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THE SYNTACTIC DISTRIBUTION OF MSA MODALS: A STRUCTURAL SPLIT

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ABSTRACT

The paper examines the morphosyntactic and distributional properties of thirteen Modern Standard Arabic (MSA) modal auxiliaries, focusing on their classification, selectional patterns, and interaction with negation. The analysis reveals distinct morphosyntactic characteristics, including inflectional variations, agreement behavior, complement structures, and interactions with tense heads and features. These properties show that MSA modal auxiliaries do not form a morphosyntactically uniform class. Instead, they exhibit systematic differences in their syntactic distribution and structural behavior, particularly with respect to complement selection and scope relations. The study advocates for a structural split between Verbal Modals (VMs), which select for a CP complement and originate within the vP domain, and Modals (Ms), which originate within the MP, higher than and select for TP. The proposed analysis draws support from several syntactic diagnostics, including the distributional contrast between the two classes, their semantic and syntactic interaction with negation, and asymmetries in φ-features agreement. The analysis contributes to a deeper understanding of the structural asymmetries of Arabic modals and their implications for linguistic theory, especially regarding the syntax of modality, complement selection, and structural encoding of scope relations. More broadly, it offers insight into how modality may be syntactically encoded in typologically distinct languages, supporting approaches that derive interpretive differences from hierarchical syntactic structure rather than surface ordering alone.

KEYWORDS: Modal Auxiliaries, Distribution, Complementation, Negation, Tense, Agreement.

1. INTRODUCTION

Modality has long been a central focus in linguistic research, particularly in semantic and syntactic investigations. "Since the work of von Wright (1951), the degrees and kinds of semantic modality have been investigated [cross-linguistically] in many ways", yet its precise definition and characterization continue to be matters of ongoing debate; "there is no consensus on how to define and characterize it, let alone on how to apply definitions in the empirical analysis of data" (Alzahrani, 2013, p.13). Nevertheless, modality integrates both *lexical meaning* and *functional properties* into the grammatical system. Broadly speaking, modality reflects the speaker's commitment, stance, opinion, judgment, or attitude towards a given proposition; it encodes notions of *necessity*, *probability*, *possibility*, *ability*, etc. (Dixon, 2005). Linguistically, these notions are realized in the world's languages through diverse grammatical mechanisms, including modal auxiliaries (1), as well as semi-modal adverbs (2), adjectives (3), and nouns (4).

1) John will go.
2) He would surely go.
3) It is necessary for him to go.
4) There is a possibility that he might fail the exam.

Syntactically, constructions like (1) have received extensive analysis since the mid-seventies, during which the syntactic category (M)odal was introduced to represent modal auxiliaries (cf. Chomsky, 1965; 1975; 1981; Emonds, 1985; Jackendoff, 1972). Nevertheless, modal auxiliaries in different languages exhibit considerable discrepancies in their morphosyntactic behavior (cf. Kayne, 1975; Ouhalla, 1991; Picallo, 1990; Pollock, 1989; Radford, 1997, 2009; Rivero, 1994). In light of this variation, the present paper specifically investigates modal auxiliaries in Modern Standard Arabic (MSA) (henceforth, Arabic), with the aim of analyzing their morphological and distributional properties and proposing a syntactic account of their structural properties in the hierarchical structure of Arabic clauses. While Arabic modals share certain properties with their English counterparts, they also exhibit distinctive morphosyntactic features, including inflectional variation and different complement structures.

This contrast is of particular theoretical interest, as it highlights how typologically different languages encode modality through both shared and language-specific syntactic strategies. Not only does such variation enrich our understanding of modality as a grammatical category, but it also provides empirical grounds for evaluating crosslinguistic generalizations about the structure of modal expressions. Arabic, in this regard, offers a particularly revealing case and a testing ground for crosslinguistic generalizations about the structural realization and syntactic placement of modals. By identifying how Arabic modals diverge from their English counterparts, especially in terms of distributional patterns, inflectional behavior, and agreement, this study contributes to a more nuanced account of the syntactic realization of modality across languages.

Modality expresses notions such as *necessity* and *possibility*, which vary not only in quantificational force (e.g., universal vs. existential) but also in modal flavor (e.g., epistemic, deontic, and dynamic), reflecting meanings such as *obligation*, *ability*, *probability*, etc. (Kratzer, 1991). Based on these categories, this study focuses on thirteen Arabic modal auxiliaries: *ja-statˤiːʕ* and *ja-qdir* "can", *jumkin*, *juħtamal*, *qad*, *rubama* "may", *jadʒuːz* "can", *sawfa* (*sa-*) "will", *janbaʁiː* "should", *jadʒib* and *jalzam* "must", and *juftaradˤ* "should"[1]. Apart from the particle *sa-* "will", these models are morphologically independent (i.e., non-bound) morphemes and syntactically precede the verbs they select as complements.

Section (2) reviews the morphological, distributional, and syntactic properties of Arabic modals, with a particular focus on their selectional requirements and interactions with negation. Section (3) proposes a syntactic analysis that illustrates the structural positions of different modal auxiliaries within Arabic clauses. Finally, section (4) concludes by summarizing the key findings and their implications for the syntactic theory of Arabic.

2. MORPHOSYNTACTIC AND DISTRIBUTIONAL PROPERTIES

Although Arabic modal auxiliaries exhibit some common properties similar to their English counterparts, they also display a range of distinguishing morphological, syntactic, and distributional characteristics, as follows:

[1] This modal set is not exhaustive; however, the analysis advocated here is assumed to extend to the morphosyntactic and distributional behavior of other modal auxiliaries in MSA.

A) Like English, many Arabic modal auxiliaries appear in present or past forms (more precisely, *imperfective* and *perfective* forms, respectively), while others have *frozen forms* (i.e., they are only limited to the *imperfective*). To illustrate, while modals such as *jadʒib* and *jalzam* "must" appear in both forms, a modal such as *janbaʁi:* "should" lacks a perfective counterpart, as illustrated in the following examples[2].

5) jadʒib-u / wadʒab-a ʔan ja-ðhab-a Fahd-un.
must-INV.IMP.IND *must*-INV.PER *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad must / had to go.
6) jalzam-u / lazim-a ʔan ja-ðhab-a Fahd-un.
must-INV.IMP.IND *must*-INV.PER *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad must / had to go.
7) janbaʁi: / *inbaʁa: ʔan ja-ðhab-a Fahd-un.
should.INV.IMP.IND *should*.INV.PER *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad has to go.

B) Unlike their English counterparts, certain Arabic modals can occur in non-finite environments. This is evident in (8), which contrasts with the ungrammatical English counterpart in (9).

8) ju-rid-u Fahd-un ʔan **ja-statˁi:ʕ-a** ʔan
3-*want*-M.SG.IMP-IND *Fahad*-M.NOM *that* 3-*can*.M.SG-IMP.SUB *that*
ja-ðhab-a.
3-*go*-M.SG.IMP.SUB
Fahad wants to be able to go.
9) *John wants to can go.

C) In contrast to English, a subset of Arabic modal auxiliaries inflects for subject-verb agreement, which aligns with the agreement asymmetry observed with regular lexical verbs in Arabic. The verb shows full φ-agreement (i.e., person, number, and gender) in subject-verb (SV), but partial agreement (i.e., no number) in VS order, as shown in (10) and (11), respectively:

10) ʔal-ʔawlad-u ja-statˁi:ʕ-u:n ʔan ja-ðhab-u.
the-boys-NOM 3-*can*-M.PL.IMP.IND *that* 3-*go*-M.PL.IMP.SUB
The boys can go.
11) ja-statˁi:ʕ-u ʔal-ʔawlad-u ʔan ja-ðhab-u.
3-*can*-M.SG.IMP.IND *the-boys*-NOM *that* 3-*go*-M.PL.IMP.SUB
The boys can go.

Such behavior can be taken to indicate that certain Arabic models are structurally integrated into the verbal spine, rather than functioning solely as external functional heads. In this respect, they pattern more closely with lexical verbs than with English modals, which are typically treated as raising verbs or functional projections lacking agreement. Agreement patterns, therefore, constitute an important empirical consideration that will be revisited in the syntactic analysis proposed in the following section.

D) While English modals subcategorize for bare infinitive verb forms, Arabic modal auxiliaries may subcategorize for finite verbal forms, as illustrated in (12) – (15), where the subcategorized verb surfaces with mood-marked imperfective morphology and shows subject agreement.

12) juħtamal-u ʔan ja-ðhab-a Fahd-un.
may-INV.IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad may go.
13) jumkin-u ʔan ta-ðhab-a Hind-un.
may-INV.IMP.IND *that* 3-*go*-F.SG.IMP.SUB *Hind*-M.NOM
Hind may go.
14) ja-statˁi:ʕ-u ʔal-ʔwlad-u ʔan ja-ðhab-u.
3-*can*.M.SG-IMP.IND *the-boys*-NOM *that* 3-*go*-M.PL.IMP.SUB
The boys can go.
15) ta-statˁi:ʕ-u ʔal-fataj-a:t-u ʔan ja-ðhab-na.
3-*can*.F.SG-IMP.IND *the-girl*-PL-NOM *that* 3-*go*-F.PL.IMP.SUB
The girls can go.

E) Like English, Arabic modals can be directly negated by a negative particle, as in (16) below.

16) la: janbaʁi: ʔan ja-ðhab-a Fahd-un.
Not.PRT *should*.INV.IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad does not have to go.

F) Modal auxiliaries in Arabic, unlike in English, do not undergo subject-auxiliary inversion in interrogative clauses. Interrogative structures are formed using a morphological interrogative marker such as *hal* or *ʔa* "can/shall".

G) Syntactically, Arabic modal auxiliaries fall into five paradigms with respect to their complement selection. A modal such as *qad* "may" or *sawfa* "will" only selects a VP complement, as shown in (17) below. The second paradigm includes modal auxiliaries (e.g., *juħtamal* "may") that only subcategorize for a CP complement, as shown in (18).

17) qad ja-ðhab-u Fahd-un.
might.INV 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad might go. M → VP

[2] The features used in Arabic glossing are as follows:
- **Case: NOM**inative, **ACC**usative & **GEN**itive
- **φ-features:** Default (**INV**ariant), Person (**3**rd), Number (**SG** & **PL**), & Gender (**M** & **F**)
- **Tense:** Past (**PST**), Present (**PRT**), & Future (**FUT**)
- **Aspect: PER**fective & **IMP**erfective
- **Mood: IND**cative, **SUB**junctive & **JUS**sive

18)juħtamal-u ʔan ja-ðhab-a Fahd-un.
may-INV.IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad may go. M → CP

The third paradigm includes models (e.g., *rubama* "may") that can subcategorize for either a VP or a PP[3] complement (plus a CP or verbal noun (VN)), as shown below:

19)rubama ja-ðhab-u Fahd-un.
might-INV 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad might go. M → VP
20)rubama ʕala: Fahd-in ʔan ja-ðhab-a.
might-INV *upon* *Fahad*-M.GEN *that* 3-*go*-M.SG.IMP.SUB
Fahad may need to go. M → PP + CP
21)rubama ʕala: Fahd-in ʔa-ðahab-u.
might-INV *upon* *Fahad*-M.GEN *the-going*-NOM
Fahad may need to go. M → PP + VN

The fourth paradigm includes modal auxiliaries (e.g., *jumkin* "may") that can subcategorize for either a CP or a PP complement.

22)jumkin-u ʔan ja-ðhab-a Fahd-un.
may-INV.IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad may go. M → CP
23)jumkin-u li Fahd-in ʔan ja-ðhab-a.
may-INV.IMP.IND *for* *Fahad*-M.GEN *that* 3-*go*-M.SG.IMP.SUB
It is possible for Fahad to go. M → PP + CP
24)jumkin-u li Fahd-in ʔa-ðahab-u.
may-INV.IMP.IND *for* *Fahad*-M.GEN *the-going*-NOM
It is possible for Fahad to go. M → PP + VN

The final paradigm includes modals (e.g., *ja-statˤi:ʕ* "can") that are followed either by a CP complement or a verbal noun.

25)ja-statˤi:ʕ-u ʔan ja-ðhab-a Fahd-un.
3-*can*.M.SG-IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad can go. M → CP
26)ja-statˤi:ʕ-u Fahd-un ʔa-ðahab-a.
3-*can*.M.SG-IMP.IND *Fahad*-M.NOM *the-going*-ACC
Fahad can go. M → VP

These distinct selectional behaviors may suggest that modal auxiliaries in Arabic are not syntactically homogeneous or uniformly occupying a single Modal Phrase (MP). Rather, they may appear to be associated with different structural positions in the clause, depending on whether they select for verbal projections, clausal projections, or verbal nouns. This diversity raises the possibility that modals do not all head a uniform MP and instead invites a more articulated syntactic analysis that can account for their selectional variability.

Overall, modality in Arabic encodes various semantic concepts, such as necessity, probability, possibility, and ability. This section outlines the morphological, syntactic, and distributional properties of thirteen Arabic modals. These auxiliaries are typically non-bound morphemes that precede and govern verbs. They can be divided into three categories: (I) those that never inflect for subject-verb agreement (27), (II) those that can optionally co-occur with a clitic pronoun (28), and (III) those that must inflect for subject-verb agreement (29). The majority of Arabic modal auxiliaries belong to the first group. These modals are *juħtamal*, *qad* and *rubama* "may", *jadʒu:z* "can", *sawfa* (*sa-*) "will", *janbaʁi:* "should", *jadʒib* and *jalzam* " must", and *juftaradˤ* "should". The second group only includes *jumkin* "may" and *jalzam* "must". The last group includes only *ja-statˤi:ʕ* and *ja-qdir* "can".

27)ʔal-banat-u jadʒib-u / *jadʒib-na ʔan
the-girls-NOM *must*-INV.IMP.IND *must*-3.F.PL.IMP.IND *that*
ja-ðhab-na.
3-*go*-F.PL.IMP.SUB
The girls must go.
28)ʔal-banat-u jalzam-u / jalzam-u-hunna ʔan
the-girls-NOM *must*-INV.IMP.IND *must*-INV.IMP.IND-*them*.F *that*
ja-ðhab-na.
3.*go*.F.PL.IMP.SUB
The girls must go.
29)ʔal-banat-u *ta-statˤi:ʕ-u / ja-statˤi:ʕ-na ʔan
the-girls-NOM 3-*can*-F.SG.IMP.IND 3-*can*-F.PL.IMP.IND *that*
ja-ðhab-na.
3-*go*-F.PL.IMP.SUB
The girls can go.

In addition, as indicated earlier, not all modals can appear in the perfective form. For instance, *qad* and *rubama* "may", *sawfa* (*sa-*) "will", and *janbaʁi:* and *juftaradˤ* "should" lack perfective forms, but can still appear in past-oriented constructions when combined with the Arabic copula *ka:na* "BE".

30)ka:na janbaʁi: / juftaradˤ-u ʔan
be-3.M.SG.PER *should*.INV.IMP.IND *should*-INV.IMP.IND *that*
ja-ðhab-a Fahd-un.
3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad should have gone / was supposed to go.
31)rubama ka:na ja-ðhab-u Fahd-un.
might-INV *be*-3.M.SG.PER 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad might have been going.

[3] The preposition in these constructions may take either a CP complement or a verbal noun. Following traditional Arabic grammarians, this paper assumes the verbal noun is morphologically derived from the CP. Additionally, modals that subcategorize for PP complements differ in the preposition they select (e.g., ʕala "upon" vs. li "for") and in whether it is obligatory when the complement is a verbal noun.

32)ka:na sa-ja-ðhab-u Fahd-un.
be-3.M.SG.PER *will*-3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad was going to go.

This strategy of employing the past-tense copula with an imperfective modal seems to parallel crosslinguistic mechanisms for expressing counterfactual or past modality. It effectively shifts the temporal reference without requiring aspectual inflection on the modal itself, a pattern that may reflect constraints on the morphological realization of tense within modal contexts.

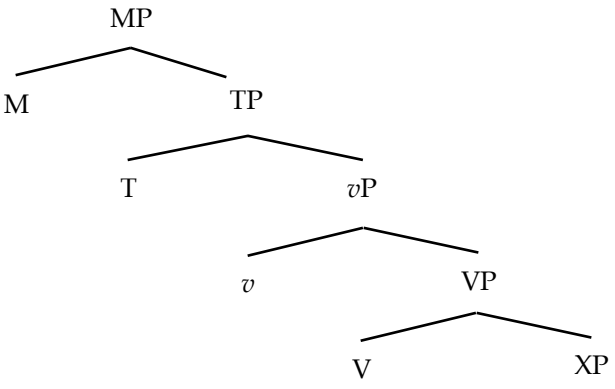
Having established the empirical and descriptive groundwork for the syntactic analysis, the following section presents a tenable account of the Arabic modals discussed in this paper, aiming to explain their structural positions and to consider their theoretical implications for the clause structure in Arabic.

3. A SYNTACTIC SPLIT: MODALS VS. VERBAL MODALS

As demonstrated in the previous section, Arabic modal auxiliaries show discrepancies in their morphological, syntactic, and selectional properties. In view of these observations, the present paper argues that these models can be classified into two distinct groups: those that subcategorize for a CP headed by the complementizer *ʔan,* and those that subcategorize for a TP[4]. This classification is motivated not only by the syntactic configurations these modals select but also by their interaction with other functional heads, notably negation, and their morphological paradigms, which together suggest that their distribution may be sensitive to tense and aspectual environments. Accordingly, this paper proposes that these modals originate in separate positions within the hierarchical structure.

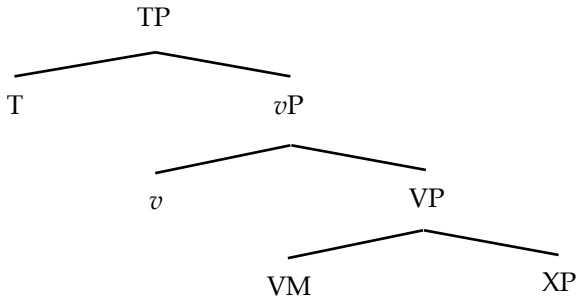
In particular, the analysis assumes that Arabic models are not uniformly generated in a single fixed syntactic position; rather, they originate in different syntactic positions, depending on their selectional properties. Modals that subcategorize for a CP (henceforth, verbal modals [VMs]) are assumed to originate within *v*P, whereas those that subcategorize for a TP (henceforth, modals [Ms]) originate in a higher projection within the MP. All models, with the exception of *qad* and *rubama* "may", and *sawfa* (*sa*-) "will", subcategorize for a CP. Consequently, these three modal auxiliaries are posited to originate in MP, as schematically illustrated in (33). In contrast, the remainder originate in *v*P like other verbs, as depicted in (34) (irrelevant nodes or layers are omitted). It is further assumed that these three models, compared to Arabic verbal modals, are drawn from the numeration already specified as [+M], akin to English modals, and carry a [*u*V] feature. In this respect, the presence of the [*u*V] feature entails that these modals require a verbal complement for their valuation, aligning them with the general properties of auxiliaries cross-linguistically. Moreover, the specification as [+M] suggests that they inherently contribute modal meaning. What distinguishes verbal modals from other regular Arabic verbs is that the former, as noted, encode a sense of modality.

33)



[4] PP complements subcategorized by some models are not analyzed here for two reasons. First, as shown earlier and noted in footnote (3), these PPs must occur with a CP or a derived verbal noun. Second, these PP constructions primarily serve a pragmatic function by emphasizing the prepositional object, which lies outside the scope of the present syntactic analysis.

34)



The clause structures proposed above for both types of models are motivated by three primary arguments: (I) complementary distribution, (II) the scope of negation, and (III) the structural position of negation. Each of these arguments draws upon distinct types of empirical evidence, including native-speaker judgments of (un)grammaticality, observed scope relations between modals and negation, and the morphosyntactic realization of negation. Together, they provide converging support for the analysis proposed here.

3.1. Complementarity And Scope Relations

First, modal auxiliaries of the same type, either two VMs or two Ms, cannot co-occur within the same clause, as demonstrated by the ungrammaticality of (35) and (36). This restriction suggests that modal auxiliaries of the same class compete for a syntactic position. Interestingly, however, modals and VMs can co-occur together, as illustrated in (37), indicating that they originate in distinct structural positions.

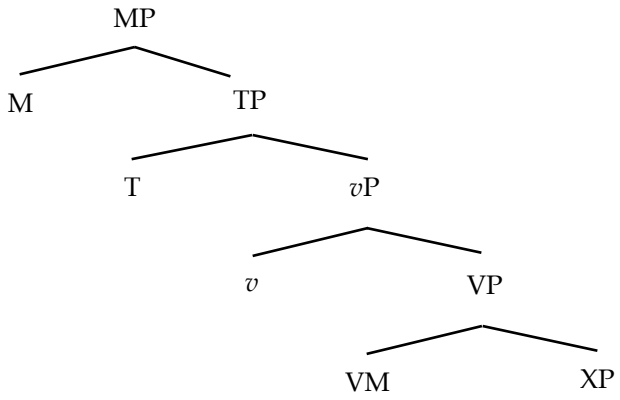
35)*jadʒib-u ja-statˤi:ʕ-u ʔan ja-ðhab-a Fahd-un.
must-INV.IMP.IND 3-*can*-M.SG.IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad has to can go.

36)*qad rubama ja-ðhab-u Fahd-un.
might.INV *might*.INV 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad might could go.

37)qad / rubama / sawfa jadʒib-u ʔan
might.INV *might*.INV *will* *must*-INV.IMP.IND *that*
ja-ðhab-a Fahd-un.
3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad might / will have to go.

This distributional contrast provides initial empirical support for the proposal that VMs are generated within *v*P, while Ms originate in a higher projection, namely MP, as illustrated below:

38)



Second, the claim that VMs are generated within *v*P, whereas modals are generated in MP, draws support from their distribution relative to the negative particles *la:* "not" and its tensed variants, *lan* "not$_{future}$" and *lam* "not$_{past}$"[5]. Distributionally, the two classes of modals behave differently in combination with these negative particles, as shown in the following examples:

[5] These three negative particles occur with different moods: indicative, subjunctive, and jussive, respectively.

- **VMs subcategorizing for CP:**

39) la: ja-statˤi:ʕ-u / ja-qdir-u ʔan ja-ðhab-a
not.PRT 3-*can*.M.SG-IMP.IND 3-*can*.M.SG-IMP.IND *that* 3-*go*-M.SG.IMP.SUB
Fahd-un.
Fahad-M.NOM
Fahad cannot go.

40) lan ja-statˤi:ʕ-a / ja-qdir-a ʔan ja-ðhab-a
not.FUT 3-*can*.M.SG-IMP.SUB 3-*can*.M.SG-IMP.SUB *that* 3-*go*-M.SG.IMP.SUB
Fahad-un.
Fahad-M.NOM
Fahad will not be able to go.

41) lam ja-statˤiʕ / ja-qdir ʔan ja-ðhab-a
not.PST 3-*can*.M.SG.IMP.JUS 3-*can*.M.SG.IMP.JUS *that* 3-*go*-M.SG.IMP.SUB
Fahad-un.
Fahad-M.NOM
Fahad could not go.

42) la: jadʒib-u / jalzam-u ʔan ja-ðhab-a
not.PRT *must*-INV.IMP.IND *must*-INV.IMP.IND *that* 3-*go*-M.SG.IMP.SUB
Fahad-un.
Fahad-M.NOM
Fahad does not have to go.

43) lan jadʒib-a / jalzam-a ʔan ja-ðhab-a
not.FUT *must*-INV.IMP.SUB *must*-INV.IMP.SUB *that* 3-*go*-M.SG.IMP.SUB
Fahad-un.
Fahad-M.NOM
Fahad will not have to go.

44) lam jadʒib / jalzam ʔan ja-ðhab-a
not.PST *must*.INV.IMP.JUS *must*.INV.IMP.JUS *that* 3-*go*-M.SG.IMP.SUB
Fahad-un.
Fahad-M.NOM
Fahad did not have to go.

- **Modals subcategorizing for TP:**

45) qad / rubama la: ja-ðhab-u Fahd-un.
might.INV *might*.INV *not*.PRT 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad might not go.

46) qad / rubama lan ja-ðhab-a Fahd-un.
might.INV *might*.INV *not*.FUT 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad may not have to go.

47) qad / rubama lam ja-ðhab Fahd-un.
might.INV *might*.INV *not*.PST 3-*go*.M.SG.IMP.JUS *Fahad*-M.NOM
Fahad may not have gone.

48) sawfa la: ja-ðhab-u Fahd-un.
will *not*.PRT 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad would not go.

49) sawfa lan ja-ðhab-a Fahd-un.
will *not*.FUT 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad will not go.

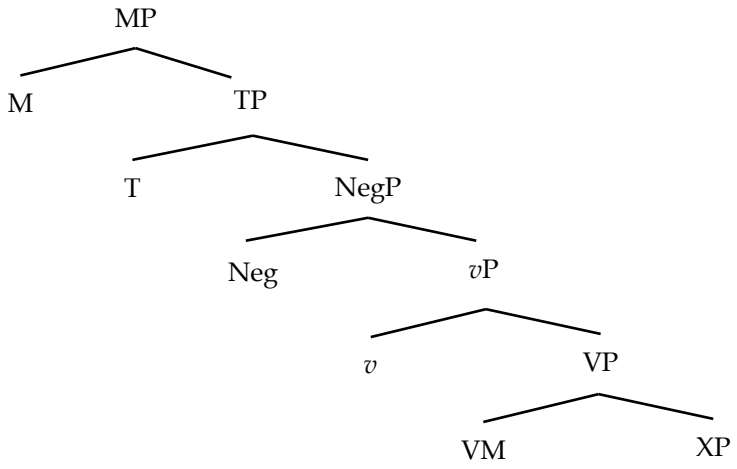
As can be seen from the distribution of the two types of modals, these negative particles consistently scope over VMs, whereas modals scope over these negative particles, as evidenced by the ungrammaticality of (50) and (51), in contrast to (42) and (45) above, respectively:

50) *jadʒib-u la: ʔan ja-ðhab-a Fahd-un.
must-INV.IMP.IND *not*.PRT *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad does not have to go.

51) *la: qad ja-ðhab-u Fahd-un.
not.PRT *might*.INV 3-*go*-M.SG.IMP.IND *Fahad*-M.NOM
Fahad might not go.

Interestingly, the above discussion suggests that these negations *la:*, *lan*, and *lam* are situated between MP and VP, more precisely above *v*P and below TP (Aoun, Benmamoun, & Choueiri, 2010; Benmamoun, 2000), as schematically represented in the syntactic structures below.

52)



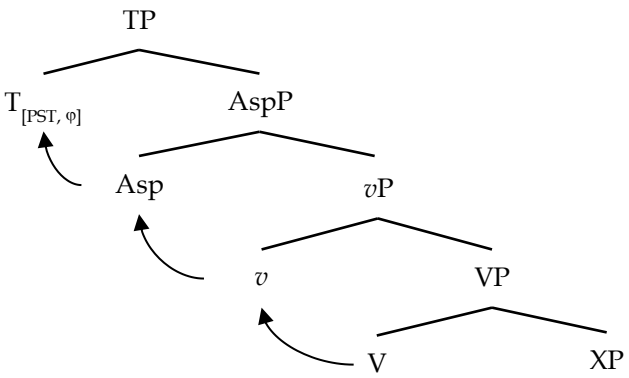
This structural configuration is further supported by the grammaticality of examples such as (53), where constituent negation occurs between the two types of modals, scoping over the VM, while the modal is scoping over the negation particle.

53) qad la: jadʒib-u ʔan ja-ðhab-a
might$_{INV}$ *not*$_{PRT}$ *must*$_{-INV.IMP.IND}$ *that* $_{3}$-*go*$_{-M.SG.IMP.SUB}$
Fahd-un.
Fahad$_{-M.NOM}$
Fahad may not have to go.

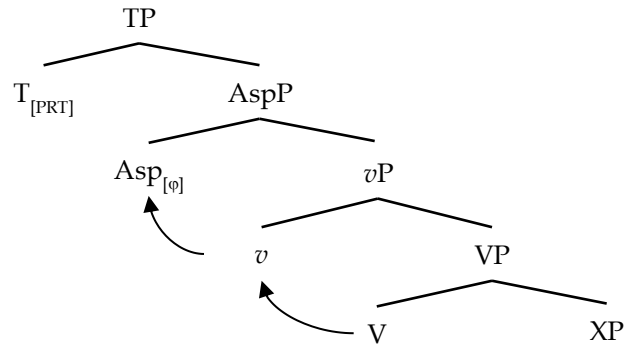
It is important to note that Arabic verbs can exhibit three (aspectual) tenses: perfective, imperfective, and future. However, in an appropriate context, (im)perfective verbal forms may dissociate from their temporal interpretation. Equally important, despite this dissociation between the verbal morphology and the clause tense, i.e., the fact that the (im)perfective verbs are found in various tense contexts, there has been a consensus that Arabic remains a tense language in which past and present tenses are not morphologically marked. Essentially, the contrast between past and present tenses (as well as other tenses and modalities) is derivational, achieved via the featural composition of the head T(ense) (Aoun et al., 2010; Benmamoun, 2000; Ouali, 2018; Soltan, 2007).

In simplified terms, whereas a past-tense clause mandates the overt raising of the lexical verb or negation to T (i.e., a head-to-head movement), a present-tense clause does not mandate such movement (Benmamoun, 2000; Ouhalla, 1991, 1993; Shlonsky, 1997; Soltan, 2007). According to Benmamoun (2000), past and present tenses are realized as null [+past] and [-past] morphemes on T, with the former requiring lexical support by either (a raised or in-situ) verb or negation. The prevailing view in the literature is that the movement of the verb or negation to T is driven by the presence or absence of a particular feature on T, either φ-features, as proposed by Soltan's (2007, 2011) mechanism, or a [+V] feature in the system of Aoun et al. (2010) and Benmamoun (2000). In either account, $T_{[+past]}$, unlike its $T_{[-past]}$ counterpart, carries the aforementioned feature, triggering verb movement. All things being equal, this paper adopts Soltan's φ-features analysis, as schematically represented in (54) and (55) for past and present, respectively[6].

54)



55)

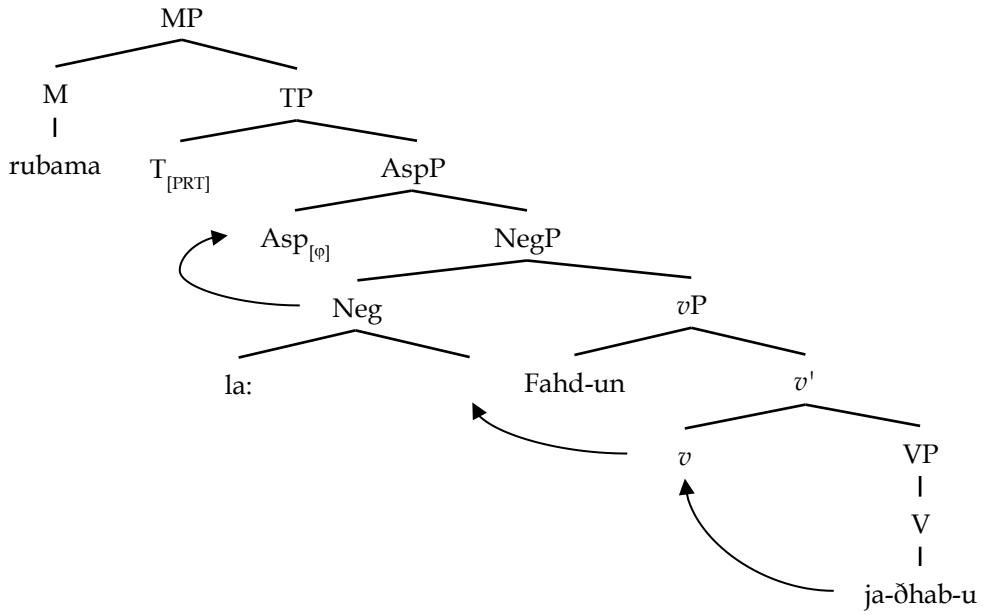


Accordingly, it is assumed that past and future tenses contain a [φ] feature that is checked by raising of the verb or negation to T, whereas the present tense lacks such a feature; hence, no V/Neg-to-T raising is needed. Along the way to T in past and future tense contexts, the verb adjoins

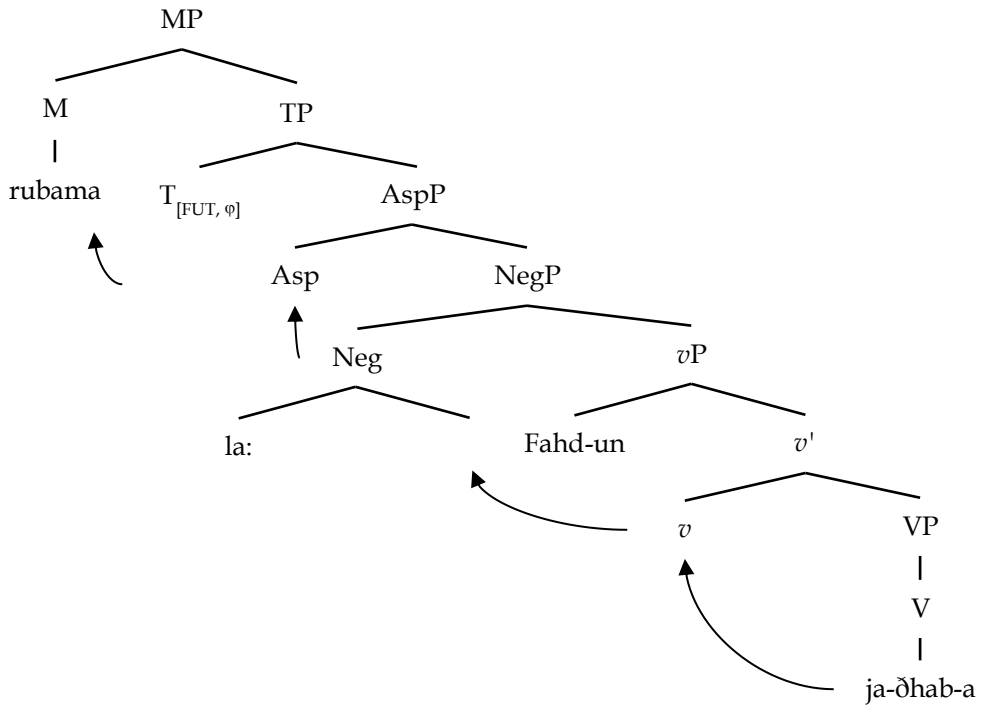
[6] In present tense contexts, the relevant feature is assumed to reside on the Aspect head, giving rise to the VS order.

to Neg, forming the complex [Neg+V], which subsequently moves to T (Benmamoun, 2000; Ouhalla, 1991, 1993; Shlonsky, 1997); consequently, the tense feature inflects on Neg, precluding the verb from doing so, as Neg heads the complex constituent. By contrast, in present tense contexts, [Neg+V] raises no further than the Asp, and both elements remain in their default (present/imperfective) forms. Such analysis accounts for examples such as (45) – (47), represented respectively below:

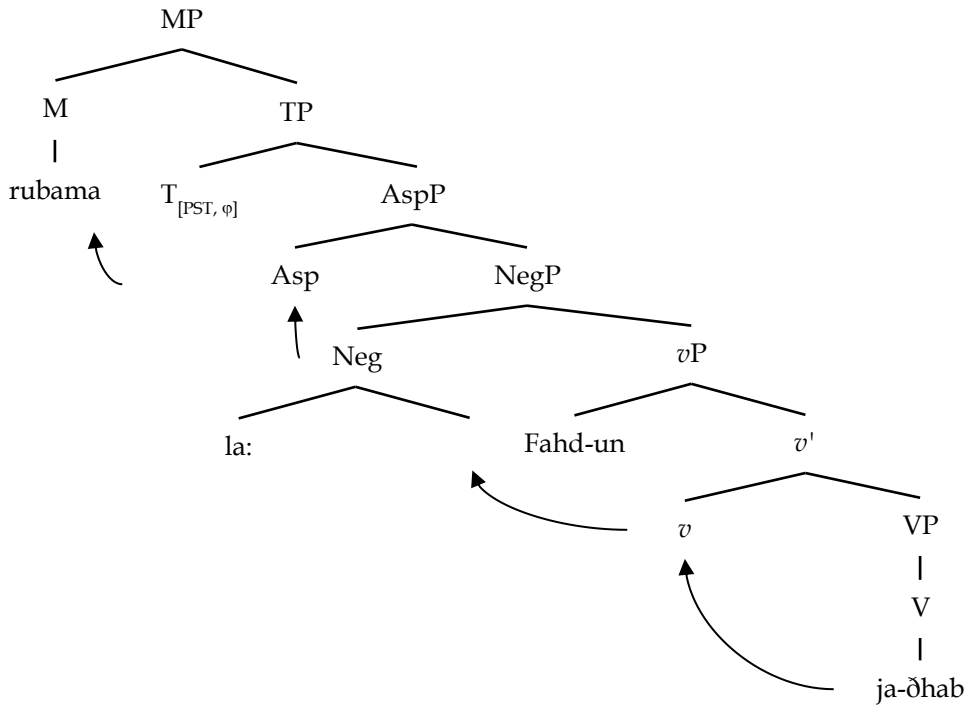
56)



57)



58)



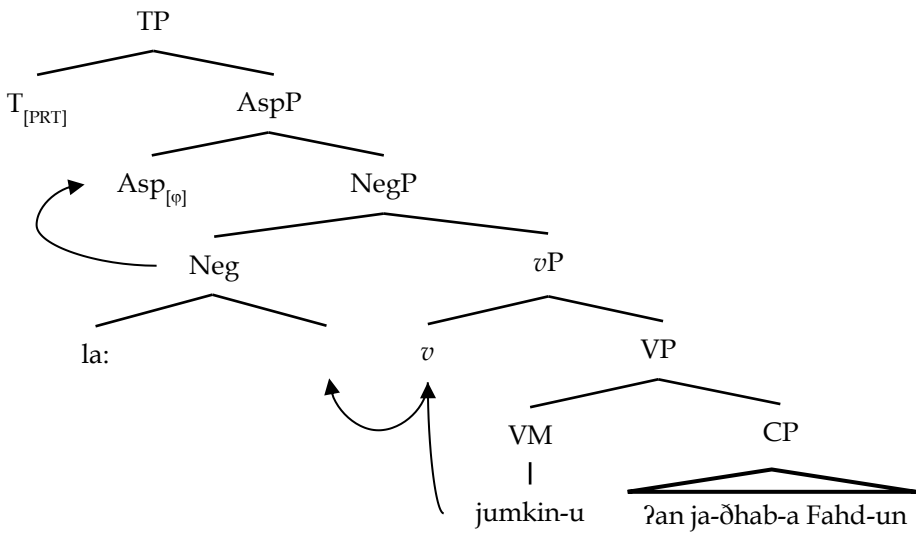
The proposed hierarchical structure also accounts for sentences in which VMs interact with these negative markers, as illustrated in (59) – (61) and represented structurally below. In the same manner as in (56) – (58), the VM *jumkin* raises to Neg, and the complex head raises to Asp in (62), whereas in (63) and (64), the whole complex continues raising to T to be inflected for tense.

59) la: jumkin-u ʔan ja-ðhab-a Fahd-un.
not.PRT *may*-INV.IMP.IND *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad cannot go.

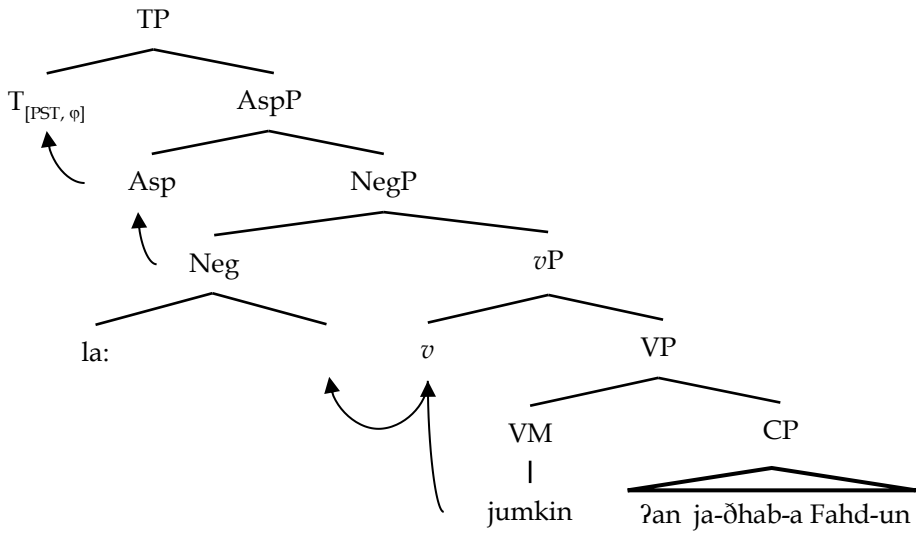
60) lan jumkin-a ʔan ja-ðhab-a Fahd-un.
not.FUT *may*-INV.IMP.SUB *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad will not be able to go.

61) lam jumkin ʔan ja-ðhab-a Fahd-un.
not.PST *may*.INV.IMP.JUS *that* 3-*go*-M.SG.IMP.SUB *Fahad*-M.NOM
Fahad could not go.

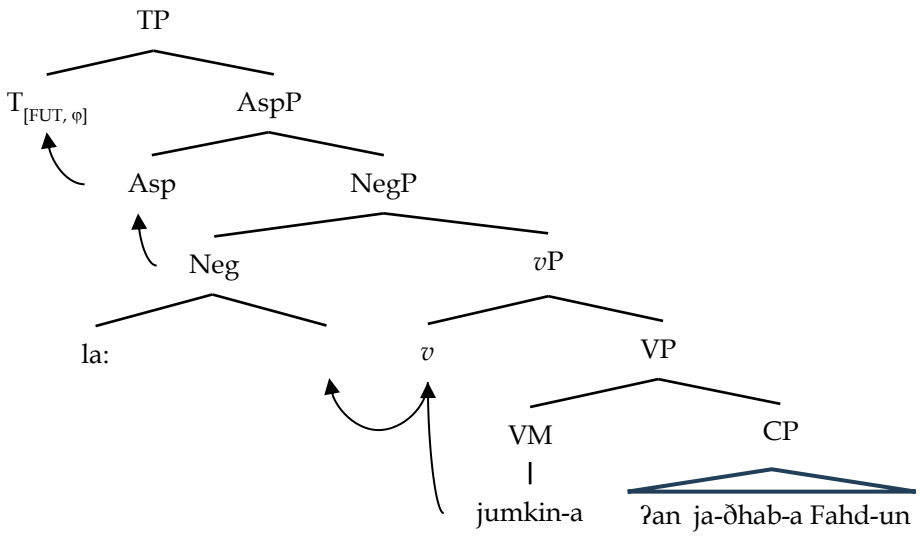
62)



63)



64)



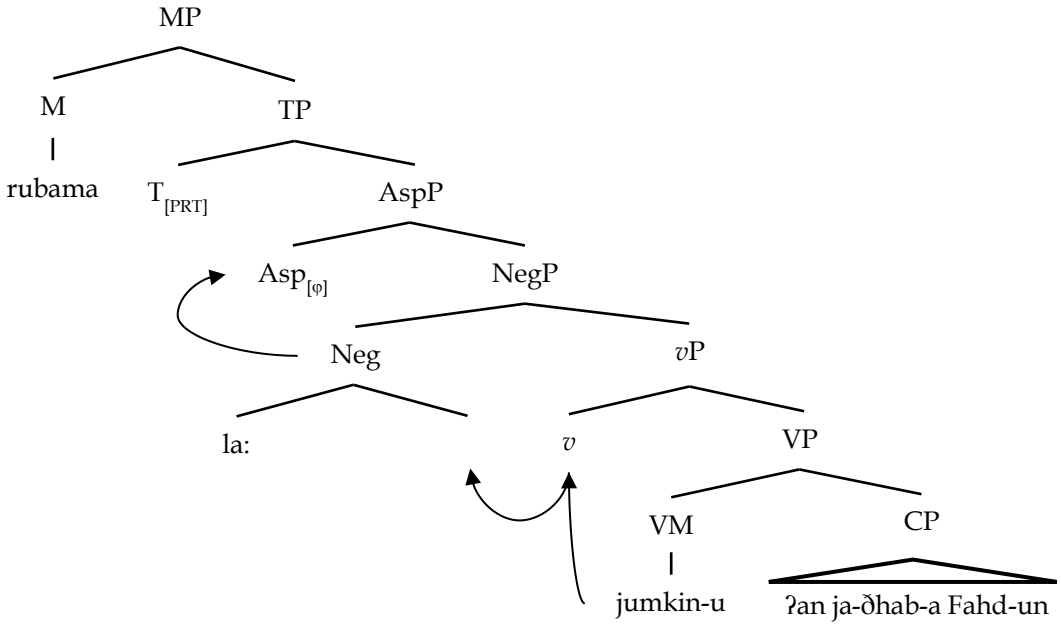
This analysis similarly accounts for cases where both modals and VMs interact with these tensed negative markers, as illustrated in (65) – (67), and represented structurally respectively:

65) rubama la: jumkin-u ʔan ja-ðhab-a
might$_{INV}$ *not*$_{PRT}$ *can*$_{-INV.IMP.IND}$ *that* $_{3}$-*go*$_{-M.SG.IMP.SUB}$
Fahd-un.
Fahad$_{-M.NOM}$
Fahad might not be able to go.

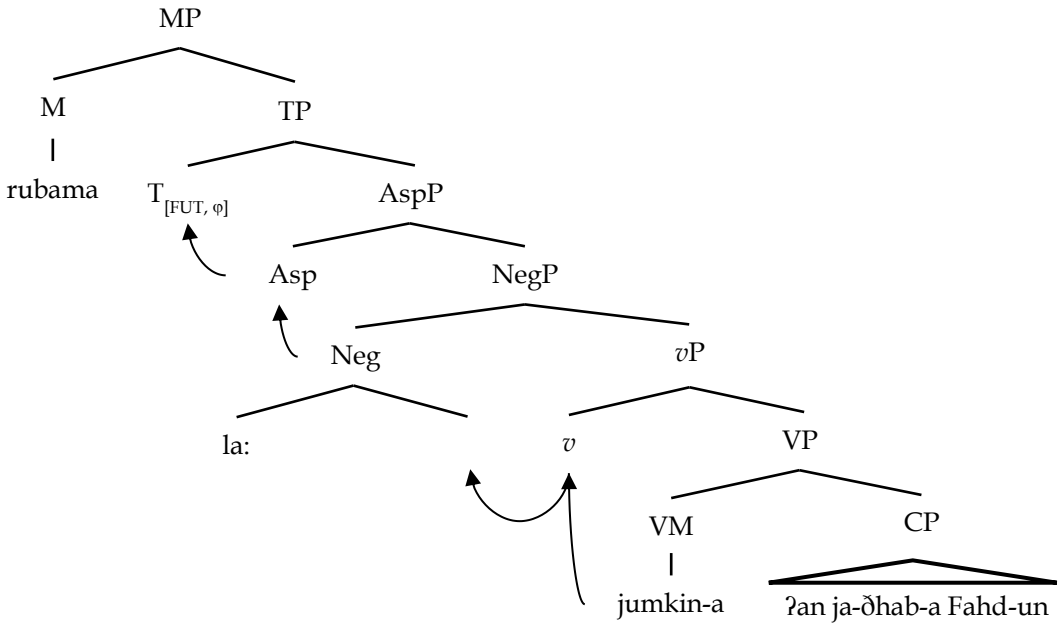
66) rubama lan jumkin-a ʔan ja-ðhab-a
might$_{INV}$ *not*$_{FUT}$ *can*$_{-INV.IMP.SUB}$ *that* $_{3}$-*go*$_{-M.SG.IMP.SUB}$
Fahd-un.
Fahad$_{-M.NOM}$
Fahad probably will not be able to go.

67) rubama lam jumkin ʔan ja-ðhab-a
might$_{INV}$ *not*$_{PST}$ *can*$_{INV.IMP.JUS}$ *that* $_{3}$-*go*$_{-M.SG.IMP.SUB}$
Fahd-un.
Fahad$_{-M.NOM}$
Fahad might not have been able to go.

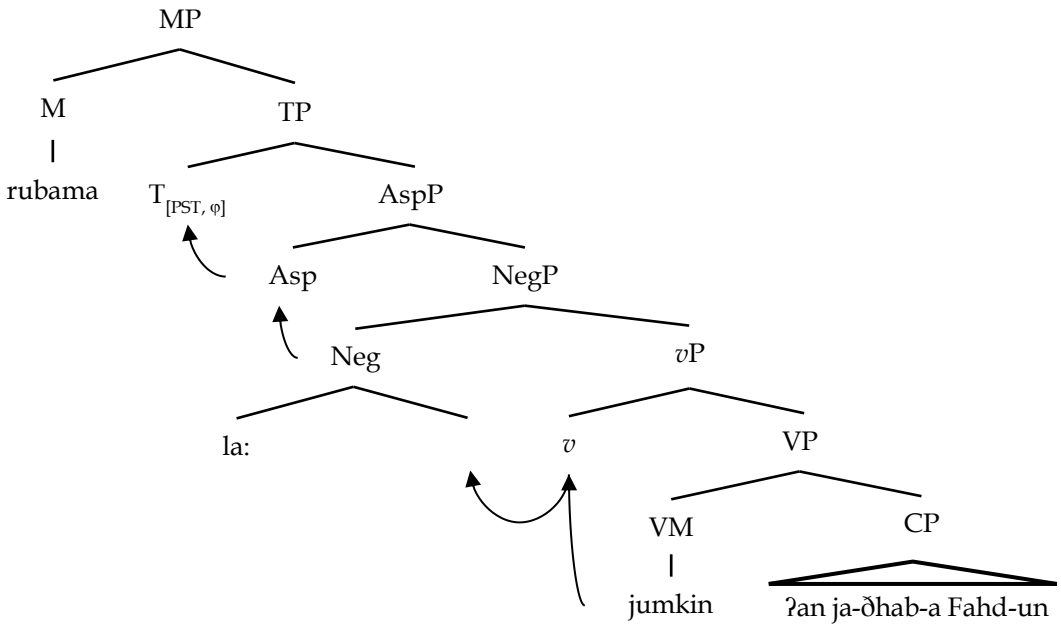
68)


MP
M
TP
rubama
T[PRT]
AspP
Asp[φ]
NegP
Neg
vP
la:
v
VP
VM
CP
jumkin-u
ʔan ja-ðhab-a Fahd-un

69)


MP
M
TP
rubama
T[FUT, φ]
AspP
Asp
NegP
Neg
vP
la:
v
VP
VM
CP
jumkin-a
ʔan ja-ðhab-a Fahd-un

70)



3.2. *Morphosyntactic Realization*

An additional observation supporting this syntactic distinction concerns the morphological behavior of the two modal classes. Specifically, the three models identified here as true Ms *qad, rubama,* and *sawfa* are limited to invariant forms. This lack of morphological alternation contrasts with the VMs, which appear in both perfective and imperfective forms. Such a contrast is consistent with the structural assumption that Ms occupy a higher projection above TP and therefore do not interact with T through head movement, whereas VMs, generated within *v*P, raise to T to satisfy tense-related feature checking. Consequently, the inflectional variability of VMs reflects their syntactic derivation, while the invariance of Ms provides further evidence for their distinct structural positions. Such morphological invariance is consistent cross-linguistically with the behavior of higher modals, further supporting the typological plausibility of this analysis.

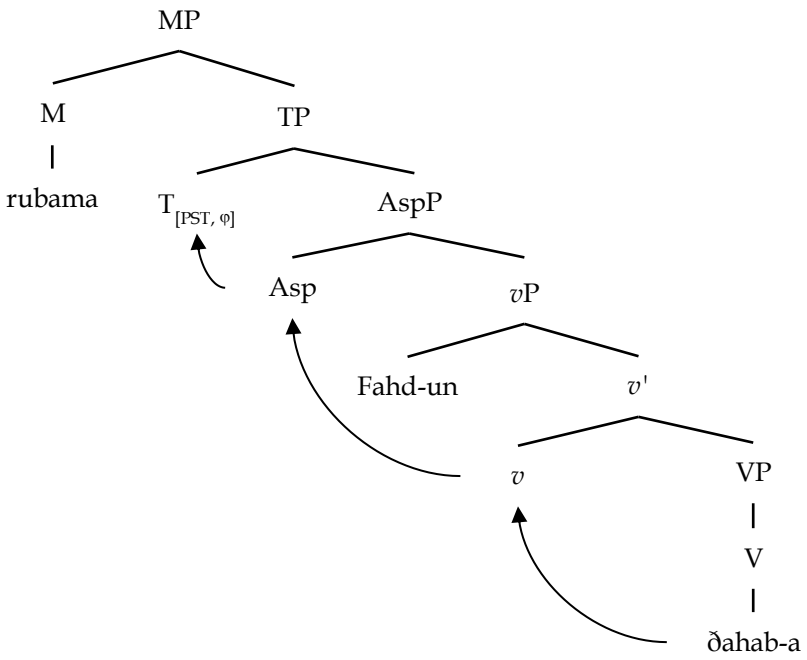
A further observation that supports the two proposed structural positions concerns the agreement behavior of Arabic modals. As indicated in section (2), a subset of Arabic modals inflects for subject–verb agreement, in line with the agreement asymmetries observed in Arabic. The fact that VMs exhibit overt agreement morphology lends support to the analysis that they occupy a syntactic position below T before moving to T, where they establish an Agree relation with the subject. By contrast, the modals proposed here to originate in MP (such as *qad*, *rubama*, and *sawfa*) do not exhibit such agreement, further underscoring their distinct syntactic status. Notably, these modals select a verbal predicate as their complement, and the Agree relation is typically established between the embedded verb and its subject. Nevertheless, it is important to note that in contexts such as (65) – (67), where the embedded modal (e.g., *jumkin*) surfaces with a default (3.SG.M) agreement, a different structure appears to be at play. In these cases, *jumkin* takes an *ʔan*-clause as its subject rather than its complement, and because CPs lack the φ-features necessary for syntactic agreement, the verb surfaces with morphologically default agreement. These modals all subcategorize for *ʔan*-clauses and exhibit default agreement, supporting their classification as VMs despite their lack of overt φ-inflection[7]. Following Hornstein, Nunes, & Grohmann (2005, p. 350) and Wurmbrand (2014, p. 146), this default agreement arises because the subject is non-nominal and therefore fails to participate in φ-Agree.

[7] Modals that consistently surface with default agreement include jumkin, juħtamal, jadʒu:z, janbaʁi:, jadʒib, jalzam, and juftaradˤ.

In addition, as shown in (71) and (72), when no negative element intervenes between TP and *v*P, the verb raises to T to receive tense, which indicates that the modal *rubama* is higher than T.

71) rubama ðhab-a Fahd-un.
might$_{.INV}$ *go*$_{-3.M.SG.PER}$ *Fahad*$_{-M.NOM}$
Fahad might have gone.

72)

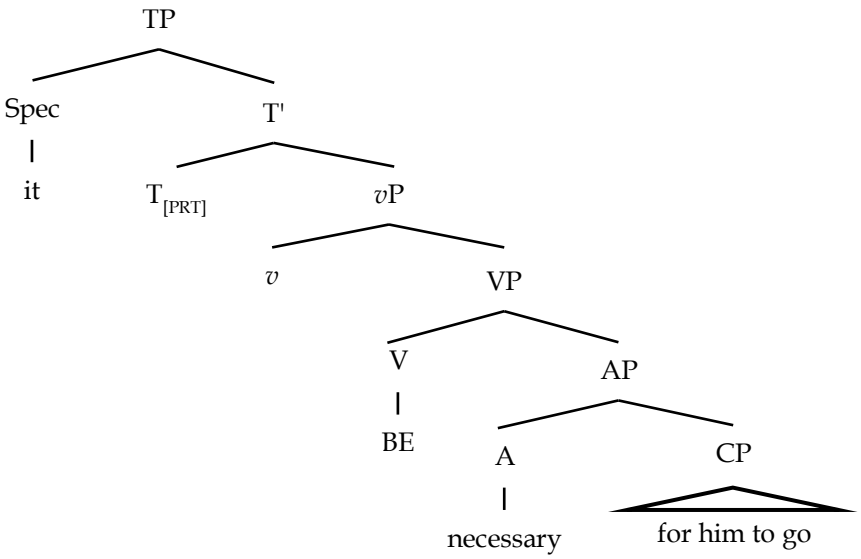


3.3. Summary

Overall, the discussion has shown that modality constitutes a semantic domain that is known as "the linguistic realm concerned with notions like necessity, possibility, desire, intention, ability, permission and obligation" (Racy, 2008, pp. 16-17). It was further indicated that modality may be grammatically conveyed through different structures, ranging from sets of modals to nouns, as illustrated in examples (1) – (4). This observation shows that modality is not necessarily syntactically instantiated. For example, although a sentence such as (3), repeated below and structurally represented in (74), encodes semantic modality, it does not require the presence of a modal head. This reinforces the central claim developed in this section: that while Arabic VMs express modal meaning, they do not obligatorily project a dedicated MP. These findings, while specific to Arabic, underscore a broader typological insight: that the syntactic encoding of modality can vary significantly across languages, and that modal meaning need not always correspond to a structurally independent modal projection.

73)It is *necessary* for him to go.

74)



4. CONCLUSION

Modality encompasses both lexical meaning and functional properties within the grammar. It encodes notions such as *necessity*, *probability*, *possibility*, *ability*, etc., which can be expressed through a range of grammatical means, including modal auxiliary verbs (e.g., *can, may, would, shall, must*), modal adverbs (e.g., *certainly, possibly, probably, surely, etc.*), modal adjectives (e.g., *certain, likely, necessary, etc.*), and nouns (e.g., *likelihood, necessity, possibility, etc.*).

This paper has examined the morphological, syntactic, and distributional properties of thirteen Arabic modals, emphasizing their classification, selectional requirements, and interaction with negation. The analysis presented in this paper has demonstrated that these modal auxiliaries exhibit distinct morphosyntactic and syntactic characteristics, allowing them to be grouped into three categories:

a. Those that can only appear in a base form (e.g., *qad* "may", *rubama* "may", *sawfa* "will", *janbaʁi:* "should", *juftarad*ˁ "should"),
b. Those that can optionally occur with or without a clitic pronoun (e.g., *jumkin* "may", *jalzam* "must"), and
c. Those that obligatorily inflect for subject-verb agreement (e.g., *ja-stat*ˁ*i:ʕ* "can", *ja-qdir* "can").

Unlike English modals, which are generally invariant, several Arabic modal auxiliaries inflect for subject-verb agreement in person, number, and gender. Additionally, some Arabic modals lack past tense forms and therefore require the copula *ka:na* to indicate past reference.

From a syntactic perspective, Arabic modals show discrepancies in their morphological and selectional properties; accordingly, it has been argued that they originate in different structural positions depending

on their individual selectional requirements. Specifically, Arabic modals either subcategorize for a CP headed by the complementizer *ʔan* or for a verb-initial construction. On this basis, they were classified into two broad types according to their complement: those that subcategorize for a CP (i.e., verbal modals [VMs]) and those that subcategorize for a TP (i.e., *modals* [Ms]).

The analysis indicates that modals subcategorizing for CP originate within the *v*P, whereas those subcategorizing for a TP occupy a higher position, particularly within the MP. With the exception of *qad* "may", *rubama* "may", and *sawfa* (*sa-*) "will", all modals surveyed in this study subcategorize for a CP. The proposed analysis draws support from the distributional behavior of these models, their mutual interactions, and their interactions with negation. Specifically, modals that select a TP semantically and syntactically scope over negation, whereas those that select for CP fall within the scope of negation. This asymmetry reinforces the structural distinction proposed in the syntactic hierarchy. Moreover, the hypothesis that most Arabic modal auxiliaries function as verbs (conveying modality) is supported by the observation that modality itself does not necessarily require syntactic realization in a dedicated modal structure. For instance, while modal adjectives do semantically encode a modality sense, they do so without requiring a structural projection of a modal head in the clause. Additionally, the analysis accounts for the φ-feature agreement asymmetry exhibited by Arabic modal auxiliaries and their interaction with tense and aspect features on T, thereby further reinforcing the proposed structural distinction between higher modals (Ms) and verbal modals (VMs).

While the analysis proposed here captures the split between modals selecting clausal complements (CPs) and those selecting verbal complements (TPs), the broader range of paradigms identified in Section (2), including those models that can also select PP or nominalized predicates, remains an important area for further investigation. Such patterns suggest that the class of Arabic modals is even more syntactically diverse than the present account fully captures, and they may require extending the analysis to accommodate their distinct structural configurations. Examining how this complement types interact with the proposed syntactic hierarchy could yield deeper insights into the structural variation of Arabic modality. The patterns observed in Arabic support the view that languages encode modality through both universal and language-specific structural strategies. In this light, Arabic serves as a valuable empirical point of comparison, offering insight into how the syntax of modality can vary across typologically diverse languages while still conforming to broader crosslinguistic tendencies.

By elucidating the underlying structure of Arabic modals, this paper contributes not only to a more precise understanding of Arabic syntax but also offers insights into the typology of modality across languages. Revealing the intricate interaction between modality, tense, and negation in Arabic enriches our broader linguistic understanding of how modality is encoded. Future research may explore whether the broader range of selectional paradigms reflects additional functional projections or alternative derivational mechanisms. It may also examine how dialectal variation shapes the syntactic realization of modality and what broader implications this variation holds for Arabic syntax and general linguistic theory.

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