

## Moroccan Arabic Multiverb Constructions and the Verbal Prefix *k-*<sup>1</sup>

### Abstract

This thesis is an investigation into the multiverb constructions of Moroccan Arabic—that is, verb phrases where two or more verbs are strung together without using a coordinating or subordinating particle to connect them. These constructions appear on the periphery of numerous articles and reference grammars on Moroccan Arabic that were consulted for this thesis, but they are rarely as the focus of study. As a result, much of their structure and behavior goes unexplained in the literature surveyed. In an attempt to fill this gap, the first portion of this thesis is largely descriptive, seeking to take an inventory of the verbs that can appear in each position of the construction and the possible combinations of verb forms. We discover that there are two discernable verbal categories: the V1, which appears first and includes verbs which lend aspectual and mood coloring to the verb string, and the V2, which follows V1 and can be nearly any verb in the language. The typology of multiverb constructions also reveals a combination of verb forms that is completely unattested in the literature, and assumed to be ungrammatical in all circumstances: two imperfective verbs, both with the prefix *k-*, coexisting in one multiverb construction. This discovery is not addressed in the literature available, and it raises questions about the function of the verbal prefix *k-*, whose status as either a mood or aspectual marker is disputed in the literature. Semantic evidence as to *k-*'s identity is inconclusive, and does not clearly prove if it conveys aspect or mood. Therefore, we look to syntax to explain *k-*'s curious distribution. We find that an analysis of multiverb constructions where *k-* is a mood marker is more tenable than an analysis where *k-* is aspectual. This is because of the differences in what must be generated by aspect or mood in a syntax tree analysis. If we assume *k-* expresses mood, *k-* would be the only utterance generated in the mood position; there are no other overt markings that could express mood. However, if *k-* is treated like an aspect marker, our structure becomes more complex. In addition to generating *k-*, the Aspect Phrase would also have to generate the perfective or imperfective form of a verb; it is difficult to account for *k-*'s absence some of the time and the perfective/imperfective verb form's presence at all times (and the possibility of perfective/perfective and imperfective/imperfective agreement) if they are generated in the same position. This damages the theory that *k-* is an aspectual marker and ultimately leads us to conclude that *k-* marks the indicative mood in Moroccan Arabic.

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## 1. Introduction

Moroccan Arabic (hereafter referred to as MA) is a member of the Semitic group of the Afro-Asiatic language family. In 1995, there were about 18.8 million speakers of MA in Morocco out of a total population of about 27 million Moroccans (U.S. Census Bureau 1993), and an additional 2 million MA speakers living outside of Morocco; the majority of Moroccans who do not speak MA instead speak another dialect of Arabic or one of the Berber dialects (“Arabic, Moroccan Spoken”). MA is traditionally a spoken dialect of Arabic, with Modern Standard Arabic, the official language of Morocco, functioning as its written counterpart. In recent years, MA has started to appear in written form mainly via the internet, text messaging, and advertisements. The Moroccan dialect I will concentrate on is a koiné<sup>2</sup> of pre-Hilalian (arrived in the 7<sup>th</sup> and 8<sup>th</sup> centuries) and Hilalian (arrived in the 11<sup>th</sup> century) varieties of Arabic. There is a great deal of regional variation in MA, often depending on how profoundly Hilalian Arabic impacted the area (Heath 2002: 8-9). I will focus my investigation on the urban dialects of Casablanca, Rabat, and Fes because they are well documented in the available literature and I have personal experience with them. Other urban dialects around the country (such as that of Marrakech) tend to share similarities with these three, whereas the Arabic spoken in other areas, particularly in rural regions and in the North and far South, may look very different from what I call MA in this thesis. To fill in some gaps in my data, I have also consulted with a native speaker, Swarthmore College professor of Arabic Brahim El Guabli. He is a native of Ouarzazate (see appendix III for a map), but is well travelled in Morocco and familiar with the dialects that are my focus here.

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<sup>2</sup> A koiné is a language that results from constant contact between two mutually intelligible dialects of the same language over an extended period of time. A creole, on the other hand, is a language that arises from the contact of two mutually unintelligible languages, typically over a shorter period of time.

MA sentence structure is typically VSO, with SVO also accepted, but marked, in most circumstances (see appendix I for an explanation of the transcription system and appendix II for an index of terms used in these glosses).

- |   |                                                                    |                      |                       |                                              |
|---|--------------------------------------------------------------------|----------------------|-----------------------|----------------------------------------------|
| 1 | qRa<br>read.PERF.3SM<br>“The boy read a book.”                     | l-wld<br>the-boy     | ktab<br>book          | (Kortobi 2002: 218)                          |
| 2 | l-wld<br>the-boy<br>“The boy read a book.”                         | qRa<br>read.PERF.3SM | ktab<br>book          | (Kortobi 2002: 218)                          |
| 3 | xll-at<br>leave.PERF-3SF<br>“Fatima left the wallet in the house.” | Fatima<br>Fatima     | l-bZtam<br>the-wallet | f D-Dar<br>in the-house<br>(Ennaji 1985: 24) |

Wager 1983 claims that some speakers seem to prefer one structure over the other, but that VSO is ultimately the default; Ennaji 1985 argues that VSO is unmarked for all speakers, and that SVO sentences are marked and used under specific circumstances, such as for emphasis (Wager 1983: 8-12, Ennaji 1985: 14). In her comparative study of several Arabic dialects, Brustad 2000 asserts that VSO is the default word order for all spoken Arabic dialects (Brustad 2000: 319).

This consensus should permit us to safely operate under the assumption that, although SVO and VSO word orders are possible in MA, VSO is the default form. Although it is important to keep this word order in mind, many of the sentences that this thesis deals with are comprised entirely of verbs; the order of multiple verbs is more important to this study than the sequence of the subject, object, and verb. However, it would be interesting to study the possible positions of objects and overt subjects in relation to a sequence of two or more verbs. The results of such a study would surely enrich the research presented here.

The MA verb can be inflected with two tenses: past and non-past. In turn, each of these tenses colors the verb with an aspect; the past tense conveys the perfective aspect, and the non-

past tense conveys the imperfective aspect. Since aspect is a more crucial verbal feature than tense in this study, I will refer to past/perfective verbs as perfective and non-past/imperfective verbs as imperfective, unless a discussion of tense becomes relevant to the analysis. Most MA verbs also consist of a three radical root made up of three consonants. For example, *to leave*, seen above in example (3), has the root x-l-l. *To read's* root (see (1)), q-R-a, is not purely consonantal and instead has a vowel as its final radical; vowels can appear as the second or third radical of a verbal root, and cause some phonological changes that are not important for this study. Starting with these roots, MA, like other dialects of Arabic, uses a templatic morphological system to derive other words from the base verb, such as transitive verbs and active participles. For instance, the transitive form of the intransitive verb *dhk* (to laugh) is formed by doubling the middle radical, yielding the form *dhhk* (“to make laugh”) (Peace Corps 2004: 148).

The perfective form of a MA verb uses only suffixes to express person and number marking, while the imperfective uses a combination of prefixes and suffixes. Sometimes these markers also express gender. Consider the perfective and imperfective paradigm for the verb *ktb* (to write):

*Figure 1: Perfective and imperfective forms of ktb (to write)*

	Perfective Singular	Plural		Imperfective Singular	Plural
1 <sup>st</sup> person	ktb -t	ktb -na	1 <sup>st</sup> person	(k) n- ktb	(k) n- ktb -u
2 <sup>nd</sup> person	ktb -ti	ktb -tu	2 <sup>nd</sup> person m	(k) t- ktb	(k) t- ktb -u
3 <sup>rd</sup> person m	ktb	ktb -u	f	(k) t- ktb -i	
f	ktb -at		3 <sup>rd</sup> person m	(k) y- ktb	(k) y- ktb -u
			f	(k) t- ktb	

There are a few interesting observations to be made from this paradigm. Firstly, we see that the perfective third person masculine singular form is the simplest form of the verb. When gender is

overtly expressed, there is no neuter form of the verb; all inanimate objects are classified as either masculine or feminine and use the appropriately gendered verb form. Although person and number are consistently marked on all verb forms, gender is never expressed on the first person forms, and only sometimes on the second and third person forms; plural forms never specify gender. In the imperfective, the second and third person singular forms distinguish between masculine and feminine. In the perfective, only the third person singular form makes this distinction. We can also note that the imperfective second person masculine and imperfective third person feminine singular forms are identical; this occurs in numerous Arabic dialects, including the standard. It is also interesting that the imperfective plural forms all employ a circumfix consisting of a prefix identical to their singular counterparts and the addition of a plural marking suffix, and that *n-* always marks the first person. The plural suffix is employed only in the second and third persons in the majority of Arabic dialects, and *n-* is usually only used on the plural first person, but MA appears to have regularized these parts of the verbal paradigm.<sup>3</sup>

Figure (1) also shows that the imperfective form of a verb is usually accompanied by a prefix *k-*. For example, *n-ktb* (I write) is a marked form that appears in specific environments, usually following another verb or a particle word; *k-n-ktb* is the unmarked form “I write” that can also mean “I am writing.” We will investigate *k-*’s meaning later.

MA expresses objects of the verb and genitive relationships with a set of nearly identical suffixes; direct objects use one set, and indirect objects and genitives use another. Direct object pronouns are expressed by attaching the object suffix to the verb, and indirect objects attach their

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<sup>3</sup> Aoun et al 2010: 20-21 contains a comparison of the Moroccan, Lebanese, and Standard Arabic paradigms.



subordinating particle to connect them. The investigation is partially motivated by the lack of attention that these constructions receive in the available literature. Multiverb constructions include what are known in English as infinitival and auxiliary constructions, in addition to some cases which might be called serial verb constructions. However, I will not attempt to categorize these constructions as such, and will instead look at the verb forms that they can be their components.

Consider these MA sentences and their English counterparts:

7a	k-	n-	qDr	n-	hzz	T-	Tabla	(Vanhove et al 2009)
	k-	1S	be able.IMP	1S	lift.IMP	the	Table	
7b		I	can	(*to)	lift	the	table	
8a	byi-	t	n-	mfi	mfa-	hum		(Wager 1983: 85)
	want.PERF	1S	1S	go.IMP	with	OBJ.3P		
8b	I	want	*(to)	go	with	them		

Sentence (7a) is an example of an English auxiliary structure, and sentence (7b) is an English infinitival structure. We see that, in English, the two structures differ. (7a) requires that *can* and *lift* follow one another without a particle between them; inserting *to* is ungrammatical. On the contrary, in sentence (8b), the sentence is ungrammatical without *to* coming between *want* and *go*. In Moroccan Arabic, both sentences are constructed identically, with one verb following another with no particle linking them together. However, we see that the Moroccan Arabic version of each sentence inflects both verbs for aspect, person, and number; in English, only the first verb is inflected, while the second verb is in its barest form, stripped of any inflection. In MA, there is no verb form that lacks inflection, such as an English-style infinitive verb. As we saw in the verbal paradigms above, when a Moroccan Arabic verb is uttered without any affixes, it is the perfective form of the third person masculine singular. For most verbs, this is also the form of the masculine singular affirmative imperative.





later on. I mentioned in the introduction that the prefix *k-* attaches to imperfective verbs, and is absent only in marked situations. The aspect of each verb and the presence of *k-* can vary in multiverb structures, so I have tried to take stock of all possible combinations. The following combinations of aspect and the prefix *k-* have been attested in MA multiverb constructions:

Figure 3: V1+V2 combinations attested in the literature

		V2		
		PERF	IMP	K-IMP
V1	PERF	Attested	Attested	Attested
	IMP	Attested	Attested	Attested
	K-IMP	Attested	Attested	<b>Unattested</b>

Figure (3) highlights the striking absence of verb strings comprised of a k-imperfective V1 followed by a k-imperfective V2. We will investigate the possible semantic and syntactic reasons for this restriction in later sections. Other than this absence, one is struck by the variety in the verbal combinations found in multiverb structures.

Here are examples of each attested multiverb construction, starting with both V1 and V2 in the perfective:

- 10    kan                    wʃl                                    qbl ma y-ʒi-u                                    (Wager 1983: 77)  
       be.PERF.3SM    arrive.PERF.3SM                    before 3M-came.IMP-P  
       “He had arrived before they came.”

V1 in the perfective, V2 in the imperfective without *k-*:

- 11    byi-t                                    n-mʃi                                    mʃa-hum                                    (Wager 1983: 85)  
       want.PERF-1S                    1S-go.IMP                    with-OBJ.3P  
       “I want to go with them.”

V1 in the perfective, V2 in the imperfective with *k-*:

- 12    bdi-t                                    k-n-mʃi                                    l-s-suq                                    kull nhaR                                    (Wager 1983: 83)  
       begin.PERF-1S                    k-1S-go.IMP                    to-the-market    every day  
       “I started going to the market every day.”



This unconventional way of marking the subject appears to be very rare in MA; I have yet to find an example of this phenomenon that does not use *xSS*. Brustad 2000 suggests that *xSS* has this idiosyncratic form because it has lost or is in the process of losing its verbal status (Brustad 2000: 159-160). We also find *xSS* in the imperfective with *k-*, but it is invariable for person, number and gender, remaining in the third person masculine singular. Thus, in both of these possible forms for *xSS*, the object suffix remains crucial in expressing the semantic subject. In addition, both (18) and (19) are understood in the present, despite (18) being a perfective form of the verb and (19) being an imperfective form.

19    *k-y-xSS-ha*                      *t-akul*                      *l-furmaʒ*                      (Vanhove et al 2009)  
       *k-3SM-must.IMP-OBJ.3SF*        *3SF-eat.IMP*        *the-cheese*  
       “She has to eat cheese!/She needs to eat cheese!”

In addition to the common two verb construction, three and four verb strings are also attested, but with more restrictions on the characteristics of their V1s and V2s. A three verb construction can have one V1 followed by two V2s (20), or two V1s followed by one V2 (21). Four verb strings consist of two V1s and two V2s (22).

20    *byi-t*                      *n-mʃi*                      *n-qRa*                      (Wager 1983: 95)  
       *want.PERF-1S*                      *1S-go.IMP*                      *1S-read.IMP*  
       “*I want to go read.*”

21    *kn-t*                      *byi-t*                      *n-mʃi*                      (Consultant)  
       *be.PERF-1S*        *want.PERF-1S*                      *1S-go.IMP*  
       “*I wanted to go.*”

22    *kn-t*                      *byi-t*                      *n-mʃi*                      *n-qRa*                      (Consultant)  
       *be.PERF-1S*        *want.PERF-1S*                      *1S-go.IMP*                      *1S-read.IMP*  
       “*I wanted to go read.*”

The above four-verb string was elicited from a native speaker of MA. This consultant claimed that no verb could follow *nqRa* in sentence (22), suggesting that the upper limit of V2s in a verb string is two. He was also unable to add any more V1s at the beginning of the sentence,

suggesting that a maximum of two V1s can appear in a multiverb construction. This also seems to indicate that four verbs is the maximum total number of verbs that we can find in a MA multiverb structure. Since this string is rather small, it does not seem like the constraint on the number of verbs is due to memory or processing constraints. It is possible that these restrictions are a combination of syntactic and semantic factors. As for semantics, if we consider the smaller size of the V1 class and their characteristics (as discussed in the next section), it appears that there may not be three V1s that, when strung together, make sense; perhaps there are a few rare cases of this that were not discovered during this study. However, since we cannot keep adding V2s to the end of the string, though they seem to make perfect sense in theory (i.e. “I wanted to go read to learn/to succeed/to have fun...”), it appears that some sort of syntactic rule may be limiting the number of V2s in a multiverb construction. This could have something to do with how verbs can or cannot be serialized in MA, which is a topic that this thesis does not address but which merits further research and scholarship.

Three and four verb strings make it more difficult to determine if each verb is a V1 or V2; the verbs that are not on either edge of the string, such as *byit* and *nmfi* in (22), cannot simply be defined by being first or second in a two verb string. The following section will investigate the specific characteristics of V1s which allow us to classify V1s based upon more than their position in a multiverb construction.

### 3. V1

The V1 in a multiverb structure comes from a closed set of verbs belonging to two major categories; one is a small group of grammatically crucial verbs which enrich the aspectual content of the verb string (such as *kun*, to be, and *bda*, to begin) and the other is a large set of verbs which mostly pertain to wishing, wanting, and possibility. There are a few additional

verbs (such as *nsa*, to forget) which do not obviously belong to either category. Youssi 1992 has the most exhaustive list of V1s (although they are not labeled as such), which he divides into subsections based upon their function. He considers them all to be modal verbs.<sup>4</sup> However, he appears to have a rather inclusive definition of modality, treating any meaningful inflection to the verb as such, and thus avoiding a discussion of the complex interplay of aspect and mood in multiverb constructions. He first mentions modality when presenting the “categories which express temporal, aspectual, and voice relationships, as well as any other modal relationship” (Youssi 1992: 59, my translation), thus presenting aspect, tense, and voice as a subset of modality.<sup>5</sup> I will use more restrictive criteria for defining mood which will exclude aspectual inflection. In fact, one of the most important distinctions between the V1s of MA is whether they convey information about aspect or mood; only *kan*, “to be,” can serve both purposes. Below I have compiled a list of high frequency and note-worthy V1s and included pertinent descriptive data.

- *kan*: “to be,” a versatile verb used to express a variety of aspects and moods. It can be a V1 or a V2, and it also appears on its own. As a V1, it can appear in the perfective or imperfective, with or without *k-*. When it appears in the perfective, it can be followed by a perfective V2 (23) or an imperfective verb with *k-* (24). Here, *kan* provides the sentence with a pluperfect aspect:

23      *kan*                      *wSI*                              *qbl ma y-zi-u*                              (Wager 1983: 77)  
         be.PERF.3SM    arrive.PERF.3SM              before 3M-came.IMP-P  
         “He had arrived before they came.”

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<sup>4</sup> See Youssi 1992: 59-77

<sup>5</sup> Since Youssi uses *modale* (i.e., pertaining to *mode* or the English mood) and *modalité* in the same sentence and appears to refer to the same thing with both terms, it is unlikely that he draws a distinction between mood and modality.





35     xSS-ni                    n-xdm            l-yum                    (Harrell 2004: 185)  
        must.PERF-OBJ.1S     1S-work.IMP    the-day  
        “I have to work today.”

36     k-y-xSS-ha                    t-akul            l-furmaḡ                (Vanhove et al 2009)  
        k-3SM-must.IMP-OBJ.3SF     3SF-eat.IMP     the-cheese  
        “She has to eat cheese!/She needs to eat cheese!”

Note how both (35) and (36) have non-past meanings, despite (35) being in the perfective and (36) in the imperfective; this is similar to the behavior *bya* exhibited above. In addition, (35)’s subject is the first person, and (36)’s is the feminine third person, yet both verbs are conjugated for a third person masculine singular subject. These sentences demonstrate that the object suffix is *xSS*’s true marker of person and number.

*xSS* is unattested as a V2, but can appear on its own, where it expresses need of a predicate.

37     xSS-ni                    l-garru                    (Peace Corps 2004: 95)  
        need.PERF-OBJ.1S     the-cigarettes  
        “I need cigarettes.”

As seen above, *xSS* always colors the sentence with some sort of mood, either with necessity (35 and 36) or need (37).

- *bda*: “to begin.” As a V1, it can be in the perfective or the imperfective with *k-*. *bda* imparts aspect on the verb string, usually with an inceptive meaning. When in the perfective, *bda* is followed by an imperfective V2 with *k-*, as in the example below.

38     bdi-t                    k-n-mḡi            l-s-suq            kull nhaR                (Wager 1983: 83)  
        begin.PERF-1S            k-1S-go.IMP     to-the-market    every day  
        “I started going to the market every day.”

When in the imperfective with *k-*, it is followed by an imperfective V2.

39     k-y-bda                    y-xdm                    bkri                    (Youssi 1992: 75)  
        k-3SM-begin.IMP            3SM-work.IMP     early  
        “He starts working early.”



In both the perfective and imperfective aspect, the verb *bda* inflects the sentence with the inceptive aspect.

This small sampling of V1s highlights some important characteristics of the class and its more prominent members. Firstly, almost all V1s express either aspect or mood; only *kan* can express both. In addition, we noted the inflectional idiosyncrasies of *bya* and *xSS*; *bya* and *xSS* in the perfective aspect are usually understood in the present, and *xSS* also uses object suffixes to express its subject. However, these quirks are quite rare among MA V1s, with these two verbs being the only cases I have found thus far; the vast majority of V1s express aspect, tense, person, and number in a regular and predictable way. In this way, most V1s do not look like typical auxiliary verbs, which are often not as inflectionally rich as lexical verbs, and/or have been bleached of their original meaning (Anderson 2006: 4-5); only *xSS* and *bya* display these characteristics, while other V1s behave like full lexical verbs. In addition, while this section showcases an equal number of aspect and mood verbs, we should remember that there are many more mood V1s in MA, but they cover a smaller range of expressive capacity; some examples of other mood verbs that appear in this thesis are *mkn* (to be possible) and *qDr* (to be able).

Before we take a closer look at the characteristics of V1's counterpart, V2, we should first examine *k*-'s behavior so that we can better appreciate its role in inflecting each verb, and the verb string as a whole, with meaning.

#### **4. The prefix *k*-: inconclusive semantic evidence**

In the previous sections, we have observed the prefix *k*- in a variety of environments, but we have yet to analyze its behavior. Before we continue on to a discussion of V2s and multiverb construction typology, we should first investigate *k*-'s function.





- 45b.    bda                                    y-hDr                                    (Wager 1983: 84)  
      begin.PERF.3SM                    3SM-talk.IMP  
      “He started to talk.” (for the first time, e.g. a baby)

The only difference between (45a) and (45b) is *k-*'s attachment to the verb *yhDr*, which is present in the first example and absent in the second. (45a) has a past progressive inceptive meaning, and (45b) only has a past inceptive meaning. When we consider the meaning of both examples, it seems that both are in the indicative, and the change that *k-* brings about is the addition of the progressive aspect. It could be, however, that *k-* only appears to add the progressive aspect, and, in reality, (45a) is simply benefitting from the implied habitualness/progressiveness that often comes along with the indicative mood,<sup>6</sup> whereas (45b) relies upon the less temporally and aspectually rooted qualities of the non-indicative mood. This still does not explain why (45b) would not be in the indicative; perhaps if the non-indicative were described and well defined in the literature that claims the existence of an indicative *k-*, (45b) would clearly qualify for this other mood. In the end, these two sentences provide only very weak evidence that *k-* is an aspectual marker.

Based on the evidence explored in this section, it is clear that semantic strategies for defining *k-* provide us with inconclusive results. The largest problem with reaching a conclusion is the lack of available analysis of *k-*'s nature or the interplay of TAM in MA. Firstly, the claim that *k-* marks the indicative mood has been poorly explored in the literature surveyed, as no one appears to have systematically studied the moods that appear on the MA verb, and there is no discussion of the nature of the mood which appears in *k-*'s absence. The same dearth of knowledge exists on the side of aspect. This makes it difficult, for example, to determine the reasons that a particular verb belongs in one mood or the other, as we saw in (45). The

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<sup>6</sup> The same ambiguity exists in example (40).

interconnectedness of tense, aspect, and mood also poses a problem. As we already established, tense imparts the MA verb with a secondary coloring: aspect. Therefore, it is equally likely that mood and aspect bleed together on the MA verb. This complicates any attempt to determine if an indicative mood *k-* implies a secondary aspectual meaning of habitualness or progressiveness (just like the non-past tense), or if the situations that can receive *k-*'s aspectual inflection are coincidentally situations that would occur in the indicative mood. Because of these semantic ambiguities, we should suspend judgment as to *k-*'s function until we further analyze its behavior. After examining V2 behavior and multiverb construction typology in the next section, we will be able to reexamine *k-*'s function from a syntactic perspective and settle this dispute more concretely.

### 5. V2 and multiverb construction typology

The V2 in a multiverb construction can be any verb in MA. The V2 can be in the perfective or imperfective, and with or without *k-*. However, its behavior is restricted by the nature of the V1 preceding it. The following paradigm reveals which V2 forms can follow a perfective, imperfective, and *k-*imperfective V1. I have also marked if the construction primarily expresses mood or aspect.

46	V1	→	V2					
	PERF		a PERF (asp)	kan	wSI	qbl ma	y-zi-u	(Wager 1983: 77)
				be.PERF.3SM	arrive.PERF.3SM	before	3-came.IMP-P	
				“He had arrived before they came.”				
			<b>b IMP (mood)</b>	<b>xSS-ni</b>	<b>n-xdm</b>	<b>l-yum</b>		<b>(Harrell 2004: 185)</b>
				<b>must.PERF-OBJ.1S</b>	<b>1S-work.IMP</b>	<b>the-day</b>		
				“I have to work today.”				
			c IMP (asp)	bda	y-hDr			(Wager 1983: 84)
				begin.PERF.3SM	3SM-talk.IMP			
				“He started to talk.” (for the first time, e.g. a baby)				
			d K-IMP (asp)	bdi-t	k-n-mji	l-s-suq	kull nhaR	(Wager 1983: 83)
				begin-PERF.1S	k-1S-go.IMP	to-the-market	every day	
				“I started going to the market every day.”				

IMP	→	e PERF (mood)	y-mkn 3SM-be possible.IMP “It is possible that he came/He might have come.”	3a come.PERF.3SM	(Youssi 1992: 77)
		f IMP (mood)	y-mkn 3SM-be possible.IMP “He might come.”	y-ʒi 3SM-come.IMP	(Youssi 1992: 77)
		g K-IMP (mood)	y-qDr 3SM-be able.IMP “Maybe he is reading.”	k-y-qRa k-3SM-read.IMP	(Consultant)
K-IMP	→	h PERF (asp)	f-nufimbR in-November “In November, they’ve usually been plowing for a month.”	k-y-kun-u k-3-be.IMP-P hRt-u plough.PERF-3P	hadi ʃhaR(Caubet v2:110) this month
		i IMP (asp)	k-y-bda k-3SM-begin.IMP “He starts working early.” (e.g., every day, usually)	y-xdm 3SM-work.IMP	bkri early (Youssi 1992: 75)
		<b>j IMP (mood)</b>	<b>k-n-qDr</b> <b>k-1S-be able.IMP</b> <b>“I can lift the table.”</b>	<b>n-hzz</b> <b>1S-lift.IMP</b>	<b>T-Tabla</b> <b>the-table</b> (Vanhove et al 2009)
		<b>k IMP (mood)</b>	<b>k-y-xSS-ha</b> <b>k-3SM-must.IMP-OBJ.3SF</b> <b>“She has to eat cheese!/She needs to eat cheese!”</b>	<b>t-akul</b> <b>3SF-eat.IMP</b>	<b>l-furmaʒ</b> <b>the-cheese</b> (Vanhove et al 2009)

For the moment, let us disregard the bolded examples, which include the problematic V1s *xSS* and *qDr*. Example (46b) uses the perfective of *xSS*, and the only other verb commonly found in the perfective with a present-mood meaning is *bya*, and both of these verbs have already been established as idiosyncratic and not demonstrative of MA V1 behavior. *xSS* and *qDr*, in their k-imperfective forms, are only presented as typical in Caubet 1993 and Vanhove et al 2009. I have decided to regard these sources’ data with caution for a number of reasons,<sup>7</sup> and since only these sources provide evidence of this phenomenon, I have decided to regard these forms as within the realm of possibility, but not typical of the MA dialects that are my focus. For

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<sup>7</sup>Vanhove et al 2009 also has many examples with the form *n-qDr* + imperfective V2, and does not explain if there is any difference in meaning when *k-* is attached to the V1. Its section on Moroccan Arabic is an English translation of an excerpt of Caubet 1993. Caubet gathered data 8km northeast of Fes, from a tribe who claims to have come from northern Morocco several generations ago. Since Vanhove et al 2009 and Caubet 1993 take their data from a small village, and not from an urban center, I cautiously include their data and insight in my findings, and attribute their inconsistencies with my other sources to the idiosyncrasies of a Middle Atlantic dialect with rural and northern influences.

example, none of my other sources ever use the form *k-n-qDr*, and *k-y-xSS* is only mentioned by Brustad 2000 and Harrell 2004 as a marginal variation on *xSS*. If we set aside these troublesome verbs, a general pattern emerges; perfective and *k*-imperfective V1s create verb strings that convey additional aspectual information, and imperfective V1s indicate a verb string with some sort of mood encoded in addition to the aspect encoded by combining an imperfective V1 with various V2s.

A perfective V1 places the verb string in the past, thus compounding whatever aspectual information the V2 might convey with a past tense meaning. This results in a pluperfect meaning in (46a), a past inceptive in (46c), and a past progressive or habitual in (46d). A *k*-imperfective V1 gives the string a habitual meaning, like in (46h) and (46i), whose V2s determine if the present progressive combines with a present perfective aspect (46h) or simply remains a present progressive (46i). As for mood expressions, an imperfective V1 seems to be the most common way to construct them. Youssi's long list of verbs of possibility and necessity, which appear as imperfective V1s, is further proof that, although a few high-frequency verbs that express mood (*bya* and *xSS*) appear in a different V1 form, the vast majority of these use the imperfective without *k*.

One observation that stands out from the data is that there is little agreement in these multiverb constructions. If the V1 has *k*-, *k*- cannot appear on the following V2s (and vice versa), eliminating any possibility of *k*- agreement. There is also no obligatory aspect agreement in these clauses; a perfective V2, can, but need not, follow a perfective V1. A multiverb construction can even contain verbs with different subjects, as seen in the following example.

47      wlla-**u**                      k-y-byi-u-ha                      **t**-qRa                      (Wager 1983: 97)  
become.PERF-3P      k-3-want.IMP-P-OBJ.3SF      3SF-study.IMP  
“They ended up wanting her to study.”

In (47), we find perfective and imperfective verbs, a *k*-imperfective verb, a third person plural subject on the first two verbs, and a third person singular feminine subject on the final verb. This verb string is demonstrative of how little of a verb’s behavior must mimic any preceding verb in the construction.

While verbs need not exhibit the same subject or aspect markings as preceding verbs, their behavior is restricted by the nature of the V1. *k*-imperfective V1s appear to most limit the form of the following verbs; an imperfective verb without *k*- or a perfective verb can be its V2, but a perfective V2 in this context is exceedingly rare and only found in a few examples in Caubet 1993. The *k*-imperfective V1’s limitation on its V2s suggests that *k*- exerts strong influence over the following constituents of its multiverb construction.

Now that we have examined the possible structures of multiverb constructions, we can begin to investigate some of the syntactic questions they raise. The first such issue is the distribution of *k*-; it can appear on an imperfective V1 or V2, but it never appears more than once in a multiverb string. This curious phenomenon was first noted in figure (3), where I suggested that either a semantic or syntactic restriction could explain *k*-’s behavior. However, the investigation in the previous section suggested that, without further descriptive and analytical work into the nature of *k*-, a purely semantic explanation of its behavior will not suffice. Therefore, a look into syntactic explanations of *k*-’s behavior is warranted.

## **6. The verbal prefix *k*-; syntactic evidence for a mood marker**

In this section, we attempt to account for *k*-’s distribution with a syntactic explanation, eventually concluding that it is a mood marker. The semantic evidence presented in an earlier

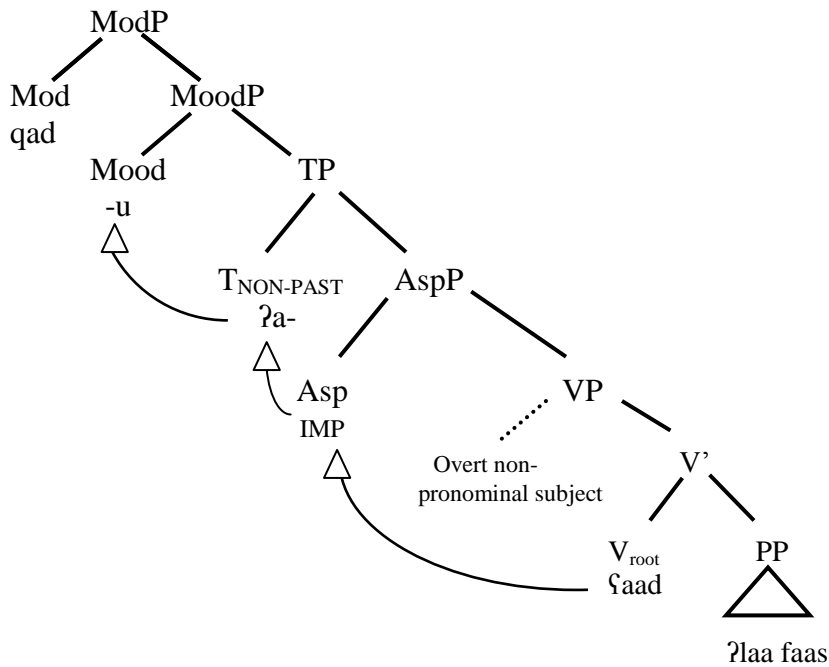


section was inconclusive, but the syntactic evidence here is more convincing. When we attempt to treat *k-* like an aspectual affix, problems with the analysis arise that cannot be easily resolved. We find that treating *k-* as a mood marker more easily accounts for its behavior and distribution.

Syntactically speaking, mood and aspect behave very differently in the clause. Mood is situated fairly high in the clausal structure, occupying the left periphery of the structure above tense and the verb phrase (Fassi Fehri 1993: 85, Rizzi 1997). Aspect, on the other hand, is much hierarchically closer to the verb phrase, appearing below the Tense Phrase and above the Verb Phrase (Demirdache and Uribe-Etxebarria 2004). In MA, either the perfective or imperfective aspect must appear on each verb; therefore, the Aspect Phrase must always be present in the syntactic analysis of a MA verb string. These differences in clausal position are crucial in accounting for the distribution of *k-* in multiverb constructions.

I will adhere to the assumptions of the structure of Arabic outlined in figure (4). It is an adaptation of Fassi Fehri 1993's analysis for Standard Arabic, using his original sentence. My analysis in this section will make use of the structure in figure (4), with the exception of Fassi Fehri's Modality Phrase.

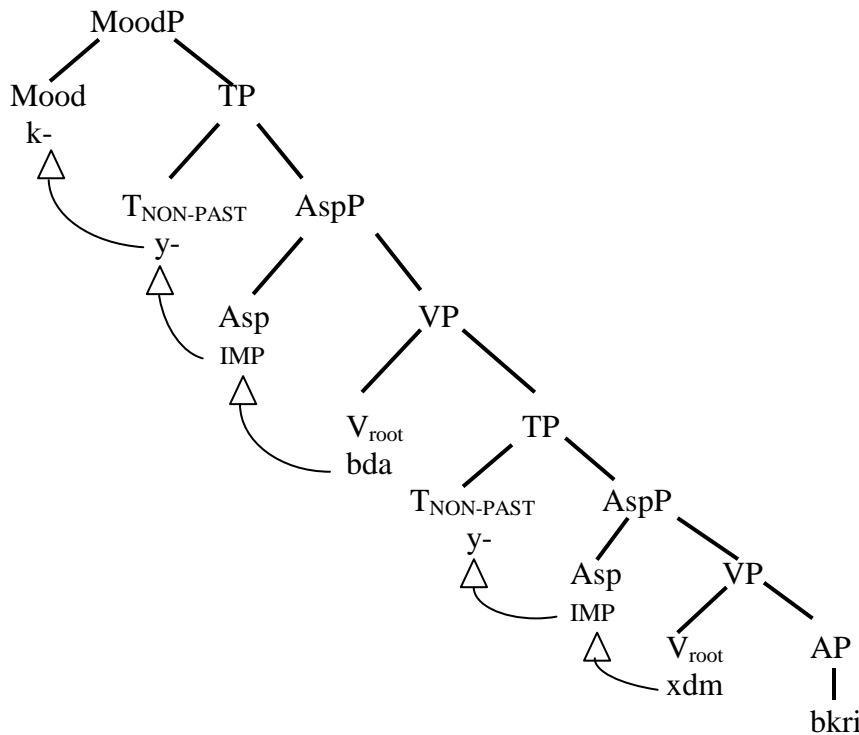
Figure 4      qad                      ?a-ʕuud-u                      ?ilaa    faas      (Fassi Fehri 1993: 85)  
 probably                      1S-return.IMP-INDIC                      to            Fes  
 “I will probably return to Fes.”



Firstly, figure (4) demonstrates that Arabic is a verb raising language where V raises to the highest functional position. This movement provides the verb with its obligatory tense, aspect, and (at least in Standard Arabic) mood inflection. Overt subjects are generated in the specifier position of the Verb Phrase and do not raise unless SVO word order is observed. The Aspect Phrase appears above the Verb Phrase and below the Tense Phrase, as it is posited in the literature on the syntax of time, tense, and aspect (Demirdache and Uribe-Etxebarria 2004). Person and number markers inform us of both tense and aspect, making it difficult to decide where these markers are ultimately generated. However, we will follow Fassi Fehri’s model, which generates these markers at the Tense Phrase, so that this analysis asserts that subject marking morphemes are imparted on the verb at T and unuttered aspectual information is imparted on the clause at Asp.

Using the same template as in figure (4), let us consider the MA multiverb construction *kybda yxdm* (“he starts working early”), assuming that *k-* is, like several linguists have claimed, a marker of the indicative mood:

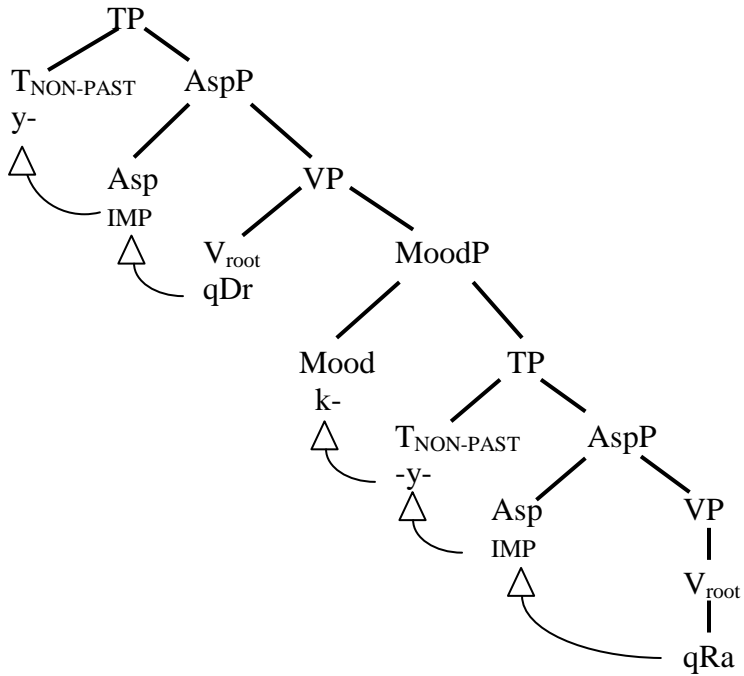
Figure 5      k-y-bda                                      y-xdm                                      bkri      (Youssi 1992 : 75)  
INDIC-3SM-begin.IMP                                      3SM-works.IMP                                      early  
“He starts working early.”



We see in this tree that this multiverb structure is a Mood Phrase (*kybda*) which takes a Tense Phrase (*yxdm bkri*) as the complement of  $V_1$ . To account for structures where the  $V_2$  has *k-* but the  $V_1$  does not, such as *bdiṭ knmfi* (“I started going (habitually)”) and *yqDr kyqRa* (“maybe he is reading”), we must remember the rule that only one *k-*—and therefore only one Mood Phrase—can appear in each multiverb construction. The “one per multiverb construction” rule is not enforced by syntax or an inviolable semantic theory; it is a semantic restriction, one that is merely a quirk of MA and not a crosslinguistic restriction. A construction with a  $V_2$  with *k-*, such as *yqDr kyqRa* in figure (6), results when  $V_1$  takes a Mood Phrase complement.

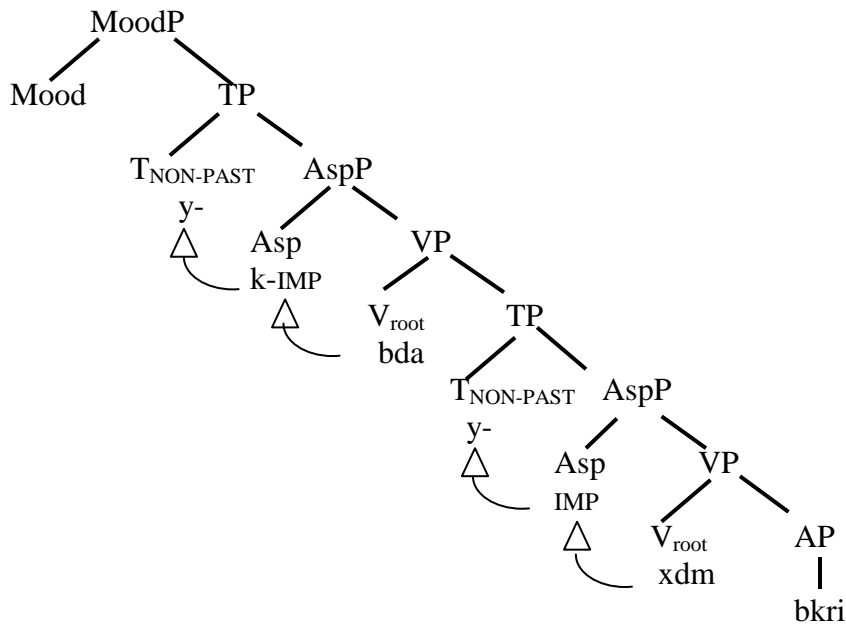
Figure 6      y-qDr                      k-y-qRa  
 3SM-be able.IMP                      INDIC-3SM-read.IMP  
 “Maybe he is reading.”

(Consultant)



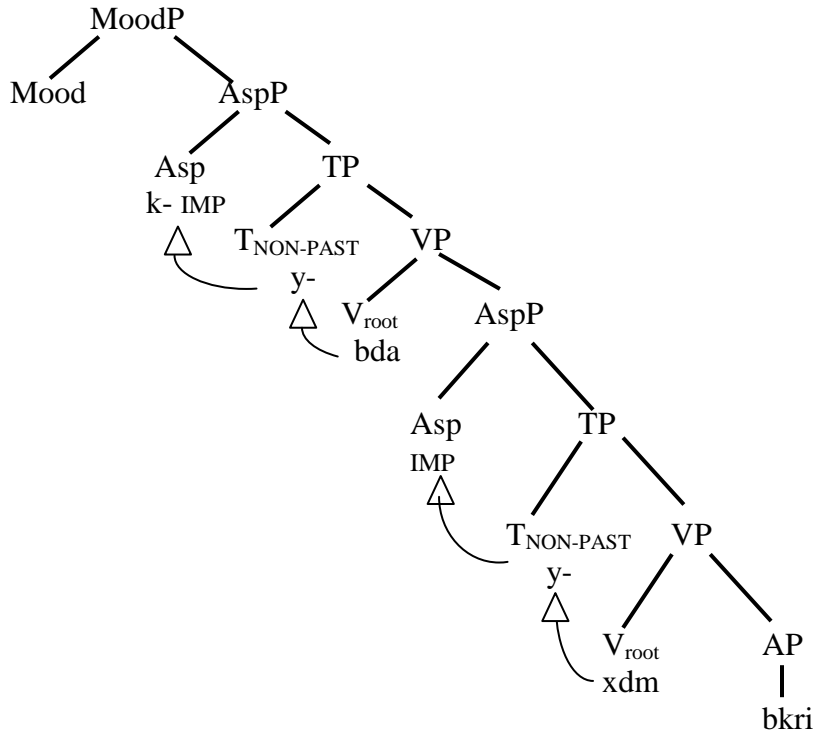
If we consider the alternative theory, that *k-* is an aspectual marker, and place *k-* in the aspect position of this tree, we come across several issues. Most pressing is the fact that placing *k-* in the position of Asp produces ungrammatical forms such as [person/number]-*k*- $V_{root}$ , which we see in figure (7). However, a syntactic rule could require that *k-* move to the left edge; even simpler, *k-* might be controlled by a phonological rule, which moves this morpheme to the left edge because of its position at the low end of the sonority scale, which would produce more easily pronounced syllable structures.

Figure 7      \*y-k-bda                  y-xdm                  bkri  
                          3SM-ASP-begin.IMP      3SM-work.IMP                  early



The ungrammatical result in figure (7) demonstrates that placing *k-* at Asp in the syntactic structure proves problematic. Barring a movement rule, we could also arrive at a grammatical output with an aspectual *k-* if we assumed that aspect appeared above tense in our structure. This means that, as seen in figure (8), the Mood Phrase would take an Aspect Phrase as its complement. However, assuming that aspect rests above tense in the hierarchy runs contrary to our assumptions concerning the position of aspect based on Fassi Fehri’s analysis. The hierarchy of tense and aspect in the clause would be worth reexamining in the case of MA and should be the subject of further study.

Figure 8      k-y-bda                                  y-xdm                                  bkri      (Youssi 1992 : 75)  
 ASP-3SM-begin.IMP                                  3SM-works.IMP                                  early  
 “He starts working early.”



Another problem with *k-* as an aspectual marker is that not just *k-* would be generated at Asp. In addition, the perfect/imperfective distinction that we find on every verb is also generated at Asp. As a result, for every *k-*imperfective verb, Asp would generate two items: the imperfective aspect and *k-*. However, if this is the case, it is difficult to explain the limitations we see on the appearance of *k-*. The restriction on *k-*—that only one appears per multiverb construction—is more difficult to explain when *k-* is generated in the Aspect Phrase, which (unlike the Mood Phrase) definitely appears for every verb in a verb string. As we have stated before, in a sentence like the one featured in figure (8), there is no reason that, theoretically, those two verbs couldn't be in the same mood or have the *k-* aspect in common, and therefore both have *k-* attached; the “one per multiverb construction” rule is a semantic quirk. However, if *k-* is an aspectual marker, the “one per” rule is harder to enforce. If *k-* is a mood marker, we



In a multiverb construction, either the V1 or the V2 can be negated in the fashion of a single verb, although a negated V1 like (49) is more common.

49     ma-kan-ʃ                                     t-y-ktb                                     (Benmamoun: 264)  
        NEG-be.PERF.3SM-NEG                 k-3SM-write.IMP  
        “He was not writing/He didn’t use to write.”

50a    qul-t                     l-u                     nsi-t                                     (Harrell 2004: 175)  
        say.PERF-1S         to-OBJ.3SM         forget.PERF-1S

50b    ma-ʒab-t-ʃ                                     l-flus  
        NEG-bring.PERF-1S-NEG                 the-money  
        “I told him I forgot to bring the money.”

However, *ma...ʃ* encompassing each verb is unattested.

51     \*ma-kan-ʃ                                     ma-t-y-ktb-ʃ  
        NEG-be.PERF.3SM-NEG                 NEG-k-3SM-write.IMP-NEG

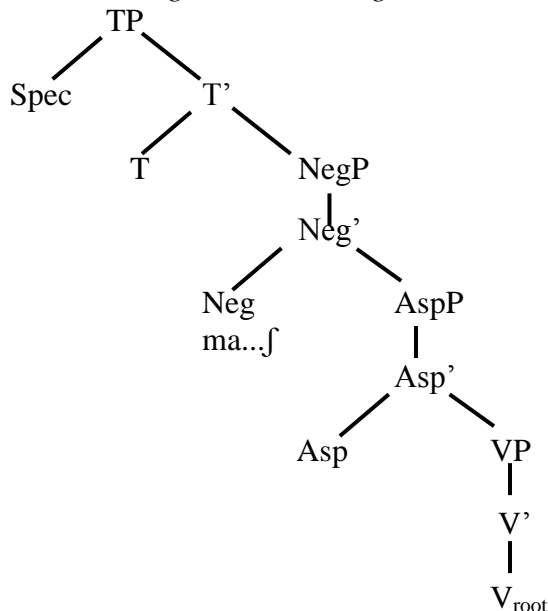
*ma...ʃ*’s behavior is reminiscent of *k-*’s; negation can appear on only one verb in a multiverb construction, but it is not limited to a particular verb in the sequence. We can posit that negation follows a similar rule to *k-*, where a restriction permits only one Negation Phrase per clause. Of course, this is not an inherent semantic or syntactic restriction; one could imagine two verbs, both negated, coexisting in a verb string (take the English “I wasn’t not writing”). Instead, this “one negation per clause” rule appears to be an idiosyncrasy of MA, just like the rules governing the distribution of *k-*.

Like with *k-*, there appears to be no reason why two verbs, both negated, can appear in succession. Aoun et al 2010 posits an analysis, seen in figure (9), of Arabic negation which has both *ma* and *ʃ* generated in Neg with the Negation Phrase situated below the Tense Phrase and above the Verb Phrase; this analysis is superior to others, they argue, because it explains why the copular negative is *maf(i)* and not *f(i)ma*. It also accounts for verbal negation across the Arabic



dialects (Aoun et al 2010: 106).<sup>9</sup> I have expanded on Aoun et al 2010's proposed structure by specifying where the Aspect Phrase rests in their hierarchy. I have placed it immediately below the Negation Phrase, so that negation remains directly below the Tense Phrase; this is important because *ma-* always appears at the left edge, even in front of person and number inflection and *k-*, and I sought to engineer the least complicated explanation for *ma-*'s position. Aoun et al 2010 also does not include a Mood Phrase; I have not added one, but we can assume that the Mood Phrase is situated above the Tense Phrase pictured below.

Figure 9: Arabic negation according to Aoun et al 2010 (pg 106)



As we saw in our example sentences for negation, *ma-* appears at the left edge of the verb. *ma-*'s movement to the left edge, in front of tense, weakens the criticism I made earlier about figure (7)—that (7)'s structure would result in an ungrammatical order to the verbal prefixes, unless some sort of phonological or morphological rule interfered. Either Aoun et al's analysis is incorrect, and NegP is above TP, or there is another rule intervening and forcing *ma-* to the left

<sup>9</sup> It accounts for the behavior of negation across the Arabic dialects because, instead of the circumfix *ma...f*, some dialects use only *ma-* or only *-f*. Previous theories mentioned in Aoun et al 2010 have placed *-f* in the specifier position of the negation phrase, with *ma* generated at Neg.

edge, beyond *k-* and person/number marking. Since, in this analysis, *ma-* moves to the left edge, it is plausible that a similar rule could force *k-* to the left of person/number marking, thus making figure (7) a plausible model.

Negation's structure also highlights a strong argument against an aspectual *k-*. The negation strategy in figure (9) gives no syntactic reason that two verbs in a string couldn't be negated; however, we know that two negated verbs in one string are forbidden. Nor is there a universal semantic barrier to two negated verbs; many other languages make use of this. As a result, it appears that the Negation Phrase follows a quirky "one per multiverb construction" rule like the one that *k-* seems to follow. Finding two verbal affixes that follow similar rules makes it easier to assert that "one per multiverb construction" rules are a particularity of MA that certainly exists.

If we assume *k-* is aspectual, there is one significant difference between *k-* and negation. The aspectual information inextricably linked to the verb (perfective/imperfective) must remain in both clauses, so that the Aspect Phrase cannot merely be omitted when *k-* is absent, as one can do with the Negation Phrase (or the Mood Phrase). Instead, a rule would have to remove the aspectual *k-* generated at one of the Asp positions, but leave the Aspect Phrase and the perfective/imperfective marking intact; this is a cumbersome and unappealing explanation for *k-*. Therefore, the idiosyncratic semantic restriction rule that applies to negation (one Negation Phrase per multiverb construction) finds its parallel in the restriction on a mood-marking *k-* (one Mood Phrase per multiverb construction). This rule could not work for an aspectual *k-* because the Aspect Phrase can never be entirely omitted.

As a result of the syntactic problems posed by an aspectual *k-*, we conclude that an analysis where *k-* is a mood marker more easily accounts for its distribution in MA multiverb

structures. Unlike an aspectual analysis, the mood analysis easily accounts for *k-*'s appearance at the leftmost edge of the verb, before any subject agreement clitics. In addition, an idiosyncratic, semantically governed restriction of one Mood Phrase per multiverb structure is much more simply accounted for than a restriction of one aspectual *k-* (which must move toward the left edge away from the AspP), per construction. This is because mood's lack of association with other elements in the multiverb structure lends itself to a simple "one X Phrase per construction" explanation of *k-*'s distribution. Taking all of these issues into account, in addition to the parallels between restrictions on negation and the restrictions on a mood-marking *k-*, we can conclude that *k-* is a mood marker which, like negation, can only appear on one verb in a multiverb construction.

Along with the insight gained into *k-*'s nature, this section has also posited that a MA multiverb construction can contain one Mood Phrase, with the remaining verbs each inhabiting a separate Tense Phrase. The important discovery here is that we have determined that the verbs of a MA multiverb construction take either a Mood Phrase or a Tense Phrase as their complements; anything smaller than a Tense Phrase would not account for the past and non-past tense expressed on each verb in the string.

## **Conclusion**

This thesis sought to investigate the multiverb constructions of Moroccan Arabic, motivated largely by the spotty and superficial treatment they get in the available literature. To first fill in a descriptive gap, we identified the two verb classes that interact in multiverb constructions: V1 and V2. V1s appear first in a verb string and come from a closed set of verbs containing the small contingent of aspectually important verbs, a large group of verbs which convey mood, and *kan* (to be), which can serve both functions. V2s follow the V1s and can be

any verb in the lexicon. There can be up to two V1s and two V2s in a multiverb construction, although most contain just one of each class.

The components of a multiverb string can be in the perfective aspect, the imperfective aspect, or the imperfective aspect with *k-*. The only definite restriction discovered on V1/V2 verb form combinations was the prohibition of *k-*imperfective/*k-*imperfective verb strings; *k-* can only appear once in a multiverb construction. This raised the question: what about the nature of *k-* sets a restriction on its appearance in the verb string? Upon consulting the literature, we found that linguists are divided between those that believe *k-* marks the indicative mood and those that argue it marks the habitual or progressive aspect. Unfortunately, no one on either side of the debate spends much time defending their position; the claim is often mentioned in passing. Thus, very little is explained about the nature of mood or aspect in MA. Because of this, we then tried to determine which position seemed most realistic, first with semantic evidence, then with a syntactic explanation.

Our semantic arguments for *k-*'s status as either a mood or aspect marker proved inconclusive. Ultimately, tense, aspect, and mood are too closely interrelated to be sorted out and differentiated in a few short pages. This led us to pursue a syntactic explanation for *k-*'s distribution, where a mood-marking *k-* more easily explained *k-*'s position toward the left edge of a verb. The largest problem with the theory of an aspectual *k-* is that the Aspect Phrase is indispensable for every verb in a multiverb construction. This is because every verb is inflected for either the perfective or imperfective aspect. As a result, the Aspect Phrases would have to always generate perfective/imperfective aspect, but sometimes suppress *k-*. A Mood Phrase, on the other hand, is easily omitted from the structure because no other mood inflection is inextricably linked to the verb; from the literature surveyed, it is not even clear that any other

mood inflection exists in MA. With this assumption, we can safely assert that mood agreement does not occur in multiverb constructions. If we argued for an aspectual *k-*, we would not have the same luxury, as perfective/perfective and imperfective/imperfective multiverb combinations are both acceptable forms of aspect agreement.

The theorized “one Mood Phrase per multiverb construction” rule parallels, and is reinforced by, the behavior of the verbal negation circumfix *ma...f(i)*, which also can only occur on one verb in a multiverb construction. Using Aoun et al 2010’s analysis of the Negation Phrase, where both *ma* and *f* are generated at Neg, we can see how all the elements of negation are easily omitted from portions of a multiverb structure; a simple “one Negation Phrase per multiverb construction” suffices to explain negation’s distribution in the verb string. However, an analysis where the Negation Phrase is above the Tense Phrase and below the Mood Phrase might account for negation and *k-*’s behavior more elegantly; with this analysis, one could posit that every layer of the clausal structure present above the Tense Phrase can only appear once in a multiverb construction, based on an idiosyncratic semantic restriction specific to MA. This would mean that negation appears on the left periphery of the clause, along with mood. It appears that this conception of the Negation Phrase is not very popular, and perhaps this model is unlikely. However, if one item that follows this quirky rule is on the left periphery of the clause, and one is embedded in the tense phrase, it is difficult to offer any logical explanation as to why only *k-* and negation are the only elements that follow this rule.

Our semantic and syntactic exploration in this thesis indicates that *k-* is a mood marker, and that multiverb constructions obey a rule which dictates that only one Mood Phrase can appear in a given matrix clause. As a result, we have also concluded that the verbs of a multiverb construction either take a Tense Phrase complement or a Mood Phrase complement.

Although this thesis has reached a conclusion concerning *k*-‘s identity, it is a tentative conclusion. Further research into tense, aspect, and mood in MA generally, and into *k*-‘s role in TAM in particular, would greatly enhance the framework I have tried to lay out in this thesis. If further inquiry strongly supports the notion of an indicative, mood-marking *k*-, then more work should be done to expand our understanding of the MA mood system, especially what mood(s) occur(s) in the absence of *k*-, and if mood, like aspect, in an unalienable quality of the MA verb. On the other hand, if a deeper investigation appears to contradict the conclusions made here, and calls for an aspectual analysis, that analysis would have to overcome the syntactic issues we came across when trying to diagram constructions with an aspectual *k*-; the main challenge would probably be explaining the “one *k*- per multiverb construction” rule, as eliminating additional *k*-s proves difficult when they are generated at the same position as the perfective and imperfective aspect, which are crucial for every verb.

No matter which analysis wins out, linguists should still seek answers as to why only *k*- and negation follow this idiosyncratic rule. We should attempt to identify any other verbal elements that behave this way, then try to account for the application of the “one per multiverb construction” rule. It would be simplest to claim that everything that follows this rule, including negation, inhabits the left periphery, but that analysis could very well complicate many other facets of our understanding of negation of the Arabic verb and of syntax in general.

Ultimately, this thesis sought to catalogue and account for the behavior of a construction which receives little attention in the literature surveyed, despite the existence of multiple MA descriptive grammars. In doing so, this study discovered a complex tangle of tense, aspect, and mood, and an impoverished understanding of how these three elements function in isolation and interact with each other in MA. With any luck, a systematic study of tense, aspect, and mood in

MA will be undertaken in the future, hopefully in a complete and meticulous fashion, as is the tradition in the many grammars of Modern Standard Arabic. A comprehensive understanding of tense, aspect, and mood in Moroccan Arabic would advance our knowledge of not only the structure of multiverb constructions, but of Moroccan Arabic syntax as a whole.

**Appendix I: transcription system**

The inventory of Moroccan Arabic consonants as I will represent them in example sentences, compiled using Ennaji 1985, Youssi 1992, and Harrell 2004:

		Labial	Dental/Alveolar		Post-alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
			plain	emphatic <sup>10</sup>						
<b>Nasal</b>		m	n							
<b>Stop</b>	voiceless		t	T			k	q		ʔ
	voiced	b	d	D			g			
<b>Fricative</b>	voiceless	f	s	S	ʃ		x		ħ	h
	voiced		z	Z	ʒ		ɣ			
<b>Approximant</b>			l			y	w		ʕ	
<b>Tap</b>			r	R						
<b>Trill</b>			rr <sup>11</sup>	RR						

The vowels of Moroccan Arabic are as follows (compiled using the same sources):

- i: close unrounded front vowel
- u: close rounded back vowel
- a: open unrounded low vowel

Note that there is a great deal of phonetic variation in vowels which is not important for this investigation, and is therefore not marked in my transcription. MA's sparse use of vowels and rich consonant clusters have sometimes caused disagreement among linguists as to when a vowel is present, or an unstressed schwa, or no vowel at all. I decided not to include vowels unless it was necessary for phonemic differentiation from another word. Since this thesis does not cover phonology, I feel this broad phonemic transcription suffices.

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<sup>10</sup> Pharyngealized consonants. Harrell 2004 and Wager 1984 also includes an emphatic /B/, /M/, and (in Harrell) /L/. /B/ and /M/ are attested in very few environments and almost never without gemination, most notably in the words /MMi/ "my mother" and /BBa/ "father." /L/ is found in borrowings from other languages and in /LLah/ "god."

<sup>11</sup> The alveolar trill only occurs as the manifestation of a geminated alveolar tap



## Appendix II : Index of Glossing Terms

1	First person
3	Third person
F	Feminine
ASP	Aspect
FUT	Future marker
GEN	Genitive pronoun
GENPART	Genitive particle
IMP	Imperfective
IMPER	Imperative
INDIC	Indicative mood
M	Masculine
NEG	Negation
OBJ	Object of the verb pronoun
P	Plural
PERF	Perfective
S	Singular

## Appendix III: Map

A map of Morocco, excluding the contested region known as Western Sahara. The area I have chosen to focus on is the strip of Atlantic coastline around Casablanca and Rabat, and extending inland to Fes. Other areas with particular similarities, such as *k*- marking, are also used. For example, Brustad also uses informants from Marrakech, Tétouan, Larache (not pictured, Atlantic coast between Kenitra and Tangier) and Beni Milal (not pictured, central Morocco). Map courtesy of the CIA World Factbook.



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