here is on agreement reversal languages, a discussion of the other languages lies outside of the scope of this paper. The current proposal follows Doron and Khan's treatment of languages like Christian Barwar, Qaraqosh, and Telkepe in a number ways. We too take S-suffixes to be product of agreement and L-suffixes to represent a clitic series. We too consider the subject in the perfective as 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.

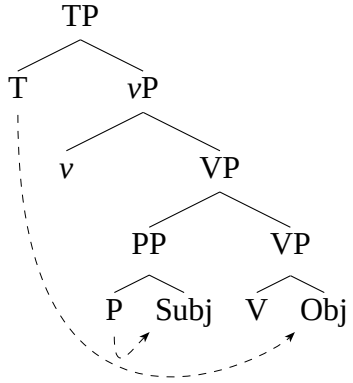
There are significant differences, however. To appreciate these, let us consider first their treatment of the imperfective. Doron and Khan propose that the imperfective instantiates a standard nominative-accusative pattern, in which T agrees with the subject (leading to an S-suffix) and *v* agrees with the object (leading to clitic-doubling and an L-suffix), as in (54).

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



For the perfective, Doron and Khan propose that perfective subjects must be expressed as an adjunct to VP, like a *by*-phrase in a passive. The P that introduces the perfective subject assigns it case and causes it to be clitic-doubled, so that the perfective subject is referenced by an L-suffix. This leaves the object to be probed by T, resulting in object agreement expressed with an S-suffix. This situation is schematized in (55).

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



Finally, to derive the fact that unaccusative subjects pattern with transitive and unergative subjects, they propose that perfective *v* in unaccusatives can exceptionally assign case to the internal argument; this results in clitic-doubling.[39]

Though similar in a number of ways to our analysis, this proposal runs into a number of technical problems. First of all, the analogy between perfective subjects and *by*-phrases breaks down in unaccusatives, and the mechanism they propose to ensure that unaccusative perfective subjects are treated like other perfective subjects seems too powerful (see fn. 39).

A second issue is that Doron and Khan's account does not derive the PCC effect found in the perfective. *By*-phrases do not count as interveners for A-movement. Similarly, in canonical PCC

[39]The idea here is that, in all split-ergative Neo-Aramaic languages, perfective *v* assigns ergative case, to its specifier if it has one and to an internal argument otherwise. This mechanism seems problematic to us for a number of reasons. The idea that a case assigner can alternate between assigning case to its specifier and case to a DP in its c-command domain does not seem to be supported on independent grounds. Though Doron and Khan intend to treat ergative case as structural in these languages, this also seems to conflate inherent case and structural case, as the mechanism assigning case to a specifier is typically reserved for inherent case. Finally, it is not obvious how this mechanism can be prevented from overgenerating. It remains unclear, for example, why *v* does not assign structural case to objects in transitives.

environments, it can be demonstrated that adjuncts, like ethical datives, do not count for the PCC (Rezac, 2011). As such, nothing should block full agreement between the object of the perfective and the φ-probe on T that licenses it in 55, contrary to fact.

A third problem is that perfective subjects are not on a par with *by*-phrases. 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, (56).

(56) *Perfective subject licenses object anaphor:*

qṭil-a-le gyane
kill.PERF-3FS.S-3MS.L himself
'He killed himself.' (Christian Barwar; Doron & Khan 2012:230)

Perfective subjects are omissible under coordination, (57).

(57) *Perfective subject can be omitted under coordination:*

ɛ-brata muxl-a-la 'u zil-la
the-girl feed.PERF-3FS.S-3FS.L and leave.PERF-3FS.L
'She fed the girl and left.' (Christian Barwar; Doron & Khan 2012:229)
(only the subject of the first conjunct can be the leaver)

And, finally, the perfective subject position may be the target of raising, (58).

(58) *Perfective subject can be derived:*

priq-la xil-la.
finish.PERF-3FS.L eat.PERF-3FS.L
'She finished eating.' (Christian Barwar; Khan 2008:941)

These are all properties of real subjects and not of adjunct subjects, like *by*-phrases in passives and nominals. It is unclear, then, what the motivation is for treating the perfective subject as an adjunct.

Our analysis is free of these problems: the perfective subject is a true subject, there is no exceptionality in the licensing of perfective unaccusative subjects, and our syntax of the perfective straightforwardly implements the Béjar and Rezac (2003) account of the PCC. For these reasons, though we share Doron and Khan's conclusions regarding the nature of S-suffixes and L-suffixes and the idea that the perfective lacks some licensing potential, we think our account is to be preferred.

Another advantage associated with our account is that we can unify it with recent analyses of aspect-based split ergativity. To be precise, in the next section, we will attempt to offer a principled account of the directionality of the aspect split that obtains in agreement reversal languages and its position in the typology of aspect splits. In contrast, the differences between the perfective and imperfective are lexically stipulated in Doron and Khan's analysis, in terms of differences in the behavior of *v*. In principle, nothing in their account then prevents a system in which the roles of the perfective and imperfective are exactly reversed. On these grounds, our proposal also fares better.

It is this issue — the position of agreement reversal within the typology of aspect splits — to which we turn next, having demonstrated that two types of unusual aspect splits in Neo-Aramaic languages can be derived from the proposal that imperfective Asp may introduce an additional φ-probe.

5 Relating Neo-Aramaic to split ergativity

The central claim of this paper 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 present in nonperfective aspects does not bifurcate the clause, but rather is a *restructuring predicate*, so that 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.

5.1 The directionality of aspect splits

Coon (2010) develops an approach to aspect-based split ergativity that we will adopt here. Building on work by Demirdache and Uribe-Etxebarria (2000, 2007) and Laka (2006), Coon proposes that nonperfective aspects involve an additional predicate absent in the perfective. In this section, we briefly outline this approach and show how it can be extended to Neo-Aramaic.

Coon is concerned with 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, (59).

(59) **Dixon's observation:**
"If a split is conditioned by … aspect, the ergative marking is *always* found … in perfective aspect" (Dixon, 1994:99).

In other words, if a language has aspect-based split ergativity, the perfective will be ergative, but ergativity will be lost in the progressive/imperfective.[40] To explain this, Coon proposes that imperfective/progressive aspect involve an extra predicate, which may disturb case and agreement relations.

[40] As 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.

There are two types of evidence for this kind of approach. Coon points out first of all that, in many languages, progressive/imperfective meaning is expressed by means of a biclausal structure, typically using a locative embedding predicate. In Dutch, for example, the progressive is expressed using the locative preposition *aan* ('at'), which embeds a nominalized verb (60).

(60) *Dutch progressive involves additional predicate:*
Hij is aan het fietsen.
he is at the cycle.INF
'He's biking.'

Similar constructions are found in many other languages, including French (61a), Welsh, and Middle English (61c), for example.

(61) *Progressive uses locative forms:*
a. Zazie est en train de jouer.
Zazie is in along of play.INF
'Zazie is playing.'
(French; Demirdache & Uribe-Etxebarria 2000:178)
b. Mae Rhiannon yn cysgu.
is Rhiannon in sleeping
'Rhiannon is sleeping.'
(Welsh; Laka 2006:188)
c. 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).

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 that a tight connection between locative syntax and progressive/imperfective aspect.

The second strand of evidence for Coon's claim involves the locative *semantics* of imperfective and progressive aspect. Coon here builds on work by Demirdache and Uribe-Etxebarria (2000, 2007), who propose that imperfective and progressive aspect are encoded using prepositional predication, while perfective aspect arises as a default interpretation when this predication relationship is absent.

To be more precise, Demirdache and Uribe-Etxebarria (2000, 2007) propose the following. Imperfective and progressive aspect encode that the topic time introduced by tense is situated within the situation time associated with the event. Demirdache and Uribe-Etxebarria (2000, 2007) posit that this is achieved by a prepositional predicate WITHIN, which relates these two time intervals.[41] Coon argues that this perspective explains the special connection between locatives and progressive/imperfective aspects. Perfective aspect, in contrast, does not appear to have a locative ana-

[41] Demirdache and Uribe-Etxebarria (2000, 2007) also propose a locative semantics for the perfect. We can then tell a similar story about the perfect, helping us explain why the imperfective, progressive, and perfect pattern together in Neo-Aramaic, as outlined in §4.3.2.

logue, because it basically conveys a superset meaning.

We can observe this asymmetry also with adverbial PPs (Demirdache and Uribe-Etxebarria, 2000, 2007). 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* (62a–b).

(62) *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.[42] For these reasons, Demirdache and Uribe-Etxebarria (2000, 2007) propose that imperfective and progressive aspect are encoded using a locative predicate that is absent in the perfective.

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 act like a main verb itself, embedding the lexical verb. If this is how a language expresses nonperfective aspect, then such constructions might contain multiple verb phrases and, therefore, multiple case/agreement domains. If this is the case, 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, (63a). There is a special imperfective construction, however, called the *biabsolutive construction*, in which both the subject and the object surface in the absolutive, (63b).

(63) *Tsez biabsolutive construction:*

a. už-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 ∅-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 (63b) really involves two predicates, with the imperfective predicate *ič*, 'stay', embedding the main verb. As such, the subject in (63b) is not the surface subject of the transitive embedded verb *iš*, 'eat' (as it is in (63a)), but rather that of an imperfective matrix predicate (*ič*) whose complement is not a nominal.[43] As a consequence, it behaves like an intransitive subject syntactically and as a result receives absolutive case.

Coon develops a similar analysis for Chol. Chol has an ergative system in the perfective, which manifests itself with agreement on the verb, (64a–b).

[42]This seems to be true of prepositions generally, in fact. Note that prepositions such as *around*, *outside*, and *with* do not truly convey a superset relation (Coon 2010:174–5).

[43]The 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.

(64) *Ergativity in the Chol perfective:*

a. Tyi a-k'el-e-yoñ.
PRF 2.ERG-watch-TV-1.ABS
'You watched me.'

b. Tyi ts'äm-i-yoñ.
PRF bathe-ITV-1.ABS
'I bathed.' (Chol; Coon 2010:48)

In the nonperfective aspects, however, a pattern of *extended ergativity* (i.e., a nominative/accusative alignment) is found: all subjects, both of intransitives and transitives, appear with ergative marking, (65a–b).

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

a. Mi a-k'el-oñ.
IMPF 2.ERG-watch-1.ABS
'You watch me.'

b. Mi a-ts'äm-el.
IMPF 2.ERG-bathe-NML
'You bathe.' (Chol; Coon 2010:48)

In (65), it seems that the ergative system of (64) 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. 63b: nonperfective aspects are expressed through embedding verbs. 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 verbs. Thus, split ergative languages are really ergative throughout, 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 generally detectible.

5.2 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 paper, as, unlike in the split ergative systems in Tsez and Chol, the marking of an imperfective subject never resembles that of

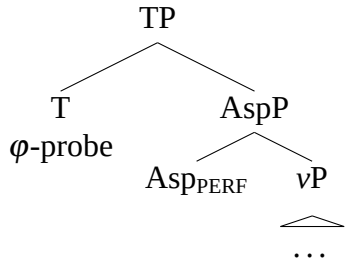
a perfective subject, transitive or intransitive.

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. Moreoever, there is no real evidence within Neo-Aramaic that the imperfective involves a biclausal structure.

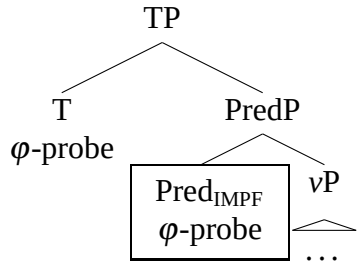
At the same time, however, the similarities between such analyses and the approach to Neo-Aramaic aspect splits we have defended here are striking: both arise because of added complexity in the imperfective. What we wish to suggest then is that agreement reversal indeed arises for the same reason — namely,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

This is then why the only evidence of additional structure that we observe in Neo-Aramaic is in the form of additional agreement. The locative predicate that expresses imperfective aspect does not introduce an additional clausal domain, so that perfective and imperfective do not differ with regard to the number of case/agreement domains, but only with regard to the number of φ-probes, as schematized in (66) and (67).

(66) *Neo-Aramaic Perfective:*



(67) *Neo-Aramaic Imperfective:*



The aspectual predicate that we propose for Neo-Aramaic can be seen as similar to the structure of progressive aspect in Dutch. In Dutch, as previously discussed, the progressive is expressed using the preposition *aan* ('at'). Although this preposition embeds a nominalized form of the verb, it does not appear to involve multiple verb phrases. Objects of the verb appear to the left of the aspectual preposition and carry accusative case, (68).

(68) *Dutch progressive predicate does not disturb argument licensing:*

Hij was **mij** gisteren [aan het volgen].
he.NOM was **me.ACC** yesterday at the follow.NMLZ
'He was following me yesterday.'

In addition, there are no additional adjunction sites for adverbs or negation. As a result, it is clear that this structure only involves one clausal domain. This is then a case in which, like in Neo-Aramaic, an aspectual predicate shows no evidence of biclausality, but functions as a restructuring

verb. Although *aan* embeds the verb, it does not introduce an additional clausal domain.

The only difference between Neo-Aramaic and Dutch, from this perspective, is in terms of what argument the imperfective/progressive predicate licenses. In Neo-Aramaic, the imperfective predicate introduces agreement and licenses the subject DP. In Dutch, however, the progressive predicate *aan* licenses the nominalized verb phrase.

On a theoretical level, this proposal allows us to unify these non-ergative aspect splits with Coon's (2010) account of canonical aspect-based split ergativity. The different aspect splits (agreement reversal vs. split ergativity) arise from different syntactic properties of nonperfective aspects, which ultimately derive the same asymmetry: there is an additional predicate present in nonperfective aspects.

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 tense and aspect (the fact that imperfective aspect may be expressed as an independent, embedding 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. This accords with recent work by Preminger (2011) on Kaqchikel and Arregi and Nevins (2012) and Basque, who similarly put forward analyses in which left-peripheral heads (C and T, specifically) host doubling clitics.

Perhaps more importantly, our analysis may teach 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 basic extended projection of the verb, in this case T. 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.[44] It is no surprise that we see the same kind of probe employed in ditransitives, since this is another environment in which an additional argument is generated which must Agree with a φ-probe. This same perspective can be applied to the additional probe associated with imperfective aspect. Expressing one of the heads in the extended projection of the verb 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. An obvious problem that arises in such a language is that subjects cannot be licensed.[45] Béjar and Rezac (2009), however,

[44]If person always probes before number, 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).

[45]Assuming Burzio's Generalization, such a system would also run into licensing problems with unaccusatives and passives, so that there would always be at least one argument that cannot be licensed.

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 person being a clitic-doubler in a language in which T is the only active probe.

6 Concluding remarks

This paper 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. In languages like Christian Barwar, Christian Qaraqosh, and Telkepe, the effect is less pronounced, and is found in the absence of person restrictions on object agreement in the imperfective. To derive these patterns, we appealed to the proposal that aspect splits arise because of the presence of an additional 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 itself.

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