NEGATION IN MODERN STANDARD ARABIC: AN LFG APPROACH

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Abstract

Modern Standard Arabic (MSA) uses five different particles to express sentential negation: the invariant particle *maa*, the particle *laa* and its tensed counterparts *lam* (PAST) and *lan* (FUT), and *laysa* which is marked only for SUBJ agreement. Partial analyses of these elements are offered in other frameworks, notably Minimalism (Shlonsky, 1997; Benmamoun, 2000), but have not to date received an analysis within LFG. We propose an approach to four of these particles: the fifth one, namely *maa*, raises a number of additional issues and we leave it to one side for reasons of space. *laa, lam, lan* show distinctions of TENSE, occur only with imperfective forms of the verb (excluding the perfective) and must immediately precede the verb itself. They are limited to occurrence in verbal sentences. We propose that the adjacency requirement follows from the fact that these negative particles are non-projecting words adjoined to the (imperfective) V. On the other hand, *laysa* is a fully verbal element, and is thus a negative verb, occurring only with present tense interpretation.

1 Data

1.1 Negative Particles

In Modern Standard Arabic (henceforth MSA) five different particles are used to express sentential negation: the (invariant) particle *maa*, the item *laa* and its (temporally) inflected counterparts *lam* and *lan* and (variously inflected) forms of *laysa*. Amongst these elements, *laysa* is unique in inflecting for SUBJ agreement. In the present paper, we will have nothing to say here about *maa* and concentrate uniquely on the forms of *laa* and *laysa*.

1.2 Laa, Lan, Lam

There are good grounds for distinguishing between *laysa* on the one hand, and *laa, lam* and *lan* on the other. For *laa, lam* and *lan* the basic facts are as follows.[1] Firstly, all these negative forms occur in sentences which have a verbal element as the main predicate. There is a basic morphological opposition in Arabic between imperfective and perfective verbforms, and *laa, lam, lan* all co-occur only with imperfective forms of the verb: substituting perfective verbforms in all of the following examples would lead to ungrammaticality. The pairs in (1) - (3) exemplify the particle *laa* negating an imperfective indicative (with a present tense reading); (1) and (2) additionally illustrate SV(O) order and (3) shows VSO word order. Note that irrespective of word order, the negative particle *laa* immediately precedes the imperfective verb in all of these examples.

(1) a. *ṭ-ṭullaab-u* *ya-drus-uu-n*
the-students-NOM 3M-study.IPFV-3MP-IND
The students study/are studying.

†We are grateful to Tracy Holloway King and the audience at LFG09 for comments and suggestions (in particular Ash Asudeh and Ron Kaplan) and to members of the Essex Arabic Syntax Workshop for discussion of contemporary work on MSA and the Arabic vernaculars.

[1]Note: glossing is morphological, reflecting the standard morphosyntactic desrciption of MSA. Where examples have been taken from sources, transliterations have been standardized to the DIN31635 format (and some randomly omitted case marking has been reinserted in some examples from Benmamoun (2000)).

b. *ṭ-ṭullaab-u laa ya-drus-uu-n*
the-students NEG 3M-study.IPFV-3MP-IND
The students do not study/are not studying. (Benmamoun, 2000, 95)

(2) a. *Zayd-un y-aktub-u al-yawm-a al-risalat-a*
Zayd-NOM 3M-write.IPFV-3MS.IND the-day-ACC the-letter-ACC
Zayd is writing the letter today.

b. *Zayd-un laa y-aktub-u al-yawm-a al-risalat-a*
Zayd-NOM NEG 3M-write.IPFV-3MS.IND the-day-ACC the-letter-ACC
Zayd is not writing the letter today.

(3) a. *Y-aktub-u Zayd-un al-yawm-a al-risalat-a*
3M-write.IPFV-3MS.IND Zayd-NOM the-day-ACC the-letter-ACC
Zayd is writing the letter today.

b. *Laa y-aktub-u Zayd-un al-yawm-a al-risalat-a*
NEG 3M-write.IPFV-3MS.IND Zayd-NOM the-day-ACC the-letter-ACC
Zayd is not writing the letter today.

The following set of data illustrate the basic facts with respect to the tensed forms of *laa*, namely *lam* and *lan*. (4) and (5) show that the future may be expressed by means of an imperfective (indicative) verb with the prefix *sa-*, and additionally that the future form verb is negated by using the particle *lan* in combination with a subjunctive mood imperfective (without the prefix *sa-*): again, adjacency is required between the particle and the main verb irrespective of sentential word order.

(4) a. *ṭ-ṭullaab-u sa-ya-ḏhab-uu-n*
the-students-NOM FUT-3M-go.IPFV-MP-IND
The students will go.

b. *ṭ-ṭullaab-u lan ya-ḏhab-u*
the-students-NOM NEG.FUT 3M-go.IPFV-MP.SBJV
The students will not go. (Benmamoun, 2000, 95)

(5) a. *sa-ya-ḏhab-u ṭ-ṭullaab-u*
FUT-3M-go.IPFV-MSG-IND the-students-NOM
The students will go.

b. *lan ya-ḏhab-a ṭ-ṭullaab-u*
NEG.FUT 3M-go.IPFV-MSG.SBJV the-students-NOM
The students will not go.

Finally (6) shows that the combination of the particle *lam* with an imperfective verb in jussive mood corresponds to an (affirmative) perfective verb. It should be noted that in the Arabic vernaculars, the basic constrast is between the marked form (IPFV.IND) in the affirmative and the unmarked form in the context of the tensed negative particle (that is, the JUSS/SBJV distinction in neutralised in the vernaculars).

(6) a. *ṭ-ṭullaab-u ḏahab-uu*
the-students-NOM go.PFV-3MP
The students left.

b. *ṭ-ṭullaab-u lam ya-ḏhab-uu*
the-students-NOM NEG.PAST 3M-go.IPFV-MP.JUSS
The students did not go. (Benmamoun, 2000, 95)

c. **lam ṭ-ṭullaab-u ya-ḏhab-uu*
NEG.PAST the-students-NOM 3M-go.IPFV-MP.JUSS
The students did not go.

To summarise, *laa, lam* and *lan* occur with verbal forms in the imperfective but not with perfective forms of the verb. In all cases, the negative particle must be adjacent to this form, see (6c). *laa* occurs with the indicative imperfective and cannot be used for sentences in the future or past. *lam* occurs with the jussive imperfective expressing negation in the past, and *lan* with the subjunctive imperfective, expressing negation in the future: thus *lam* and *lan* appear to be negative particles which carry temporal information.

(7)

TENSE	AFFIRM FORM	NEG FORM
PRES	IPFV.IND	laa + IPFV.IND
PAST	PFV	lam + IPFV.JUSS
FUT	*sa*-IPFV.IND	lan + IPFV.SBJV

1.3 Future Negation: A Further Data Point

It is generally claimed that *laa* canot co-occur with tensed verbs (Benmamoun, 2000; Bahloul, 1994). In fact, however, things are slightly more complicated. It is certainly true that 'double' expression of FUT is impossible (shown by (9) and (8)), but it is not completely accurate to state that *laa* cannot combine with a future marker. This is because there is an alternative analytic realization of future, namely the use of the particle *sawfa* with an (unprefixed) imperfective indicative form. As the data shows, *laa* can combine with *safwa* but not with prefixal future forms in *sa-* (hence the contrast between (11) and (12)).

(8) **sawfa lan y-aḥdur-a.*
FUT NEG-FUT 3SM-come-SBJV
He will not come.

(9) **ṭ-ṭullaab-u lan sa-ya-ḏhab-uun/-uu*
the-students-NOM NEG.FUT FUT-3M-go.IPFV-MP.IND/-MP.SBJV
The students will not go.

(10) *lan y-ahdur-a*
NEG-FUT 3M-come.IPFV-SM.SBJV
He will not come.

(11) **ṭ-ṭullab-u laa sa-ya-ḏhab-uu-n*
the-students-NOM NEG FUT-3M-go.IPFV-3M-IND
The students will not go.(Benmamoun, 2000, 101)

(12) *Sawfa laa y-aḥdur-u*
FUT NEG 3M-present.IPFV-3MS.IND
He will not come. (Fassi-Fehri, 1993, 82)

1.4 Laysa

laysa differs in several respects from the invariant forms *laa, lan, lam*. It realizes (SUBJ) agreement and is not required to be adjacent to the verb.

(13)

	SG	DU	PL
1	lastu		lasnaa
2M	lasta	lastumaa	lastum
2F	lasti	lastumaa	lastunna
3M	laysa	laysaa	laysuu
3F	laysat	laysataa	lasna

(14) a. *laysa ḥ̩ālid-un ya-ktub-u š-šiʕr-a*
NEG.3MS Khalid-NOM 3M-write.IPFV-3MS the-poetry-ACC
Khalid does not write/is not writing poetry.

b. *laa ya-ktubu ḥ̩ālid-un š-šiʕr-a*
NEG 3M-write.IPFV-3SM Khalid-NOM the-poetry-ACC
Khalid does not write/is not writing poetry. (Benmamoun, 2000, 103)

A third difference is that it occurs in both verbal and verbless sentences (unlike *laa, lan, lam*), that is, sentences with nominal and adjectival predicates.

(15) a. *laysa ʔaḥ̩ii muʕalliman-an.*
NEG.3MS brother.my teacher-ACC
My brother is not a teacher.

b. *laysa* *muʕalliman-an.*
NEG.3MS teacher-ACC
He is not a teacher. (Benmamoun, 2000, 53)

laysa shows the typical behaviour of a verb in that number agreement is defective when it precedes the SUBJ:

(16) a. *al-awlad-u* *lays-uu* *ya-ktub-uun.*
the-boys-NOM NEG-3MP 3M-write.IPFV-3MP-IND
The boys do not write.

b. *lays-a* *al-awlad-u* *ya-ktub-uun.*
NEG-3MS the-boys-NOM 3M-write.IPFV-3MP-IND
The boys do not write.

laysa is compatible only with IPFV.IND verbs and receives a present interpretation.

(17) a. **laysa* *r-raǧul-u* *ʔakala*
NEG.3SM the-man-NOM eat.PERF.3SM
The man did not eat (Benmamoun, 2000, 105)

b. **laysa* *r-raǧul-u* *sa-ya-ʔkulu* *ġadan*
NEG.3SM the-man-NOM FUT-eat.IPFV.3SM tomorrow
The man will not eat tomorrow (Benmamoun, 2000, 105)

1.5 Compound Tenses

We use purely morphosyntactic glossing throughout. Verbs show a morphological distinction between PFV and IPFV forms: such forms are used to express both temporal and aspectual distinctions: the opposition between them in sentences containing a single analytic form broadly encodes a PAST/NONPAST temporal distinction. (See Fassi-Fehri (2004) for some discussion.) The INDIC imperfective further inflects for FUT (or combines with the particle *sawfa*). The imperfective stem also shows what are traditionally called distinctions of MOOD: INDIC, JUSS, SBJV. Compound tenses involve the combination of a finite auxiliary with the perfective and imperfective indicative (finite) forms. They are not required to be adjacent. The table below illustrates various compound tenses.

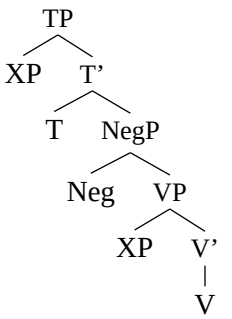
(18)

FORM	REALIZATION	MEANING
PFV	katab-tu t-taqr$\bar{\imath}$r-a	PAST
	I wrote the report.	
IPFV	ʔaktub-u t-taqr$\bar{\imath}$r-a	PRES
	I write/am writing the report.	
FUT-IPFV	sa-ʔaktub-u t-taqr$\bar{\imath}$r-a	FUT
	I will write the report.	
PFV + PFV	kun-tu qad katab-tu t-taqr$\bar{\imath}$r-a	PAST PRFT
	I had written the report.	
PFV + IPFV	kun-tu ʔaktub-u t-taqr$\bar{\imath}$r-a	PAST PROG
	I was writing/used to write the report.	
PFV + FUT-IPFV	kun-tu sa-ʔaktub-u t-taqr$\bar{\imath}$r-a	PAST FUT
	I was going to write the report.	
IPFV.IND + PFV	ʔak$\bar{\text{u}}$nu qad katab-tu t-taqr$\bar{\imath}$r	PRES PRFT
	I (always) have written the report.	
FUT-IPFV + PFV	sa-ʔak$\bar{\text{u}}$nu qad katab-tu t-taqr$\bar{\imath}$r	FUT PRFT
	I will have written the report.	
FUT-IPFV + IPFV	sa-ʔak$\bar{\text{u}}$nu ʔaktub-u t-taqr$\bar{\imath}$r-a	FUT PROG
	I will be writing the report.	

2 Minimalist Approaches

Negation in MSA (and in the Arabic vernaculars) has received a reasonable amount of theoretical attention within Minimalism (and its precursors), the major references being Benmamoun (2000); Ouhalla (2002) and Shlonsky (1997). Of these, the most extensive discussion is Benmamoun (2000), and for this reason we briefly present his approach here. The basic structural assumptions made in this account (which discusses negation in the vernaculars (concentrating on Moroccan Arabic (MA)) and MSA, involves a NegP projection situationed between TP and VP, as in (19).[2]

(19)



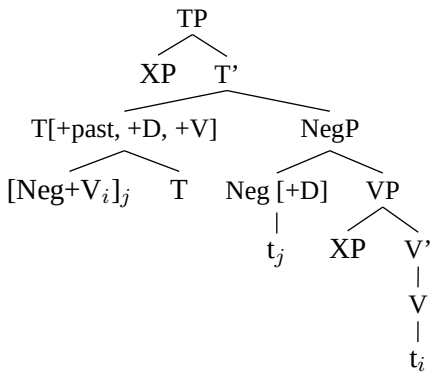
The crucial points of this analysis concern the assumptions about what features are inherent to each node. First, sentential negation (the Neg node), is taken to be specified for the categorial feature [+D] (Benmamoun, 2000, 69). The elements *laa*, *lam* and *lan* are generated in Neg. Second, Tenses are associated with different bundles of features generated on the T node, as follows (Benmamoun, 2000, 50):

[2]The ordering of functional heads is critical to Benmamoun's proposal, but Shlonsky (1997) takes Neg to be higher than T in the hierarchical structure in Arabic (Shlonsky, 1997, 103-4).

(20) T → [+D] (Present)
T → [+D, +V] (Past, Future)
T → [+V] (Imperative)

Suppose the node T is generated with the feaure bundle [+Past, +D, +V] or [+Fut, +D, +V] ("the V feature must be checked by verbal heads, while the D feature can be checked by nominal heads or by verbs that carries (sic) agreement" (Benmamoun, 2000, 99)). By assumption, the Neg node is also specified for [+D]. In order for *both* the +V and the +D features of the T node, to be appropriately "checked", it is necessary that both the V and the Neg move to the T node. A derivation such as the following will ensue, in which V raises to Neg and then Neg and V together raise to T. The spell out of the resultant T node is the combination of *lam + verb*, likewise if +Fut is generated on the T node, then the spell out will be *lan + verb*. As for Neg and V "they are both in tense supporting the tense feature and checking the categorial [+V] feature" (Benmamoun, 2000, 100).

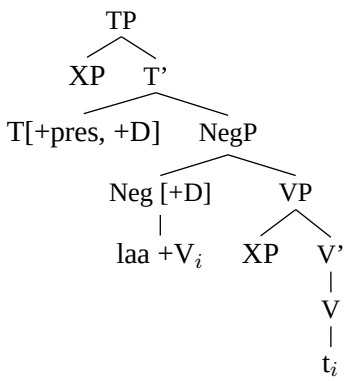
(21)



The alternative might be to try to move the verb directly to deal with the +V feature (and spell out the tense): presumably such a verb could also check the D feature of the T node, as it carries subject agreement, but this violates Minimality, or take the Neg also but spell out the features on the verb, not the negation. This is ruled out by the assumption that tesne must be spelled out on the head of the complex, which is Neg (Benmamoun, 2000, 102).

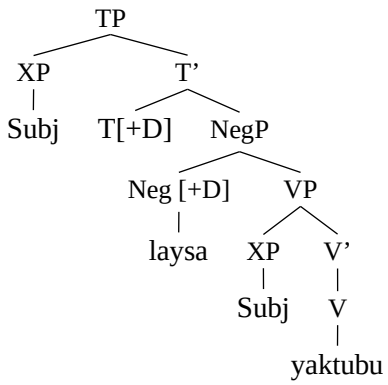
Suppose now that the T node is generated with the feature bundle [+Pres, +D]. The +D feature can be checked by a nominal. Because there is no +V feature on T, neither the verb (nor the Neg) is required to raise to T. However given that *laa* and the V are required to be adjacent, something must require this: "merger between *laa* and verb must be due to some property of *laa* itself. The property in question is the categorial feature [+D] feature of *laa*. The merger betwen *laa* and the verb, carrying subject agreement, allows the latter to check the categorial [+D] feature on the negative" (Benmamoun, 2000, 100).

(22)



In contrast to traditional accounts, which view *laysa* as a verbal element, Benmanoun takes it also to be a Neg particle (specified for [+D]). The idea is that since *laysa* itself inflects for SUBJ agreement, then this feature is checked by the SUBJ and so Neg (i.e. *laysa*) does not raise to T for purposes of feature checking. This means that in principle, it is free to be non-adjacent to the inflected verb (unlike *laa*).

(23)



Although it would take us too far afield to attempt here any substantial critique of this (or other Minimalist) proposals, we will make a number of brief observations about the account. The first is that it is far from complete in its present form. It does not explain how (by which mechanism) different negatives select different forms (moods) of the verb, and given that that there are no lexical differences postulated between *laa, lam, lan* (they result from the spell out of different sets of features in different tree locations, as far as we understand it), it is not obvious how this will be treated. Second, the account is radically incomplete in that there is no attempt to extend it to the more complicated facts of negation with compound tenses. Third, the assumption that Neg is categorially specified as +D plays a crucial role in terms of ensuring that forms of *laa* and the verb are strictly adjacent: the subject agreement features of V are required to check the +D specification of Neg heads. While this diacritic approach does indeed appear to produce the desired result, it is unclear what it actually represents (other than a diacritic). Moreover there is perhaps some unwelcome asymmetry in the treatment of the *laa*+V adjacency (which involves only this +D checking requirement) and that of the *lam/lan* + V adjacency, which additionally involves the verb checking the +V feature of T (and thus raising alongside Neg to T). Fourth, it is unclear what checks the +D feature of the T[+Pres, +D] node, in the case where *laa* + V occurs in Neg and in the case where *laysa* occurs in Neg.[3] Fifth, there is no discussion or analysis

[3]The issue here is perhaps only one of unclarity of presentation, making the resultant analysis opaque to those less than totally familiar with the assumptions of the framework.

of the multiple agreements on the negative *laysa* and the following verb, while most of the previous approaches within this framework have postulated multiple functional (Agr) projections to account for this data.

3 Analysis of Laa, Lam and Lan

3.1 Adjacency and Selection

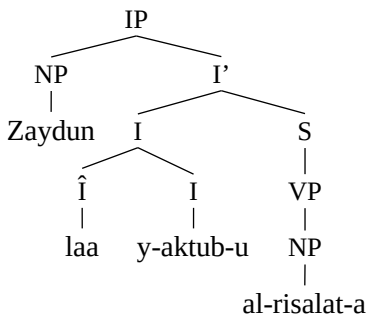
In short, we argue that adjacency follows because the negative particle and the verb form a small construction, that is, the particle is a non-projecting word in the sense of Toivonen (2003). Neg and V do not constitute a single morphological word. Unlike *laysa*, *laa, lam* and *lan* are non-projecting elements which occur as sister to I, and therefore occur with verbal elements. The behaviour of the negative particles *laa, lam* and *lan* is strongly reminiscent of the particles discussed in Toivonen (2003).

(24)

Property	*laa, lam, lan*	Swedish Verbal Particles
Take complements	No	No
Can be modified	No	No
Bear stress	Yes	Yes
Adjoined to verb	Yes, left	Yes, right
Separable	No	Yes, but not by object

(25) $\mathrm{I} \longrightarrow \hat{\mathrm{I}}\ (\uparrow = \downarrow) \quad \mathrm{I}\ (\uparrow = \downarrow)$

(26)



Each particle places certain co-occurrence requirements on its sister, and thus a question arises as to whether these are c- or f-structure constraints. We turn to this in the following subsection.

3.2 Selection

In order to discuss the matter of selection we will need to say much more about the tense and aspect system. There is some literature on this question, but accounts often appear to be driven more by theory-internal requirements than by the empirical facts. For the moment, we simply make the

following analytic assumptions. Firstly, although some researchers argue that MSA is a tenseless language (largely based on very theory-internal reasoning rather than data), we take it that MSA has tense as well as aspect and that TENSE involves distinctions of PAST/NON-PAST and FUT/NON-FUT. Additionally, as we have seen, the Arabic verb makes a morphosyntactic distinction between three moods, JUSS, SBJV and INDIC. Only the last of these, the INDIC, encodes distinctions of TENSE. JUSS and SBJV forms only occur when selected for. In principle, selection might be in terms of a MOOD feature or directly on c-structure form, and we return to this question.

With this in place we can formulate the lexical entries to capture the basic facts. The basic agreement information for 3MPL forms is provided in the template (27). Illustrative lexical entries for indicative verb forms (perfective, imperfective and future-imperfective) are in (28)-(30), and for the other moods in (32)-(33).[4]

(27) 3MPL ≡ (↑ SUBJ NUM) = PL
(↑ SUBJ PERS) = 3
(↑ SUBJ GEND) = MASC

(28) *ḏahab-uu I* (↑ PRED) = go < SUBJ > *Perfective Form*
(↑ TENSE PAST) = +
@3MPL

(29) *ya-drus-uu-n I* (↑ PRED) = study < SUBJ > *Imperfective Form*
(↑ TENSE PAST) = −
@3MPL

(30) *sa-ya-ḏhab-uun I* (↑ PRED) = go < SUBJ > *Imperfective Form*
(↑ TENSE PAST) = −
(↑ TENSE FUT) = +
(↑ POL) = POS
@3MPL

(31) *sawfa Î* (↑ TENSE FUT) = +

(32) *ya-ḏhab-uu I* (↑ PRED) = go < SUBJ > *Imperfective Jussive Form*
(↑ MOOD) = JUSS
@3MPL

(33) *ya-ḏhab-uu I* (↑ PRED) = go < SUBJ > *Imperfective Subjunctive Form*
(↑ MOOD) = SBJV
@3MPL

[4]Treating the value of the FUT feature as instantiated would prevent (30) co-occurring with (**??**) (thanks to Tracy Holloway King for pointing this out). However it is not yet completely clear to us what co-occurrence restrictions should be treated at f-structure and which ones are more properly considered to be part of c-structure or even morphological restrictions, so we have not used instantiated features here.

To recap, the behaviour we need to capture is summarised in (34).

(34) *laa* coccurs with an imperfective indicative verbform
lam expresses PAST= + and selects the jussive verbform
lan expresses FUT=+ and selects the subjunctive verbform
sa- (and *sawfa*) express POL = +

Consider first the treatment of *sa-* and *sawfa*. (30) limits the *sa-* form to occurrence in a positive clause, whereas *sawfa* does not place this restriction. This will be used in accounting for (11) and (9) permitting *laa* to co-occur with *sawfa* (12).[5]

The entries for the particles are as follows. The TENSE specification in the entry for *laa* means it cannot combine with Perfectives, the POL specification prevents it combining with the *sa-* Imperfective. If it were to combine with JUSS or SBJV then there would overall be no TENSE which would be a problem. So the f-structure for (1b) is shown in (36)

(35) *laa* $\hat{I}$ $(\uparrow \text{TENSE PAST}) \neq +$
$(\uparrow \text{POL}) = \text{NEG}$

(36)
$$\begin{bmatrix} \text{PRED} & \text{STUDY} < \text{SUBJ} > \\ \text{POL} & \text{NEG} \\ \text{TENSE} & [\text{PAST} \quad -\ ] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 3 \\ \text{PRED} & \text{STUDENT} \\ \text{SPEC} & \text{DEF} \\ \text{NUM} & \text{PL} \end{bmatrix} \end{bmatrix}$$

lam selects a JUSS and defines TENSE PAST +,[6] whereas *lan* selects a SBJV. Note that these *verbal forms* are themselves tenseless, but TENSE information is expressed by the negative particle. We give the f-structure for (5b) by way of illustration.

(37) *lam* $\hat{I}$ $(\uparrow \text{TENSE PAST}) = +$
$(\uparrow \text{POL}) = \text{NEG}$
$(\uparrow \text{MOOD}) =_c \text{JUSS}$

(38) *lan* $\hat{I}$ $(\uparrow \text{TENSE FUT}) = +$
$(\uparrow \text{POL}) = \text{NEG}$
$(\uparrow \text{MOOD}) =_c \text{SBJV}$

[5]but not ruling out an aspectual *sa-Imperfective* in V appearing as part of a periphrastic verbal expression in a negative clause.

[6]The subjunctive is the same in the 3MPL, as shown below.

(39)
$$\begin{bmatrix} \text{PRED} & \text{GO} < \text{SUBJ} > \\ \text{POL} & \text{NEG} \\ \text{MOOD} & \text{SBJV} \\ \text{TENSE} & [\text{FUT} \quad +\ ] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 3 \\ \text{PRED} & \text{STUDENT} \\ \text{SPEC} & \text{DEF} \\ \text{NUM} & \text{PL} \end{bmatrix} \end{bmatrix}$$

This accounts for all the simple tenses and their combinations with negative particles but there is rather a lot more data to account for, most of which the competing accounts seem to take account of.

3.3 Compound Tenses in MSA

We recall the table above which shows how compound tenses are formed in MAS. All three indicative verb forms can also occur in combination with a tensed auxiliary (e.g. forms of *kāna* 'be'): in this environment they express not TENSE but ASP. Aspectually, the verbforms express a three way distinction between PRF (completed), PROG (continuative) and PROSP (prospective). Aspectual *qad* is a non-projecting particle in V. Unlike the tensed (finite) forms, the aspectual version occurs in V. Therefore we have additional lexical entries as shown below.

(40) 1SG ≡ (↑ SUBJ NUM) = SG
(↑ SUBJ PERS) = 1

(41) *katab-tu* V (↑ PRED) = write < SUBJ OBJ > *Perfective Form*
(↑ ASP) = PRF
@ 1SG

(42) *ʾaktub-u* V (↑ PRED) = write < SUBJ OBJ > *Imperfective Form*
(↑ ASP) = PROG
@ 1SG

(43) *sa-ʾaktub-u* V (↑ PRED) = write < SUBJ OBJ > *Imperfective Form*
(↑ ASP) = PROSP
@ 1SG

Unlike lexical verbs (which occur in I and V), (indicative) forms of auxiliary *be* occur only in I and hence are always tensed.

(44) *kun-tu* I (↑ TENSE PAST) = + *Perfective Form*
@ 1SG

(45) *ʾakūn-u* I (↑ TENSE PAST) = - *Imperfective Form*
@ 1SG

(46) *sa- ʾakūn-u* *V* (↑ TENSE PAST) = - *Imperfective Form*
(↑ TENSE FUT) = +
@ 1SG

3.4 Exemplification

The following examples show how the basic data is accounted for by the analysis developed so far. In the following section we go on to look at the combination of negation and compound verbal forms.

(47) *kun-tu* *qad katab-tu* *t-taqrīr-a*
be.PFV-1SG PT write.PFV-1SG the-report-ACC
I had written the report. PAST PRF

$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{ASP} & \text{PERF} \\ \text{TENSE} & [\text{PAST} \quad +] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

(48) *kun-tu* *ʾaktub-u* *t-taqrīr-a*
be.PFV-1SG write-IPFV.1SG the-report-ACC
I was writing the report. PAST PROG

$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{ASP} & \text{PROG} \\ \text{TENSE} & [\text{PAST} \quad +] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

(49) *kun-tu* *sa-ʾaktub-u* *t-taqrīr-a*
be.PFV-1SG FUT-write-IPFV.1SG the-report-ACC
I was going to write the report. PAST PROSP

$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{ASP} & \text{PROSP} \\ \text{TENSE} & [\text{PAST} \quad +] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

(50) *ʾakūnu* *qad katab-tu* *t-taqrīr-a*
be.IPFV.1SG PT write.PFV-1SG the-report-ACC
(When I see you on Tuesdays), I have (always) written the report. PRES PRF

$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{ASP} & \text{PERF} \\ \text{TENSE} & [\text{PAST} \ -\ ] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

(51) *sa-ʾakūnu* *qad katab-tu* *t-taqrīr-a*
FUT-be.IPFV.1SG PT write.PFV-1SG the-report-ACC
I will have written the report. FUT PRF

$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{ASP} & \text{PERF} \\ \text{TENSE} & \begin{bmatrix} \text{PAST} & - \\ \text{FUT} & + \end{bmatrix} \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & \text{1SG} \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

3.5 Negation and Compound Tenses

We consider first the compound forms with *lam* in (52), (53) and (54), forming the negative past perfect, negative past progressive and negative past prospective (54b) respectively (we return to (54c) shortly).

(52) a. **kun-tu** *qad katab-tu* *t-taqrīr-a*
be.PFV-1SG PT write.PFV-1SG the-report-ACC
I had written the report. PAST PRF

b. **lam** **ʾakun** *qad katabtu* *t-taqrīr-a*
NEG.PAST be.JUSS.1SG PT write.PFV-1SG the-report-ACC
I had not written the report.

(53) a. **kun-tu** *ʾaktub-u* *t-taqrīr-a*
be.PFV-1SG write-IPFV.1SG the-report-ACC
I was writing the report. PAST PROG

b. **lam** **ʾakun** *aktub-u* *t-taqrīr-a*
NEG.PAST be.JUSS.1SG write-IPFV.1SG the-report-ACC
I was not writing the report.

(54) a. **kun-tu** **sa-ʔaktub-u** *t-taqrīr-a*
be.PFV-1SG FUT-write-IPFV.1SG the-report-ACC
I was going to write the report. PAST PROSP

b. **lam** **ʔakun** *sa-ʔaktub-u* *t-taqrīr-a*
NEG.PAST be.JUSS.1SG FUT-write-IPFV.1SG the-report-ACC
I was not going to write the report.

c. *kun-tu* **lan** **ʔaktub-a** *t-taqrrīr-a*
be.PFV-1SG NEG.FUT write-SBJV.1SG the-report-ACC
I was not going to write the report.

The relevant lexical entries previously given are (37) (41), (42) and (43), that is the entries for *lam* (as Î), and for *katab-tu* (V), *ʔaktub-u* (V) and *sa-ʔaktub-u* (V). The new lexical entry is for the *be* auxiliary in the jussive form in (55).

(55) *ʔakun* *I* (↑ MOOD) = JUSS
@ 1SG

Notice that compound verbs may involve the combination of perfective form and imperfective form verbs. No feature clash results because the perfective/imperfective distinction is one of morphological form rather than f-structure feature content: as we have seen, a perfective form verb conveys distinctions of tense when it occurs initial in the verbal sequence, and conveys distinctions of aspect when it is non-initial. Similarly, where NEG markers which govern the SBJV or JUSS moods (of the imperfective verb) combine with indicative verbforms (whether in perfective or imperfective form) no clash in the MOOD feature arises, on the assumption that indicative verbs are not marked for this feature.[7] (56) is the resultant f-structure for (52b).

(56)
$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{POL} & \text{NEG} \\ \text{ASP} & \text{PRF} \\ \text{MOOD} & \text{JUSS} \\ \text{TENSE} & [\text{PAST} \quad +\ ] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

Turning now to the compound forms with *lan* for the (negative) future perfect, shown in (57), and also in principle for the (negative) future progressive.[8] What is required is a lexical description for the subjunctive of auxiliary *be*, shown in (58).

[7] See below for short discussion of alternative analyses. For example, an approach in terms of **form** selection (at c-structure) might be more appropriate (Falk, 2008), in which case we would not use the MOOD feature at f-structure at all.

[8] We assume that the combination of negative future with the prospective is ruled out on semantic grounds.

(57) a. **sa-ʾakūnu** *qad katab-tu* *t-taqrīr-a*
FUT-be.IPFV.1SG PT write.PFV-1SG the-report-ACC
I will have written the report FUT PRF

b. **lan ʾa-kun-a** *qad katab-tu* *t-taqrīr-a*
NEG.FUT be.SBJV.1SG PT write.PFV-1SG the-report-ACC
I will not have writen the report

(58) *ʾakūn-a* *I* (↑ MOOD) = SBJV
@ 1SG

$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{POL} & \text{NEG} \\ \text{ASP} & \text{PRF} \\ \text{MOOD} & \text{SBJV} \\ \text{TENSE} & [\text{FUT} \quad +] \\ \text{SBJV} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

Finally, we consider compound forms with *laa*: recall that *laa* negates the imperfective, and does not itself express TENSE. It is used in the negative present perfect shown in (59). The lexical entry for the imperfective indicative of auxiliary *be* was already given in (45) and repeated here as (60) for convenience.

(59) a. **ʾakūnu** *qad katab-tu* *t-taqrīr-a*
be.IPFV.1SG PT write.PFV-1SG the-report-ACC
(When I see you on Tuesdays), I have (always) written the report PRES PRF

b. **laa ʾakūn-u** *qad katab-tu* *t-taqrīr-a*
NEG be.IPFV.1SG PT write.PFV-1SG the-report-ACC
.. I have not (already) written the report

(60) *ʾakūn-u* *I* (↑ TENSE PAST) = -
@ 1SG

(61)
$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{POL} & \text{NEG} \\ \text{ASP} & \text{PRF} \\ \text{TENSE} & [\text{PAST} \quad -] \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

Before leaving *laa* and its tensed counterparts *lam* and *lan*, there is one further and intriguing data point, namely the example (54c), which appears to be an alternative to the (expected) (54b). It seems

that LAN + SBJV may occur in V position for semantic reasons which are not entirely clear to us. We incorporate this datum into our description by hypothesizing that only *lan* can adjoin to V (as well as I): tensed *lan* (but not *lam*) has an aspectual counterpart as shown in (62). This combines with a verb in subjunctive mood. We give the lexical entry for this verb in (63).

(62) *lan* $\hat{V}$ (↑ ASP) = PROSP
(↑ POL) = NEG
(↑ MOOD) $=_c$ SBJV

(63) *ʔaktub-a* *V* (↑ PRED) = write < SUBJ OBJ >
(↑ MOOD) =SBJV
@ 1SG

(64) *kun-tu* *I* (↑ TENSE PAST) = +
@ 1SG

(65)
$$\begin{bmatrix} \text{PRED} & \text{WRITE} < \text{SUBJ, OBJ} > \\ \text{POL} & \text{NEG} \\ \text{ASP} & \text{PROSP} \\ \text{MOOD} & \text{SBJV} \\ \text{TENSE} & \begin{bmatrix} \text{PAST} & + \end{bmatrix} \\ \text{SUBJ} & \begin{bmatrix} \text{PERS} & 1 \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

The following summarises the data concerning negation with *laa, lam, lan* and compound tenses.

(66)

	FORM	REALIZATION	MEANING
1.	LAM JUSS	lam ʔaktub-a t-aqrīr-a I did not write the report.	PAST
2.	LAA IPFV	laa ʔaktub-u t-aqrir-a I am not writing the report.	PRES
3.	LAN SUBJ	lan ʔaktub-a t-taqrīr-a I will not write the report.	FUT
4.	LAM JUSS + PERF	lam ʔakun qad katabtu t-taqrīr-a I had not written the report.	PAST PRF
5.	LAM JUSS + IPFV	lam ʔakun aktub-u t-taqrir-a I was not writing the report.	PAST PROG
6.	LAM JUSS + FUT-IPFV	lam ʔakun sa-ʔaktub-u t-taqrir-a I was not going to write the report.	PAST PROSP
7.	PAST + LAN SUBJ	kun-tu lan ʔaktub-a t-taqrrīr-a I was not going to write the report.	PAST PROSP
8.	LAA IPFV + PERF	laa ʔakūn-u qad katab-tu t-taqrīr-a ... I have not (already) written the report.	PRES PRF
9.	LAN SUBJ + PERF	lan ʔakun-a qad katab-tu t-taqrīr-a I will not have written the report.	FUT PRF

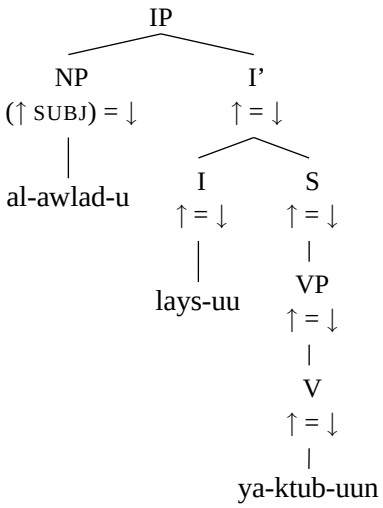
4 Analysis of Laysa

After working through the details (of compound tense formation) necessary to give a reasonably full description of the negative particles *laa, lam, lan*, the analysis of *laysa* is quite straightforward. Rather than being a non-projecting word, *laysa* is a fully projecting I taking a range of complements. If its c-structure complement is verbal, then that complement must be in the indicative Imperfective form. As a fully projecting element, *laysa* is not subject to any adjacency restriction with respect to the verbal element. Note that as expected for a tensed verb, agreement with the SUBJ in VSO structures is partial (contrast (67a) and (67b)).

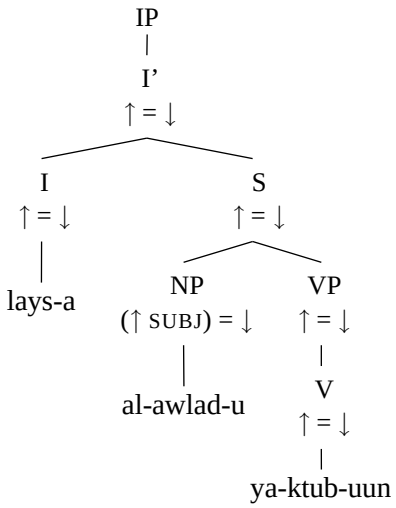
(67) a. *al-awlad-u lays-uu ya-ktub-uun.*
the-boys-NOM NEG-3MP 3M-write.IPFV-3MP-IND
The boys do not write/are not writing.

b. *lays-a al-awlad-u ya-ktub-uun.*
NEG-3MP the-boys-NOM 3M-write.IPFV-3MP-IND
The boys do not write/are not writing.

(68)



(69)



The lexical description for the negative tensed auxiliary *laysa* is given in (70):

(70) *laysa* *I* (↑ TENSE PAST) = -
(↑ TENSE FUT) = -
(↑ POL) = NEG
(↑ SUBJ PERS) = 3
(↑ SUBJ GEND) = MASC
V ∈ CAT(↑) ⇒ (↑ ASP) =$_c$ PROG

ya-ktub-uu-n *V* (↑ PRED) = study < SUBJ >
(↑ ASP) = PROG
@ 3MPL

This accounts for the key aspects of the distribution of *laysa* which were noted above, namely, that it can occur in verbless and verbal sentences, it can be separated from the verb, and if it occurs with a verb, that verb is indicative imperfective in form.

5 Future Work and Open Questions

The approach outlined here is preliminary in very many ways, and there are a number of open questions which we intend to explore in future work. In particular, the approach to Tense and Aspect which we outline here is very preliminary. Further work is also needed on other possible non-projecting verbal particles (such as *qad*). In terms of the negative particles and the observed depedencies between particles and verbforms, the question remains as to whether selection between negative particles and verb forms should be dealt with in terms of c-structure (sub)categories: this seems to us to be quite an attractive alternative to the f-structure selection account (using the MOOD feature, which we outlined here. On such an alternative approach, one might encode the form selections as follows:

(71) a. *lan* $\hat{I}$ (↑ TENSE FUT) = +
(↑ POL) = NEG
$\lambda(\hat{*}$ compl) =$_c$ V$_{[sbjv]}$

b. *lam* $\hat{I}$ (↑ TENSE PAST) = +
(↑ POL) = NEG
$\lambda(\hat{*}$ compl) =$_c$ V$_{[juss]}$

c. *laa* $\hat{I}$ (↑ TENSE PAST) ≠ +
(↑ POL) = NEG
$\lambda(\hat{*}$ compl) =$_c$ V$_{[indic]}$

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