

The Syntax of (Complex) Tense in Sason Arabic*

The paper discusses the morphosyntactic properties of elements that can occupy the tense projection and proposes a syntactic representation of tense system in Sason Arabic.

Outline

- ❖ Verbal morphology in Sason
 - ❖ Distribution of the imperfective
 - ❖ Distribution of the perfective
- ❖ Syntax of Complex Tense
- ❖ Monoclausal or biclausal?
- ❖ Conclusion

1. Verbal Morphology

Two morphological patterns: perfective and imperfective. In the perfective, subject agreement is realized as a suffix on the verb. In the imperfective, it is realized by both prefixes and suffixes. In addition to the position of person agreement¹, the two forms differ with respect to their internal vocalic melody of the verb stem.

A. PERFECTIVE

Table 1: Conjugation of a perfective verb

Person	Number	Gender	Affix	Verb+Affix
1	Singular	M/F	-tu	faqastu
2	S	M	-t	faqast
2	S	F	-te	faqaste
3	S	M	∅	faqaz
3	S	F	-e	faqaze
1	Plural	M/F	-na	faqazna
2	P	M/F	-to	faqasto
3	P	M/F	-o	faqazo

B. IMPERFECTIVE

Table 2: Conjugation of a strong verb *fqz* 'run'

Person	Number	Gender	Affix	Affix+Verb
1	Singular	M/F	a-	afqez
2	S	M	tə---∅	təfqez
2	S	F	tə---e	təfqəze
3	S	M	i-	ifqez
3	S	F	tə---∅	təfqez
1	Plural	M/F	nə-	nəfqez
2	P	M/F	tə---o	təfqəzo
3	P	M/F	i---o	ifqəzo

* For their valuable comments and criticisms, I thank Balkız Öztürk, Elabbas Benmamoun, Meltem Keleşir, Raffaella Zanuttini and Jim Wood.

¹ The only exception to the generalization that person is expressed as a prefix is the second person feminine where gender is expressed as a suffix, like number.

1.1. Distribution of the imperfective verb

1.1.1 Imperfective in non-past

The imperfective form mostly occurs in the context of verbs with present tense interpretation (progressive and habitual), as in (1a). It should be noted that there is also a separate Progressive, formed with the auxiliary (1b).

- (1) a. *ya-mel.*²
3M-work
'He works/He is working.'
- b. *ku ya-mel.*
be.3M 3M-work
'He is working.'

The imperfective occurs also in modal contexts (2a), in embedded non-finite clauses (2b) and in negative imperatives (2c).

- (2) a. *macbur ya-mel.*
have to 3M-work
'He has to work.'
- b. *iri-llu ya-mel.*
want-him 3M-work
'He wants to work.'
- c. *laa tamel*
NEG work.2M
'Don't work.'

Imperfective is the default form of the verb (Benmamoun 1999, 2000) due to its use in a number of contexts unlike the perfective, which has a narrow environment.³

² Sason Arabic does not have a separate morpheme or auxiliary to express future tense, unlike other dialects of Arabic. An example is given from Standard Arabic in (ia). The above sentence in (1) is ambiguous between present tense and future tense. Temporal adverbs distinguish the temporal reference of the clause as in (ib). In this respect, SA exhibits the properties of 'binary tense systems', in Comrie's (1985: 48) terms, such as German or Finnish.

- (i) a. *sa-ya-drus-u* (Standard Arabic)
FUT-3M-study-IND
'He will study.'
- b. *yade ya-mel.*
tomorrow 3M-work
'He will work tomorrow.'
- (ii) *akl a-yel*
food eating 1SG-eat
'I eat'

³ Adding to the discussion above, the default is different from the infinitive form of the verb, as it is understood in languages such as Turkish or English. In SA certain elements in the form of cognate objects behave like infinitives, as illustrated below:

- (i) *qaru a-gri*
reading 1SG-read
'I read'
- (ii) *šī akil a-yel*
food eating 1SG-eat
'I eat'

Apart from the present tense sentences, in other contexts listed, the main temporal information is carried either by a modal, the negative, or a matrix verb. Thus, the imperfective is resorted to whenever the relevant verb does not carry the main tense information. This idea is independently motivated by the fact that some nominalization processes seem to take as the input the imperfective form (see McCarthy 1979, 1981 for the seminal autosegmental account of Arabic morphology).

- (3) a. *i-heseb*
3M-calculate
'He calculates.'
- b. *hesāb*
'calculation, account.'
- (4) a. *y-allem*
3M-teach
'He teaches.'
- b. *mu-allim*
n-teach
'teacher'

As evident from (3) and (4), the imperfective verb (3a, 4a) and the nominal (3b, 4b) have almost the same vocalic melody, which indicates that the two forms are related (perhaps derivationally). This in turn suggests that the imperfective does not carry any temporal information, given that in most languages nominals are derived from or related to non-tensed verbs.

This analysis, which argues that the imperfective has no temporal information, also readily accounts for the occurrence of imperfective in past contexts.

1.1.1 Imperfective in past

Sason Arabic has the particle *kə-*, which is attached to the verb in the imperfective form as a prefix in expressing past imperfective. Consider the following:

- (5) a. *ya-yel*
3M-eat
'He eats./He is eating./He will eat.'
- b. *kə-ya-yel*
PAST-3M-eat
'He was eating./He used to eat./He was going to eat.'

The imperfective verb in (5a) by itself has the present/future interpretations, and in both (5a) and (5b) habitual and progressive meanings are available. The example (5b) illustrates that when the thematic verb is preceded by the particle *kə-* the imperfective is used with past time reference, hence we take this to suggest that *kə-* conveys past tense interpretation. In parallel with the non-past form (1b), there is a separate progressive, formed with the overt auxiliary, as illustrated in (8). This form, i.e. *kan*, is optional, though, since (8b) does not exclude progressive meaning, but its use excludes the habitual reading. In other dialects of Arabic, on the other hand, the overt auxiliary 'to be' does not express only progressive; i.e. the habitual is not ruled out in the case of

However, in SA word forms are not derived from the cognate form that appears to function as infinitival, unlike Turkish or English. The derivation is realized out of the consonantal root.

overt auxiliary in Standard Arabic. This distinction is significant in leading to another instance of tense syncretism in Sason that is not encountered in other Arabic varieties.

- (6) *kan ta-ya-gra* (Moroccan Arabic)
 be.PAST.3M PROG/HAB-3M-study
 ‘He was studying./He used to study.’ (Benmamoun, 2000: 29)

Note that in other Arabic dialects, the perfective form can be the embedded member of other perfect tenses (i.e. Past Perfect or Future Perfect), typically when a copular auxiliary is overtly realized. Fassi Fehri (2012:7) takes this use as evidence confirming the T nature of the Perfect suffixed tense.

- (7) *kaan-uu (qad) ‘amil-uu ma ‘-a-hum ‘alaa ‘i‘aadat-i fatH-i l-sifaarat-i.*
 ‘They had worked with them on re-opening the embassy.’
 (Standard Arabic, Ryding, 2005: 637)

In Sason Arabic in order to show the imperfective past, one combines the perfective of the verb ‘to be’, functioning as an auxiliary, and the imperfective of the main verb. Crucially, the particle *kə-* in SA is retained in this context, i.e. is not optional.

- (8) *kan *(kə)-ya-yel.*
 be.PAST-3M PAST-3M-eat
 ‘He was eating.’

The tensed morphology and agreement on the auxiliary and “*kə*+the thematic verb” provides evidence in support of two distinct TPs - that is, double past marking- separate from English examples, e.g. ‘I was sleeping’ where the time reference is conveyed by the auxiliary, not the thematic verb. The obligatory use of *kə-* in past contexts, even when the auxiliary is realized as perfective in (8) lends support to analyzing it as the past marker.

Given the discussion above, it is plausible to claim that the prefix *kə-* functions as marking the imperfective past, as previously suggested (Talay 2001). However, the discussion in the following section shows that the prefix is not exclusively used with imperfective, but also with perfective verbs. These facts will pave the way for the investigation of the implications for the syntactic status of the particle.

1.2. Distribution of the perfective verb

The perfective form of the verb, on the other hand, is found mainly in the past tense contexts.⁴

⁴ Still, the perfective form does not always have to denote past time reference, but could express future time reference. The following example with a subordinate clause makes the point clear. (The example is adapted from Comrie 1976:79). This interpretation of the embedded clause past tense is often described as a past-shifted reading (e.g. Stowell, 2005:444).

- (i) *ač:i (impf) čax le salur lay-o (pfv)*
 1SG-come when that plums ripened.3PL
 ‘I will come when the plums ripen.’

Although the embedded verb is inflected for the perfective paradigm, the interpretation of the perfective *layo* is with future time reference (i.e. the plums have not yet ripened). This is not predicted on a hypothesis that attributes the

- (9) *ġa* *ams*
 came.3M yesterday
 ‘He came yesterday.’

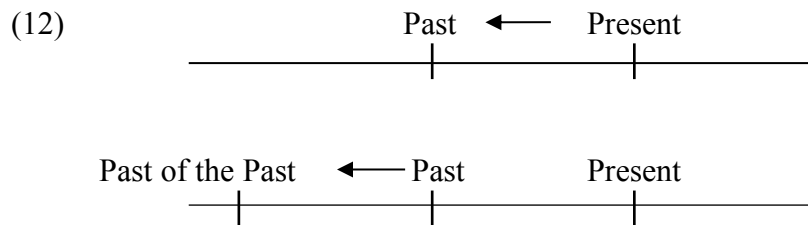
In the previous section, the example (5b) shows that the imperfective is used with past time reference with the attachment of the particle *kə-* to thematic verb. In (9), on the other hand, the verb has past time reference without a separate particle. The crucial set of data that argues against the treatment of *kə-* as the imperfective past marker is illustrated below:

- (10) (*bahalče*) *kə-nam*, *le ġit*
 already PAST-slept.3M that came.2M
 ‘He had (already) slept, when you came.’

In example (10) the particle *kə-* is attached to a perfective verb, the sentence becomes past perfect. Note that this feature differentiates SA from other dialects, in that the perfective form of the auxiliary, *kan* ‘to be’, is not used to form past perfect as in (11). Note that the presence or absence of *kə-* is irrelevant.

- (11) **bahalče kan* (*kə*)-*knam*, *le ġit*
 already be.3M PAST-slept.3M that came.2M
Intended: ‘He had already slept, when you came.’

The compatibility of the morpheme *kə-* with both the perfective (10) and imperfective (5) suggests that *kə-* has no aspectual content, but carries only temporal information. The function of the marker of past tense can be schematized as follows:



Independent evidence that *kə-* heads its own projection comes from the fact that it can scope over conjoined verbs.

- (13) *kallom* *sāde* *kə-* [*ya-yel* *u* *i-nam*].
 every day just PAST- 3M-eat and 3M-sleep
 ‘He would just eat and sleep all day long.’

perfective/imperfective opposition to purely tense. Still, the significant point in this sentence is the relative time reference of the verb in that the ripening of the plums is prior to my coming. Thus, one might still conclude that the difference between the perfective and the imperfective is one of relative tense.

Interim Summary 1:

kə- is a tense marker and heads its own projection.

The perfective indicates both perfective meaning and relative past time reference, while the imperfective indicates everything else (i.e. either imperfective meaning or the time reference meaning component of relative non-past tense).

The opposition imperfective/perfective incorporates both aspect and (relative) tense. Thus, the imperfective can be characterized as the default form of the verb.

(At least) two related questions that arise from the above discussion:

- (i) if *kə-* is a marker of past tense, why doesn't it occur in simple past tense?
- (ii) how is (perfective) past tense realized in SA?

Regarding the second question, two alternatives are possible:

McCarthy's (1979, 1981): past tense information is expressed by vocalic melody, which occupies a different tier separate from the consonantal tier.

Benmamoun (2000): the past tense is an abstract morpheme that does not have any specific phonological realization. The only indicator is the suffixal agreement.

McCarthy's generalization is based on the fact that the perfective and the imperfective have different vocalic melodies. Regarding the realization of tense and voice in the perfective, Benmamoun (2000:26), referring to the literature on cumulative exponence, argues that voice, a derivational category, and tense, an inflectional category cannot be expressed by the same grammatical morpheme. This poses a problem for McCarthy's hypothesis. Further evidence against McCarthy's hypothesis is the lack of an elaborate vocalic melody in SA, similar to Moroccan Arabic (Benmamoun 2000, O&F 2005). To express voice, SA relies on prefixation of a passive/reflexive morpheme to the perfective and imperfective verbs.

- (14) a. *qadal-u* b. *hačal* *in-qadal*
 killed.3M-it partridge PASS-killed.3M
 ‘He killed it.’ ‘The partridge was killed.’

Significantly, the loss of the vocalic melody implies the loss of expressing voice by vowels in SA. In other words, the vocalic melody cannot be relied on to see if a verb is active or passive.

Regarding the first question, that is, why *kə* is not used in simple past tense, I hypothesize that in simple past tense the suffixal agreement is an indicator of past tense, hence the need for *kə* is obviated. Note that this is not the same as saying the agreement is the realization of past tense. One argument against the latter hypothesis comes from the Standard Arabic negative *laysa* (Benmamoun 1992, as cited in Benmamoun 2000). This negative is inflected only as a past tense verb but is restricted to sentences in the present tense (Ryding 2005: 641), as in (15-16).

- (15) *lays-at munaqqibat-a 'aathaar-in* (16) *haadhaa lays-a* *l-sabab-a.*
 NEG-3F archaeologist-ACC this NEG-3M the-reason-ACC
 ‘She is not an archaeologist.’ ‘This is not the reason.’

The person agreement suffixes are identical on the verbs in the past tense and the negative. This shows clearly that the suffix on the perfective verb carries agreement only. Still, as the reason for the lack of *kə-* in simple past tense, I would like to propose following Benmamoun (2000) that

the past tense is an abstract morpheme that does not have any specific phonological realization. The only indicator is the suffixal agreement. As Benmamoun points out, the past tense in this respect is similar to the present tense in English which is also phonologically null. The only morphological reflex it has is third person singular agreement on lexical verbs (*eat* vs. *eats*) and suppletive forms of the copula (*am, are, is*). However, like the English present tense, the abstract past tense in Arabic is syntactically active in that it has features that need to be checked by the subject and the verb.

In brief, the perfective verb carries past tense features. However, these features are not realized by an overt affix. The only morphological reflection is the suffixal agreement pattern that the past tense verb selects. However, it is clear that suffixal agreement by itself does not realize past tense because the negative *laysa* in Standard Arabic carries exactly the same type of agreement but is restricted to sentences in the present tense. Such a property observed in Standard Arabic (StA) implies that the suffixal agreement by itself cannot be taken to be the realization of past tense in other dialects as well. Note that the form of suffixal agreement in SA and in StA is quite similar. For instance, it is realized as *-tu* in first person singular, as *-na* in first person plural, etc. I take this fact to explain why *kə-* is not used in simple past although it is a past marker. The imperfective verb, on the other hand, is not specified for any temporal features.⁵

Interim Summary 2:

- The distribution of imperfective and perfective stems in SA is governed by selectional restrictions with respect to tense. In SA, tense is represented by a prefix, while aspect is morphologically encoded by the position and phonological realization of the agreement marking on the verb (in line with Ouali and Fortin (O&F, 2005)).
- Perfective stems are only compatible with past tense, while imperfective stems by themselves are only compatible with present and future tense. Only when attached with the marker *kə-* can an imperfective stem express a past meaning. This is due to a selectional restriction between null past and perfective stem. Imperfective stems are ‘default’ and appear in all other environments.

The following table, adopted from O&F (2005), illustrates the restricted selection between past and perfective and the default nature of imperfective with present and future.

VERBAL ASPECTUAL FORMS	TENSES		
	PRESENT	FUTURE	PAST
PERFECTIVE	*	*	Past
IMPERFECTIVE	progressive <i>kwn+imperfective</i> habitual aspect	Future	*
			<i>kə+imperfective</i>

Table 3. Selectional restrictions between past tense and perfective aspect

⁵ Unlike Standard Arabic, SA expresses no mood distinctions morphologically; for this reason, I set aside the question of whether mood is syntactically represented in SA clause structure.

(i) *ya-drus-u* (Standard)
 3M-study-IND
 ‘He studies/He is studying.’

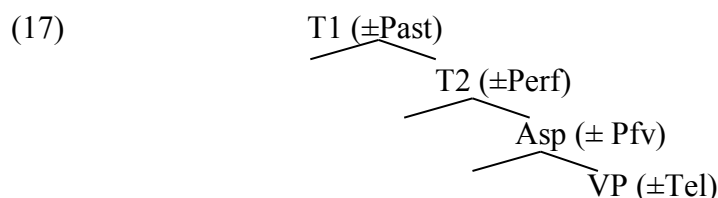
(ii) *ya-mel* (Sason)
 3M-study
 ‘He studies/He is studying.’

2. The Syntax of (Complex) Tense

2.1. Background

The discussion in the previous section shows that Sason Arabic displays several instances of tense syncretism, in which different tenses have the identical form.⁶ I will adopt Giorgi and Pianesi's (GP, 1997) revised version of Reichenbachian framework, which hypothesizes that tense instantiates relationships between events, and Stowell's (1996, 2005) account, which calls for syntactic decomposition of semantic features traditionally attributed to tense.⁷ In the course of the analysis I will make use of Fassi Fehri's (2000/2004, 2012) application of these approaches and conclude the SA requires a more articulated structure for the representation of its morphological properties.

Fassi Fehri (2000/2004, 2012) assumes the model of tenses, conceived as expressing relations between times, with two syntactic TP projections headed by predicative Ts, to account for perfect tenses. Each T defines a temporal ordering relation between two temporal arguments: T1 orders UT with respect to RT (and/or ET), and T2 orders RT and ET. T1 is usually qualified as "deictic" or "absolute" (Past, Present, or Future), and T2 as "relative" (Perfect/Imperfect or Anterior/non-Anterior). Put in a tree, the core configurational structure of T and Asp proposed by Fassi Fehri is roughly as follows:



Such a hypothesis easily accounts for the *ambiguous* use of the same finite verbal form for past and perfect (or non-past, imperfect) to express Anteriority (or non-Anteriority) of Reference Time (RT) with respect to either Utterance Time (UT) or Event Time (ET):⁸

2.2. Past/Perfect Syncretism

Similar to other Arabic dialects, the perfective form in Sason Arabic expresses past in neutral (non-dependent, non-embedded) context, as evidenced by its cooccurrence with appropriate deictic adverbs (18a). ST expresses also perfect (= present perfect) in neutral context, as indicated by the respective adverbs (18b).

⁶ The temporal and aspectual properties of the verb have been a hotly debated issue within Arabic (along with other Semitic languages) syntax and morphology (Travis 1979; Fassi Fehri 1993, 2012; Shlonsky, 1997; Benmamoun 1999, 2000, a.o.). The ambiguity of morphological expression of some temporal or aspectual categories in some languages, in addition to its total absence in others (in tenseless and/or aspectless languages, Comrie (1976, 1985), is sufficient to stress that the descriptive program of the temporal/aspectual variation is basically morphological (or morpho-syntactic), and that semantically temporal or aspectual cross-linguistic generalities have to be built in general syntax (Fassi Fehri, 2012: 3).

⁷ See Sigurðsson (2004, 2012), Sigurðsson and Holmberg 2008 for another approach to tense, person features.

⁸ In his cartographic approach, which assumes a richer structure for functional categories (and adverbs), Cinque (1999) also adheres to the notion which views tenses as relations between temporal entities in the sense of Reichenbach 1947, following the references cited here, mainly Giorgi and Pianesi 1997, along with Vikner 1985, in that each relation corresponds to a separate T^o: T(Anterior), T(Future), T(Past). Following the account in GP 1997, he takes the three tenses to be in particular scope relation to each other.

- (18) a. *ams* *faqaz* (**xade*)
yesterday ran.3M (*tomorrow)
'He ran yesterday.'
- b. *aşşin* *faqaz*
(just) now ran.3M
'He has run just now.'

As the examples in (18a) and (18b) illustrate, the present perfect, although presumably complex, is synthetic in that it is identical to the past morphologically. The ambiguity can be represented in Reichenbachian terms as follows:

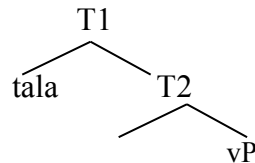
- (19) a. PAST: (ET), RT < UT
b. PRESENT PERFECT: (ET <) RT, UT

Consider now another case of synthesis, namely that of the present perfective, as exemplified below. The perfective nature of ST is corroborated by its use in the so-called “performative” sentences.

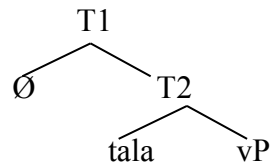
- (20) *ğ̣u-tu*
hungered-1M
'I am hungry' (*lit*: I hungered)

The data in this section illustrate that Past, Present Perfect, or Present Perfective all have the same form, i.e. the morphology cannot be resorted to for discrimination. The question is that how can the same form of the (temporally inflected) verb be Past, Present Perfect, or Present Perfective? Fassi Fehri (2012:94, 252) proposes that complex tenses project two TP projections, TP1 and TP2 (as in GP 1997; Stowell 2005), in addition to AspP, vP being dedicated to telicity.⁹ The differences are due to the effects of the Move/Agree relations of v with respect to T1, T2, or Asp. Suppose that in order to get the [\pm Past] interpretation, v has to move to T1; if it moves to T2, it is interpreted as Perfect (\pm Perf); and if it moves to Asp, it is associated with \pm Pfv. Note that Present is a default (zero valued) interpretation of T1. The core idea behind this proposal is that semantics of tense is determined by independently motivated principles of syntactic theory (Stowell 1996, 2005) and hence various temporal meanings are hierarchically interpreted in the structure. The three essential structures are then tentatively sketched as follows:

- (21) Simple Past

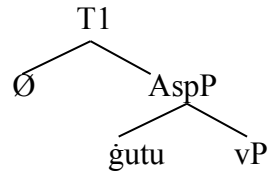


- (22) Present Perfect



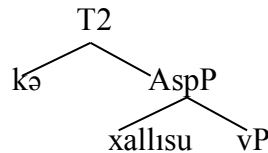
⁹ Demirdache and Uribe-Etxebarria (2007) propose that complex tense projects only one TP and one AspP projection.

(23) Present perfective



Three distinct configurations are then found. With simple tenses, the verb is moved to T1, past T2, whereas with complex verbs, the thematic verb stays in T2, and the auxiliary raises to T1. With synthetic present perfect, the thematic verb could be staying in T2, but it is involving agreement with an empty T1, more like what happens with the analytic present perfect. In the case of Past Perfect, the thematic verb remains in-situ and *kə-* occurs in T2.

(24) Past Perfect



The proposal seems to work just fine with suffixed tenses, i.e. the modal has no difficulty in accounting for the ambiguity between Past and Perfect. Now, we will turn to cases where there is a tense syncretism between progressive and perfect, and see whether Fassi Fehri’s proposal for SA accounts for the morphological make-up of Sason Arabic.

2.3. *Progressive/Perfect Syncretism*

SA has no separate forms for the Present Progressive and Present Perfect Progressive. Therefore, adverbials coerce different interpretations.

- (25) a. *sa ku i-fqez.* b. *mi-ssari ku i-fqez.*
 now AUX.3M 3M-run since-morning AUX.3M 3M-run
 ‘He is running now.’ ‘He has been running since morning.’

The same ambiguity is also observed between Past Progressive and Past Perfect Progressive.

- (26) a. *kan kə-i-fqez.*
 be.PAST.3M PAST-3M-run
 ‘He was running.’
- b. *mi-ssari kan kə-i-fqez le adaš-tu-n*
 since-morning be.PAST.3M PAST-3M-run that saw-1M-him
 ‘He had been running since morning, when I saw him.’

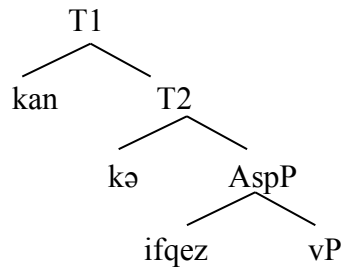
In brief, SA exhibits various instances of tense syncretism, where an ‘absolute’ tense and a ‘relative’ tense are morphologically identical. Now I will apply Fassi Fehri’s configuration to account for these instance and see how it fares. However, before proceeding with the syntactic

representation of such ambiguities, I would like to elaborate on the feature content of the copular/verbal auxiliary *kan*.

2.4. Syntax of Syncretic Tenses with Auxiliaries

For the past perfect progressive reading in (26b) I propose the following structure:

(27) Past Perfect Progressive



Since the auxiliary is traditionally associated with T1, and T2 associated with Perfect reading, the configuration in (27) correctly captures the *past perfect progressive* meaning.¹⁰ However, the model faces a problem when the intended meaning is the *past progressive*. This is because, in order to express past meaning, *kə-* needs to occur in T1, the position which is associated with the past interpretation, unlike T2, which is reserved for perfect reading. However, T1 is already occupied by the auxiliary *kan* and the example (28) demonstrates that the two constituents must occur in distinct projections.

- (28) *kan* [*kə-ya-yel*] *u* [*kə-i-si gerre*].
 be.PAST.3M PAST-3M-eat and PAST-3M-do noise
 ‘He was eating and making noise.’

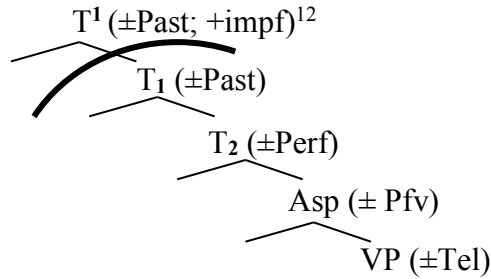
Under the assumption that every element or particle occupies a separate syntactic projection and merger, if applies, takes place in the post-syntactic component, the current structure falls short of accommodating the morphological properties of SA and thus we need a more articulated configuration.

Based on the assumption that T1 is reserved to express past meaning, and the auxiliary is canonically placed in T, just as the marker of past tense *kə-*, I am led to propose a configuration with two T1s. This is in essence not very different from the observation made in the literature regarding the need for two distinct TPs. I suggest that if these two TPs are conceived of occurring in two separate layers, which would not block each other from having the same function, i.e. expressing past tense, Fassi Fehri’s bi-TP analysis could be maintained for the lower layer, hence yielding three TPs in total.¹¹ The proposed configuration is sketched basically as follows (in order to reflect the difference between the Ts of two layers, I will use superscript for the upper layer, and subscript for the lower layer):

¹⁰ Soltan (2007:47) also suggests that the tensed morphology and agreement on the auxiliary and the thematic verb in Standard Arabic provides evidence in support of a two distinct TPs in such constructions.

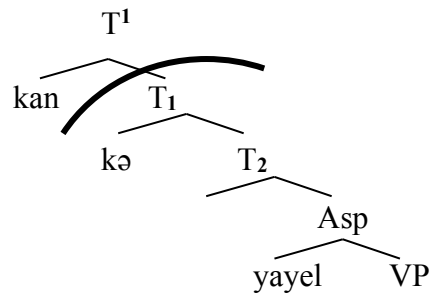
¹¹ Demirdache (1989, as cited in Diesing and Jelinek 1995) analyzes tense and aspect markings in Standard Arabic as tense markers. Thus her clause structure also consists of stacked TPs.

(29)

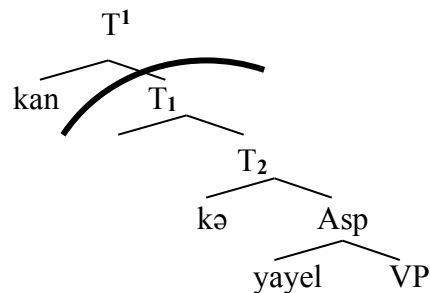


The core idea behind this configuration is that there are two distinct TP layers, the lower layer consisting of two TPs. Subdivision of the lower layer into two TPs serves to account for complex tenses along the lines of GP 1997, Stowell 1996, 2005; Fassi Fehri 2012. Projection of two distinct TP layers due to tensed morphology and agreement on the auxiliary and the thematic verb is coupled by projecting two TPs in the lower layer to account for the synthesis in the language. I hypothesize that the upper layer is more associated with the subject since there are contexts, such as non-verbal predicates, that allow the use of the T¹ auxiliary without the thematic verb or the lower Ts. Drawing on this discussion, the diagrams for the Past Progressive and Past Perfect Progressive are as follows:

(30) Past Progressive



(31) Past Perfect Progressive



In these representations the constituents *kan* and *kə* are located in different layers, and thus presumably may perform the same function, i.e. express the past tense. This is corroborated by

¹² *KWN* carries tense and agreement morphology, hence *phi*-features, while *kə*- is deprived of such properties (see Appendix for the discussion of *kwn*).

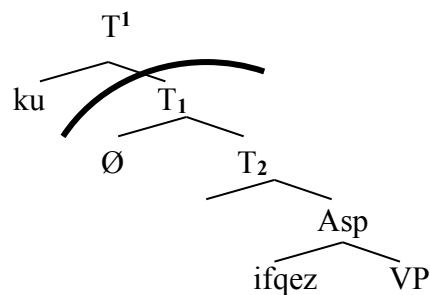
the tensed morphology and agreement on the auxiliary and the thematic verb complex, i.e. $kə+V$, as observed by Soltan (2007). In this configuration, kan is located in T^1 , while the position of $kə-$ depends on the time reference. In cases where $kə-$ remains in T_2 , the sentence is interpreted as Past Perfect Progressive, when it raises to T_1 the Past Progressive meaning is reached.

As noted above, a similar ambiguity exists in the context of present tense as well, as in (32).

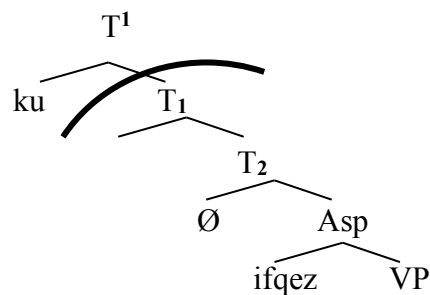
- (32) *ku* *i-fqez*.
 AUX.3M 3M-run
 i. ‘He is running.’
 ii. ‘He has been running.’

Note that SA doesn’t morphologically mark present tense, hence I would like to entertain the idea that in such contexts, there is an abstract/null present tense marker, without an overt realization unlike the past tense, but is manifested via the imperfective form of the verb. Such an approach would produce the following configurations for the Present Progressive and Present Perfect Progressive, respectively.

- (33) Present Progressive



- (34) Present Perfect Progressive



Similar to its counterpart $kə-$ in past contexts, the position of the null tense marker in the lower layer determines the temporal interpretation of the sentence. When ‘ \emptyset ’ occupies T_1 , then the verb is interpreted to have ‘absolute’ tense, whereas when it remains in T_2 , the position associated with Perfect, the sentence is said to have a ‘relative’ tense interpretation.

3. Is it monoclausal or biclausal?

Does the configuration in SA require a biclausal analysis, similar to what O&F (2005) proposed for Moroccan Arabic, or a mono-clausal analysis? In order to answer this question, I will compare the tense morphology of SA with MA and conclude which analysis fares better. O&F (2005:181) provides the following sentence as an example for complex tense:

- (35) *ya y-kun-u ka y-leʕb-u* (O&F' (11))
 FUT 3-be.IMP-PL PRES 3-play.IMP-PL
 'They will be playing.'

They argue that the evidence for the biclausal analysis comes from the fact that both the main verb and the copula are inflected for aspect and agreement and preceded by a tense marker. They also draw attention to the contrast between ECM constructions in which the embedded verb cannot be preceded by a tense marker. The configuration they propose is as follows:

- (36) Complex tense clauses:
 [TP [AspP [VP BE [TP [AspP [vP [VP main verb (no vP in matrix domain)

As pointed out previously, two crucial morphological properties distinguish SA from MA:

- (i) unlike MA, in SA complex tense, e.g. Past Perfect, is not expressed by using a copula with the main verb,
- (ii) SA has a unique marker of past tense, namely *kə-*. Hence unlike MA, morphologically marks past tense in the Past Perfect.

Apart from the morphological difference, the prediction made by a biclausal analysis is not borne out in SA. O&F (2005) points out that since complex tense clauses contain two TPs, it is predicted that such clauses would allow negation to surface in two different positions. This prediction is correct in MA.

- (37) a. *ma ya (*ma) y-kun-u-f Ø mfa-w daba*
 NEG FUT NEG 3-be.IMP-P-NEG PAST leave.PERF-3P now
 'They will not have left now/by now.' (O&F' (26))
- b. *ya y-kun-u ma Ø mfa-w-f daba*
 FUT 3-be.IMP-P NEG PAST leave.PERF-3P-NEG now
 'They will have not left now/by now.'

If complex constructions in Sason are biclausal, the prediction is that they also allow negation to surface in different position. However, this prediction is not borne out.

- (38) a. *binad ma-kano kə-yadlo dars-en.*
 girls NEG-were.3PL PAST-3PL.make homework-their
 'The girls hadn't been doing homework.'
- b. **binad kano mi-kə-yadlo dars-en.*
 girls were.3PL NEG-PAST-3PL.make homework-their

Under the assumption that the auxiliary and the verb are in separate clauses, in theory, nothing would prevent negation to surface either in the higher clause or in the lower clause, being located above TP in either one (Akkuş & Benmamoun, To appear). The empirical facts, however, argue against such an analysis. Therefore, I will take it that in SA the auxiliary is base-generated in TP rather than VP, contra MA, hence obviating the need for a biclausal analysis. The subject, on the other hand, is expected to occupy Spec positions of either T layer in complex tenses, which is correct:

- (39) (binad) kano (binad) kə-yadlo dars-en.
(girls) were (girls) PAST-3PL.make homework-their
'The girls had been doing their homework.'

4. Conclusion

In this paper I have examined the verbal morphology in matrix clauses in SA with the aim of explaining the morpho-syntactic properties of elements that can occupy the tense projection.

I have argued that the imperfective is the default form of the verb. The morphology of Sason has led me to take the suffixal person agreement to be an indication of tense, mainly following Benmamoun (2000), contra the account of McCarthy (1979), which argues that past tense information is expressed by vocalic melody, which occupies a different tier separate from the consonantal tier.

The description of tense set the scene for the analysis of the syntax of complex tense in SA. Based on the discussion of several instances of tense syncretism, mainly following Stowell 1996, GP 1997, I argued for a *bi-layeral* TP analysis, where the lower layer projects two separate Ts. This is motivated by the different function of *KWN* in SA and the past particle *kə-*, exclusive to Sason. The syntactic position of *kə-* determines the interpretation of a clause: if it is located in T1, the reading is past, whereas in T2 the reading achieved is perfect. The next question was whether the configuration is better explained through a biclausal analysis or not, similar to O&F (2005). I contended that the instances of tense syncretism in SA do not lend support for such a hypothesis.

References

- Akkuş, F. & Benmamoun E. 2015. 'The Syntax of Negation in Contact Contexts: the Case of Sason Arabic.' In Y.A. Haddad and E. Potsdam (Eds.), *Perspectives on Arabic Linguistics XVIII* (pp.). Amsterdam: John Benjamins.
- Benmamoun, E. 1999. Arabic morphology: The central role of the imperfective. *Lingua*, 108: 175-201.
- Benmamoun, E. 2000. *The Feature Structure of Functional Categories: A Comparative Study of Arabic Dialects*. Oxford University Press. New York.
- Comrie, Bernard. 1976. *Aspect*. Cambridge University Press. New York.
- Comrie, B. 1985. *Tense*. Cambridge University Press. New York.
- Demirdache, Hamida. 1989. Nominative NPs in Modern Standard Arabic, Ms, MIT.
- Demirdache, H., Uribe-Etxebarria, M. 2007. Economy constraints on temporal subordination. In: Saussure, Louis de; Moeschler, Jacques; Puskás, Genoveva (eds). *Recent Advances in the Syntax and Semantics of Tense, Aspect and Modality*. Berlin, New York: Mouton de Gruyter: 169-192.

- Diesing, M., Jelinek, E. 1995. Distributing Arguments. *Natural Language Semantics*. 123-176.
- Fassi Fehri, A. 1993. *Issues in the Structure of Arabic Clauses and Words*. Kluwer, Dordrecht.
- Fassi Fehri, A. 2000/2004. 'Temporal/aspectual interaction and variation across Arabic heights.' *The Syntax of Time*, Jacqueline Gueron & Jacqueline Lecame (eds.) 235-257. The MIT Press. Cambridge MA.
- Fassi Fehri, A. 2012. *Key Features and Parameters in Arabic Grammar*. John Benjamins.
- Giorgi, Alessandra & Pianesi, Fabio. 1997. *Tense and Aspect*. Oxford: OUP.
- McCarthy, J. 1979. Formal Problems in Semitic Phonology and Morphology. Ph.D. thesis, MIT.
- McCarthy, J. 1981. A Prosodic Theory of Non-concatenative Morphology. *LI*. 12:373-118.
- Ouali H., Fortin C. 2005. The Syntax of Complex Tense in Moroccan Arabic. *Perspectives in Arabic Linguistics XIX*. Abbas Benmamoun (ed.). 289: 175-190. John Benjamins Publishing.
- Reichenbach, H. 1947. *Elements of Symbolic Logic*. MacMillan, New York.
- Ryding, K. 2005. *A Reference Grammar of Modern Standard Arabic*. CUP.
- Shlonsky, Ur. 1997. *Clause Structure and Word Order in Hebrew and Arabic: An Essay in Comparative Semitic Syntax*. Oxford University Press. New York.
- Sigurðsson, H. Á. 2004. The syntax of Person, Tense, and speech features. *Italian Journal of Linguistics* 16:219–251
- Sigurðsson, H. Á. 2012. Thoughts on cartography and universality. Luigi Rizzi's 60th Birthday Celebration.
- Sigurðsson, H. Á. & A. Holmberg. 2008. Icelandic Dative Intervention: Person and Number are distinct probes. In *Agreement Restrictions*, ed. by R. D'Alessandro et al., 251–279. Berlin: Mouton de Gruyter.
- Soltan, Usama. 2007. 'On Formal Feature Licensing in Minimalism: Aspects of Standard Arabic Morphosyntax'. Ph.D dissertation, University of Maryland, College Park.
- Stowell, Tim. 1996. 'The Phrase Structure of Tense'. *Phrase Structure and the Lexicon*, ed. by Johan Rooryck & Laurie Zaring. Dordrecht: Kluwer.
- Stowell, T. 2005. 'The syntactic expression of tense'. *Lingua* 117: 437-463.
- Talay, Shabo. 2001. 'Der Arabische Dialekt von Hasköy (Der Khas), Ostanatolien. I. Grammatische Skizze, *Zeitschrift für arabische Linguistik* 40.71-89.
- Travis, A. 1979. Inflectional Affixation in Transformational Grammar: Evidence from the Arabic Paradigm. Ph.D. Thesis. University of Puerto Rico.
- Vikner, Sten. 1985. 'Reichenbach Revisited: One, Two or Three Temporal Relations.' *Acta Linguistica, Hafniensia*. 58-101.

APPENDIX

The Auxiliary KAN

The incompatibility of *kan* with a verb that has the Perfective (pfv) form (cf. (11=40)) shows that this auxiliary carries some aspectual information.

- (40) **(bahalče) kan (kə)-nam, le git*
 already be.3M PAST-slept.3M that came.2M

Unlike *kə-*, which is compatible with the imperfective and perfective (cf. (5) and (10) respectively), it occurs only with verbs that express imperfective. In (40), the thematic verb expresses perfective past tense, which rules out its embedding under the copular auxiliary. If the verb were absent of aspectual information, the expectation would be that this auxiliary should freely collocate with either Aspect (imperfective or perfective). This is similar to English, where the auxiliary is inflected with perfective, but the thematic verb is in the participle form, as illustrated in (41). Different from English, in such constructions, the participle, i.e. the ‘default’ imperfective, must be preceded by the tense marker *kə-*.

- (41) He was playing the piano.

As mentioned earlier, aspect is morphologically encoded by the position and phonological realization of the agreement marking on the verb. Hence one could argue that since the copular is in the perfective form, it should project an AspP, and hence VP, where it is base-generated.

The verbal auxiliary also carries temporal information because it is inflected for tense (cf. (1b) and (8) along with other examples). (8), repeated here as (42), demonstrates that when the copular auxiliary is overtly realized, the main verb must have the imperfective form.

- (42) *kan kə-ya-yel. (*kə-ayal)*
 be.PAST-3M PAST-3M-eat
 ‘He was eating.’

The use of *kan* is in fact more restricted in that it is not compatible with all imperfective verbs, but only a subsection of them. This auxiliary cannot appear with *stative* verbs, as exemplified in (43) and (44), a fact which is another piece of evidence that *kan* interacts with the aspectual content of the thematic verb. Hence, I will analyze this constituent as a tense marker that also subcategorizes for certain aspectual forms, tentatively, progressive (or durative).

- (43) a. **kan kə-irill-u* b. *kə-irill-u.*
 aux.PAST PAST-want-3M PAST-want-3M
 ‘He wanted.’ ‘He wanted.’
- (44) a. **ku y-are* b. *y-are*
 aux.PRES 3M-know 3M-know
 ‘He knows.’ ‘He knows.’

The selectional restrictions of the verbal auxiliary *kan* can be schematized as follows:

- (45) *kan kə-V [+impf, +prog]*
 └──────────┘