The Arabic Imperfective

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Abstract

This paper argues that the imperfective verb form in Standard Arabic does not express an ‘imperfective’ meaning, but rather marks the default lexical form of the verb, and is therefore analogous to the English infinitive. The progressive and habitual readings cross-linguistically typical of the imperfective are derived in Arabic by applying covert progressive and habitual operators to this infinitival base. This hypothesis is supported by the fact that imperfective verbs receive an eventive interpretation in certain contexts, an interpretation incompatible with the stativity of progressive and habitual readings. Additional scopal evidence indicates that the progressive applies at the verb phrase level, not at the word level at which the imperfective morphology itself is found.

Keywords

tense – aspect – modality – progressive – perfect

1 Introduction

The verb form referred to as ‘imperfective’ in the linguistic typological literature typically expresses progressive or habitual aspect when the underlying verb is eventive (Comrie 1976). Modern Standard Arabic has a verb form that appears to exemplify this generalization. In root contexts, it has either

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a progressive or habitual reading when the underlying verb is eventive, and accordingly is referred to as the imperfective verb form in the Arabic grammatical tradition. However, a body of literature has accumulated that demonstrates that the imperfective verb form has a wider syntactic distribution than expected in light of this rather narrow semantic characterization. Bahloul (1994, pp. 161, 177) claims that the Arabic perfective and imperfective stand in a marked/unmarked relationship, with the imperfective occurring everywhere the perfective with its past tense specification does not occur. Shlonsky (1997) claims that the imperfective is a non-finite verb form, but marked for aspect. Benmamoun (1999, 2000) describes the distribution of the imperfective in detail, pointing out that the imperfective occurs in contexts where tense is specified elsewhere in the syntactic context, such as on an auxiliary or on a negative particle, and that the imperfective verb form functions as the morphological base for the derivation of participles (de-verbal adjectives). These facts are at odds with the idea that the imperfective is itself inflected for tense. Further, Loprieno (1986) argues on the basis of a comparison of ancient Semitic languages that the imperfective was the basic Proto-Semitic verb form from which the perfective developed. These observations put the imperfective on par with the English infinitive, which is derivationally basic.

The aim of this paper is to investigate the function of the imperfective from a semantic angle. I investigate the semantic content of the imperfective verb form and reach the conclusion that the imperfective morphology makes no semantic contribution of its own, either temporal or aspectual, to the meaning of constructions in which it occurs. Rather, the imperfective is the semantically basic form of the Arabic verb corresponding to the English infinitive. Progressive and habitual readings typical of the imperfective cross-linguistically are derived in Arabic by applying covert progressive or habitual morphemes to this non-finite base form. This conclusion supports the literature cited above that takes the imperfective to be the morphosyntactic 'elsewhere' form of the Arabic verb; it is the form that reflects the basic lexical aspectual type of the underlying verb.

The conclusion that the imperfective morphology has no semantic content of its own has broader relevance to linguistic typology for two reasons. First, it raises the specter that the imperfective in other languages has been misdiagnosed as such, and provides tests to determine whether this is so. Second, since the Arabic imperfective verb agrees with its subject, the conclusion that this verb form is non-finite puts Arabic in the class of languages that show agreement on non-finite verbs (the 'inflected infinitive' languages) along the lines of Portuguese (Raposo 1987). I do not pursue these issues here, but focus on the
narrow claim described above, treating Modern Standard Arabic except where specified.

In section 2, I present some background on aspectual types that plays a role in the discussion to follow, reviewing literature that demonstrates that the progressive and habitual readings typically associated with imperfectivity are aspectually stative. In Section 3, I introduce the basic morphological and interpretational facts of Arabic, and in section 4 show that imperfective verbs receive an eventive reading in the context of certain modal predicates. This observation undermines the equivalence of the imperfective form with stativity, indicating that the progressive and habitual interpretations typically associated with imperfectivity are the effect of null operators that the imperfective may occur independently of. In section 5 I further show that the operator that derives the progressive interpretation may be structurally separated from the imperfective verb, occurring above adverbal and quantificational material adjoined to the verb phrase, as in English. This observation results in the picture in (1) for Arabic, where a tense node functions as the locus of tense, while progressive and habitual aspect, to the extend they are present, occur in a separate aspectual head, distinct from the locus of the verb itself. Finally, section 6 discusses the relation of the imperfective to the perfective on this view.

(1) \[ [TP, T, [ASP \emptyset_{PROG/HAB} \ldots [VP V_{IMPF}]]] \]

2 Some Background on Aspect

In English, stative and eventive verb phrases have quite different distributions. Three of the many contexts that distinguish them are described below. First, stative verb phrases like *Mary knows the answer* may occur in the simple present tense, but eventive verb phrases like *Mary fixes the car* may not (except on a habitual interpretation, discussed below).

(2) a. Mary knows the answer.
   b. *Mary fixes the car.

Second, stative and eventive verb phrases trigger a different interpretation of modal predicates like *must* and *might* (Hoffmann 1966, Condoravdi 2002). I discuss the modal infinitive *be likely* here, which is similar in meaning to *might*, because it bears a strong resemblance in form and meaning to an analogous expression in Arabic that I discuss in section 4. In combination
with a stative verb phrase, *be likely* is ambiguous in a certain way. On one hand, it has what Hoffmann calls an ‘epistemic’ reading. Example (3a) may be understood to express the speaker’s degree of epistemic uncertainty at the present time about whether Mary knows the answer or not at the present time. That is, Mary’s knowing or not knowing the answer is simultaneous with the speaker’s uncertainty about whether or not she knows the answer (although *be likely* expresses a low degree of uncertainty, i.e. high confidence in the truth of the underlying sentence). On the other hand, (3a) also has what Condoravdi calls a ‘metaphysical’ reading. Here it expresses the degree of metaphysical uncertainty about whether Mary will know the answer in the future, e.g. at the time of an upcoming test. Here, the underlying state is ‘future shifted’ with respect to the time of the uncertainty; uncertainty exists now about a possible future outcome. This metaphysical, future shifted interpretation is the only available reading of *be likely* in combination with an eventive verb phrase like *fix the car* in (3b), which expresses the degree of metaphysical uncertainty about whether Mary will fix the car in the future. Here again, the car fixing is future shifted with respect to the time of the uncertainty. When she fixes it, then we’ll know she has fixed it, unlike what is the case on the epistemic reading of (3a), where it is actually settled at the evaluation time whether Mary knows the answer or not, but the speaker doesn’t know which way it is settled.

(3)  
   a. Mary is likely to know the answer.  
      [simultaneous/epistemic or future shifted/metaphysical]  
   b. Mary is likely to fix the car.  
      [future shifted/metaphysical only]

Third, stative verb phrases are compatible with *still* (4a) but eventive verb phrases are not, even in the past tense where eventive verb phrases are otherwise felicitous (4b) (Löbner 1989).

(4)  
   a. Mary still knew the answer yesterday.  
   b. *Mary still fixed the car yesterday.

Note now that progressive predicates pattern like stative predicates in all the contexts that diagnose stativity. They are felicitous in the present tense (5a), are compatible with the simultaneous epistemic reading of *be likely* (5b) and are compatible with *still* (5c). These tests and other evidence for the stativity of progressive constructions are described by McCawley (1971), Vlach (1981), Löbner (1989), Parsons (1990), Smith (1991), Vlach (1993), Kamp and Reyle (1993), Condoravdi (2002) and Stowell (2007).
Further, Stowell (2007) points out that eventive verb phrases fall into the distribution of stative predicates when they are interpreted habitually. The habitual interpretation does not have any overt morphological reflex in English, but generally requires a licensing syntactic context, for example a quantificational adverb like *every winter* below. The verb phrase *fix her car every winter* is felicitous in the present tense and compatible with *still* (6).\(^1\)

(6) Mary (still) fixes her car every winter.

3 Inflection and Aspect in Arabic

Arabic verb stems occur in two possible morphological forms, termed ‘perfective’ and ‘imperfective’. The two stem forms are distinguished in morphologically regular ways that are in part a function of the morphological complexity of the stem. I do not describe the morphophonological details of the stem forms here but gloss perfective and imperfective stems consistently below. The two forms are inflected for subject agreement differently, according to the tables below for the third person. The perfective inflection shown in (7) is suffixal while the imperfective inflection, shown in (8) and (9) is circumfixal. The glosses for \(\phi\)- and mood features in the examples below follow Noyer’s (1992) attribution of features to morphological positions of exponence, according to which there are no 3rd person, masculine or singular features in Arabic. The *ya*- prefix found in some of the imperfective forms below is a default placeholder for the prefix position in the imperfective, glossed ∅, as the -\(a\) suffix is a default placeholder for the suffix position in the perfective. The imperfective is the basis for three different morphological ‘moods’: the indicative, subjunctive and jussive, of which only the first two make an appearance in the data discussed below, shown in (8) and (9). The subjunctive (and jussive) is selected by certain syntactic contexts, including modal environments described in section

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1 To my ear, a habitual reading is only marginally available in the non-finite context in *Mary is likely to fix her car every winter*, which reinforces the point that habituality is not an alternative interpretation of the basic verb, but a null operator that some syntactic contexts do not support.
4. The indicative is the elsewhere form (Benmamoun 1999). See Ryding (2005) or Aoun et al. (2010) for complete paradigms for Arabic and an overview of the morphophonological details.\(^2\)

<table>
<thead>
<tr>
<th>(7) Perfective</th>
<th>Gloss</th>
<th>(\phi)-Features</th>
</tr>
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<tbody>
<tr>
<td>katab-a</td>
<td>write(_{\text{PERF}})-∅</td>
<td>3MS</td>
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<td>katab-at</td>
<td>write(_{\text{PERF}})-F</td>
<td>3FS</td>
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<td>katab-ū</td>
<td>write(_{\text{PERF}})-P</td>
<td>3MP</td>
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<tr>
<td>katab-na</td>
<td>write(_{\text{PERF}})-FP</td>
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<tr>
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<th>Gloss</th>
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<tr>
<td>ya-ktub-u</td>
<td>∅-write(_{\text{IMPF}})-IND</td>
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<td>ta-ktub-u</td>
<td>F-write(_{\text{IMPF}})-IND</td>
<td>3FS</td>
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<tr>
<td>ya-ktub-ūna</td>
<td>∅-write(_{\text{IMPF}})-P.IND</td>
<td>3MP</td>
</tr>
<tr>
<td>ya-ktub-na</td>
<td>∅-write(_{\text{IMPF}})-FP.IND</td>
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<tr>
<th>(9) Imperfective Subjunctive</th>
<th>Gloss</th>
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<tbody>
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<tr>
<td>ta-ktub-a</td>
<td>F-write(_{\text{IMPF}})-SUB</td>
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<tr>
<td>ya-ktub-ū</td>
<td>∅-write(_{\text{IMPF}})-P.SUB</td>
<td>3MP</td>
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<tr>
<td>ya-ktub-na</td>
<td>∅-write(_{\text{IMPF}})-FP.SUB</td>
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\(^2\) I use the following abbreviations in the glosses: IMPF = imperfective, PERF = perfective, IND = indicative, SUB = subjunctive, 1, 2, 3 = first, second and third person respectively, M = masculine, F = feminine, P = plural, NOM = nominative, ACC = accusative, GEN = genitive. The case suffixes -u, -a and -i (nominative, accusative and genitive respectively) become -un, -an and -in under some circumstances; the distinction is syntactically conditioned and is not reflected in the glosses.
I emphasize at this juncture that the terms ‘perfective’ and ‘imperfective’ designate morphological categories and are used throughout this paper only to refer to a verb’s morphological form. The question of what interpretations these morphological categories are compatible with is part of what is at issue here, so I do not use these morphological terms with any semantic prejudice. When referring to occurrences of verbs in particular examples below, I cite the verb in the morphological form it occurs in in the example in question. When not referring to a particular example I abide by the Arabic linguistic convention of citing verbs in their third person masculine singular (i.e. unmarked) perfective form.

In a root clause, a stative verb in the imperfective form is interpreted as describing a state that holds at the present (utterance) time (10a). An eventive verb is interpreted as describing either an event that is in progress at the present time (the ‘progressive’ reading) or the habitual occurrence of an event falling under the underlying verb denotation (the ‘habitual’ reading). The adverb l-ʔāna (now) in (10b) facilitates the present progressive interpretation of the imperfect and the quantificational adverb in (10c) facilitates the present habitual interpretation. See Bahloul (1994), Benmamoun (1999, 2000) and Fassi Fehri (2003, 2004) for these and other generalizations about tense and aspect in Standard Arabic. We have seen that in English, progressive and habitual predicates distribute as stative predicates do. Similarly, all three predicates in (10) (stative, progressive and habitual) are grammatical with a present tense reading, and are compatible with lā tazālu (still, literally ‘not cease’). Note in contrast that lā tazālu is not compatible with a perfective verb (10d). It appears that the Arabic imperfective is associated with stativity. Modal contexts are discussed in the following section.

(10) a. nuhā (lā ta-zāl-u) ta-ʕrif-u l-žawāb-a.
   nuha (not F- ceaseIMPf-IND) F-knowIMPf-IND the-answer-ACC
   ‘Nuha (still) knows the answer.’

b. nuhā (lā ta-zāl-u) tu-ṣalliḥ-u s-sayyārat-a l-ʔān-a.
   nuha (not F- ceaseIMPf-IND) F-fixIMPf-IND the-car-ACC the-now-ACC
   ‘Nuha is (still) fixing the car now.’

c. nuhā (lā ta-zāl-u) tu-ṣalliḥ-u s-sayyārat-a kull-a
   nuha (not F- ceaseIMPf-IND) F-fixIMPf-IND the-car-ACC every-ACC
   šitāʔ-in.
   winter-GEN
   ‘Nuha (still) fixes the car every winter.’
In a root clause, the perfective morphological form expresses that an eventuality described by the underlying verb occurred in the past with respect to the utterance time. (11a) illustrates a stative perfective verb and (11b) an eventive perfective verb. Like its English simple past counterpart, the perfective eventive verb in (11b) asserts that the event in question occurred in its entirety in the past. It is “completive”. In the remainder of this section and in section 4, I discuss the distribution and interpretation of the imperfective in greater detail. I return to the perfective in section 6.

    know-perf-F nuha the-answer-acc
    ‘Nuha knew the answer.’

b. ꜜṣallah-at ꜜnuhā ꜜs-sayyārat-a.
    fix-perf-F nuha the-car-acc
    ‘Nuha fixed the car.’

If, as it appears above, the imperfective verb morphology is associated with stativity, and therefore with the progressive or habitual readings of underlyingly eventive verbs, then an imperfective eventive verb should never be found with anything other than a progressive or habitual interpretation. On the other hand, if progressive and habitual meanings are contributed by covert semantic operators, then in the absence of one of these operators, the imperfective form of the verb will show its underlying lexical aspectual type, which for verbs like ꜜṣallaha (fix) is eventive. So on this hypothesis, an underlyingly eventive verb should at least sometimes get an eventive reading in the imperfective form, while again, if the imperfective morphology itself is stativizing, it should only ever get a stative (progressive or habitual) reading.

The English facts reviewed in section 2 suggest that the present tense only admits stative predicates, that is, stative verb phrases or progressive or habitual interpretations of eventive verb phrases. Therefore, if an eventive reading is available to the imperfective verb tuṣalliḥu (fix), we do not expect to find it in (10b), since this eventive reading is not compatible with the simple present tense context in that example. If we do not expect to find the hypothesized eventive readings of imperfective verbs in present tense contexts, where could we look for them? In the following section, I show that they can be found in modal contexts.
4 Interactions of Aspect and Modality

In this section, I discuss interpretations of the modal predicate min l-muhtarimali (likely, literally ‘of the likely’), which displays a sensitivity to the aspect of the following verb phrase along the lines of English likely discussed in section 2. The modal predicate min l-muhtarimali is typically followed by the complementizer ?an, which in turn selects an imperfective verb in the subjunctive mood under immediate adjacency. This verb is in turn followed by its dependents, including the subject if it is overt (Arabic is pro-drop, that is, a pronominal subject is normally not pronounced). As in the case of English be likely, a stative verb phrase is compatible with either a simultaneous epistemic reading of the modal predicate min l-muhtarimali ?an or with a future shifted, metaphysical reading. An eventive verb phrase, however, only triggers the future shifted, metaphysical reading. In the scope of min l-muhtarimali ?an, no progressive or habitual reading is available to an eventive verb phrase, even though the verb is necessarily imperfective in this context. This in turn means that in contexts like min l-muhtarimali ?an, imperfective verb phrases show their underlying lexical aspectual type, meaning that imperfective morphology does not make any semantic contribution of its own in these cases.

In the service of demonstrating that the interpretational contingencies described here are found in native, non-elicited texts, the examples discussed below are taken from the Arabic corpus database of newspaper articles from a variety of major contemporary Arabic newspapers. The examples below demonstrate that a stative verb phrase is compatible with a simultaneous, epistemic reading of the modal min l-muhtarimali ?an. This appears to be the intended reading of the attested examples in (12) and (13). Most such cases involve non-verbal predicates supported by an imperfective copular auxiliary, as in (12), though some attested examples have a stative main verb (13).

(12) a. wa-ʔaḍāf-at ʔanna s-sayyār-āt-i l-atī min l-muhtarimal-i and-addPERF-F that the-car-FP-ACC the-which of the-likely-GEN ?an ta-kūn-a mutaʔaϑϑir-at-an hiya min mūdīl-i 2011. that beIMPF-SUB effected-p-ACC they of model-gen 2011

‘And she added that the cars that are likely to be effected [by previously mentioned mechanical problems] are 2011 model cars.’

3 The database is available at: http://arabicorpus.byu.edu.
b. ʔanna ʔ-ʔāʔir-ʔāt-i l-ʔamrīkīyy-at-a tu-wāṣil-u
that the-airplane-FP-ACC the-american-P-ACC P-continue<sub>IMPF-IND</sub>
qasf-a-hā li-mīʔ-ʔāt-i l-kufūf-i
bombardment-ACC-their of-hundred-FP-GEN the-caves-GEN
wa-l-ʔanfāq-i l-latī min l-muḥtamal-i ʔan
and-the-tunnels-GEN the-which of the-likely-GEN that
ya-kūn-a bin lādin wa-gayr-u-hu min zuṣamāʔ-i
∅-be<sub>IMPF-SUB</sub> bin laden and-other-NOM-his of leaders-GEN
l-qāʕid-at-i mustabiʔ-ʔīna fi-hā.
the-kaida-F-GEN hidden-ACC-P in-them
‘[Rumsfeld said] that American airplanes continue their bombardment of hundreds of caves and tunnels that Bin Laden and other Al Kaida leaders are likely to be hidden in.’

c. ʔa-ʔstaqīd-u ʔanna min l-muḥtamal-i ʔan ya-kūn-a
1-believe<sub>IMPF-IND</sub> that of the-likely-GEN that ∅-be<sub>IMPF-SUB</sub>
dālika ʕalām-at-an ʕalā stīfīdād-i-himā
that sign-F-ACC of readiness-GEN-their<sub>DUAL</sub>
li-t-taʕāwun-i fi żadwal-i ʔīmāl-in siyāsīyy-in.
to-the-cooperation-GEN in agenda-GEN actions-GEN political-GEN
‘I believe that this is likely to be a sign of their readiness to cooperate on a political agenda.’

d. fa-ʔinna-hu ya-timm-u taẓāḥul-u maʕlūm-āt-in ʔaqall-a
so-indeed it ∅-occur<sub>IMPF-IND</sub> neglect-NOM fact-FP-GEN less-GEN
ʔiʔār-at-an wa-min l-muḥtamal-i ʔan ta-kūn-a
interest-F-ACC and-of the-likely-GEN that P-be<sub>IMPF-SUB</sub>
darūriyy-at-an li-fāhm-i l-mawḍūʕ-i kāmil-an.
critical-P-ACC to-understanding-GEN the-issue-GEN complete-ACC.
‘Facts have been neglected that are less interesting but are likely to be critical in order to understand the issue completely.’

(13) a. wa-ʔašār-a ʔilā ʔanna min l-muḥtamal-i ʔan ya-kūn-a
and-refer<sub>PERF-∅</sub> to that of the-likely-GEN that ∅-be<sub>IMPF-SUB</sub>
ʔ-ʔīfl-u ʔu-ʕānī min ʔiḍṭirāb-in fāḥifīyy-in.
the-child-NOM ∅-suffer<sub>IMPF</sub> from disturbance-GEN emotional-GEN
‘And he pointed out that the child is likely to suffer from an emotional disorder.’
b. min l-muhtamal-i ?an ta-kūn-a hunāka ?ašyāʔ-un of the-likely-gen that ∅-be_{impef}-sub there things-nom ta-tahammal-u sūriyyā masūliyy-at-a-hā. F-carry_{impef}-ind syria responsibility-f-acc-their
‘There are likely to be things that Syria carries the responsibility for.’

A stative verb phrase is also compatible with a future shifted, metaphysical reading of min l-muhtamali ?an, which seems to be the intended reading of the attested examples in (14) below, some of which contain future oriented temporal modifiers that make the future shifting of the state described by the main verb explicit.

‘During the next year and a half or two years inflation is likely to be much lower than this rate because of a decrease in the price of imports.’

‘She finds herself at the edge of a psychological, emotional and existential crisis, her reaction to which is not likely to be pleasant in the medium term.’
But unlike stative verb phrases, eventive verb phrases are only compatible with the future shifted, metaphysical reading of min l-muhtamali ʔan, just the
reading eventive verb phrases trigger for *be likely* in English, cf. (3b). In the examples below, the future shifted metaphysical reading of *min l-muḥtamal* is evident, and native speakers judge a simultaneous epistemic reading of the modal and, accordingly, a progressive reading of the underlying verb phrase, to be impossible in these examples.

(15) a. *min l-muḥtamal-i ḥan ya-qūm-a l-ʔamūr-u*  
of the-likely-gen that ∅-undertake,IMPF-SUB the-prince-NOM  
*nāyif bin ʕabdu l-ʕazīz bī-ziyār-at-in qarīb-at-in*  
nayif bin abul aziz in-visit-F-GEN soon-F-GEN  
*lī-l-yaman-i.*  
to-the-yemen-GEN  
‘Prince Nayif bin Abdulaziz is likely to undertake a visit to Yemen soon.’

b. *wa-ʔawḍah-a d-duktūr-u l-ʔibrāhīm ḥan hu min*  
and-clarify,PERF-∅ the-doctor-NOM alibrahim that-it of  
*l-muḥtamal-i ḥan tu-nāqiš-a l-qimm-at-u mawdūf-a*  
the-likely-gen that F-debate,IMPF-SUB the-summit-F-NOM topic-ACC  
ʔiʕād-at-i ʔiʕmār-i ʔafġānistān-a.  
return-F-GEN construction-GEN afganista-gen  
‘And Dr. Ibrahim clarified that the summit is likely to debate the issue of the reconstruction of Afghanistan.’

c. *min l-muḥtamal-i ḥan ta-taʕarraḍ-a wāšinṭun*  
of the-likely-gen that F-subject,IMPF-SUB washington  
*l-ʔintiqād-āt-in min duwal-in ʕarabiyy-at-in miθla*  
to-criticism-PF-GEN from nations-GEN arab-P-GEN like  
*l-ʔurdunn-i wa-s-saʕūdiyy-at-i.*  
the-jordan-GEN and-the-saudi-F-GEN  
‘Washington is likely to be subjected to criticism from Arab nations like Jordan and Saudi Arabia.’

d. *min l-muḥtamal-i ḥan tu-ʕlin-a š-šarik-at-u*  
of the-likely-gen that F-announce,IMPF-SUB the-company-F-NOM  
*l-britāniyy-at-u l-yawm-a ʔulāʔat-a ḥan ʔiḥtiyāṭiy-in*  
the-british-F-NOM the-day-ACC the-tuesday-ACC on reserve-GEN  
naqdīyy-in bi-qīm-at-i 21.6 milyār yūrū.  
financial-GEN in-value-F-GEN 21.6 billion euros  
‘The British company is likely to announce financial reserves in the amount of 21.6 billion euros on Tuesday.’
e. wa-hādir-at d-dirās-at-u ?anna-hu min l-muhtamal-i ?an and-warnperf-F the-study-F-NOM that-it of likely-gen that ta-xluq-a barāmaż-u l-faḍāliyy-ät-i p-createperf-SUB programs-NOM the-satellite-FP-GEN l-tarabiyy-ät-i l-ʔiḍṭirāb-a l-ʔižtimāliyya-wa-ʔadam-a the-arab-P-GEN the-turmoil-ACC the-social-ACC and-lack-ACC l-ʔistiqrār-i. the-stabiltiy-GEN ‘And the study warned that the programs of the Arab satellite [media] are likely to create social turmoil and instability.’

f. min l-muhtamal-i ?an ta-blūj-a nisb-at-u of the-likely-gen that f-reachperf-SUB rate-F-NOM n-numuww-i fī hādihi l-fitr-at-i ḥawāli 10% the-growth-gen in this the-period-F-GEN approximately 10% bi-sabab-i tadaffuq-i l-ʔistiϑmâr-i. for-reason-GEN influx-GEN the-investment-GEN ‘The growth rate is likely to reach 10% in this period due to the influx of investment.’

g. min l-muhtamal-i ?an ya-taʔaddad-a l-qitāl-u fī of the-likely-gen that ∅-renewperf-SUB the-fighting-NOM in ʔaw?-i mā ʔakar-at-hu l-ʔiḍāf-at-u light-GEN what mentionperf-F-it the-radio-F-NOM l-ʔiritriyy-ät-u. the-eritrean-F-NOM ‘The fighting is likely to renew in light of what the Eritrean radio has mentioned.’

h. min l-muhtamal-i ?an ya-nasḥib-a l-ʔaʔdāʔ?-u of the-likely-gen that ∅-withdrawperf-SUB the-members-NOM l-ʔasaywiyy-ūna l-xamsat-u wa-ʔarbaʕ-ūna fī the-asian-NOM.P the-five-NOM and-forty-NOM.P in l-ʔittiḥād-i d-duwalīyy-i min the-federation-gen the-international-gen from l-muʔtamar-i l-ʔistiϑnâʔ-ī li-l-fiʕā. the-conference-GEN the-special-GEN for-the-FIFA ‘The forty five Asian members of the international federation are likely to withdraw from the special committee on FIFA.’
If a progressive or habitual reading were available to the imperfective verb phrases in (15), then a simultaneous epistemic reading should be available to the modal in such examples. But such a reading is only available to the modal when the verb phrase is **lexically** stative, as in (12) and (13). This means that in the scope of *min l-muhton* aʔan, the verb displays its basic lexical aspect, which in (15) is eventive. This undermines the view that the imperfective morphology is stativizing and supports the view that the imperfective represents the basic non-finite form of the underlying verb.

These observations also substantiate the analogy between the Arabic imperfective and the English non-finite verb form seen in the translations to the examples in (12)–(15). The English non-finite verb form is morphologically invariant and does not admit a stative interpretation for underlyingly eventive verbs. However, the English progressive morpheme *be + ing* may itself occur in a non-finite context, as in (5b). Although none of the imperfective verbs in (15) have a progressive interpretation, the Arabic corpus data for *min l-muhton* include occasional examples in which an imperfective indicative verb is subordinated to a copular auxiliary in the subjunctive mood. It is relatively clear from the context that a progressive reading of the indicative verb is intended in such examples, several of which are cited in (16).

(16) a. *min l-muhton* aʔan ta-kūn-a ʔaslih-at-un
    of the-likely-gen that P-be IMPF-SUB weapons-F-NOM
    ta-ṣil-u  min s-sūdān-i ʔilā qiṭāʕ-i ʔazz-at-a.
    f-arrive IMPF-IND from the-sudan-gen to strip-gen gaza-F-GEN
    ‘Weapons are likely to be arriving from Sudan to the Gaza Strip.’

b. *min l-muhton* aʔan ta-kūn-a s-sulṭ-āt-u
    of the-likely-gen that P-be IMPF-SUB the-authority-FP-NOM
    l-ʔirāniyy-at-u ta-duṟr-u bi-bilād-i-hā ʔakšar-a
    the-iranian-P-NOM P-harm IMPF-IND in-lands-GEN-their more-ACC
    mim-mā ta-duṟr-u bi-hā l-ʕuqūb-āt-u
    than-what P-harm IMPF-IND in-them the-sanction-FP-NOM
    l-ʔamīrkūyy-at-u,
    the-american-P-NOM
    ‘The Iranian authorities are likely to be harming their country more than the American sanctions are.’
These observations are compatible with the claim that the complementizer \(?an\) selects a non-finite TP with the inflectional feature \([+\text{subjunctive}]\). The main verb normally raises to T, where it acquires the subjunctive specification of T, as illustrated in (17a). The examples in (16) indicate that it is possible to have a progressive interpretation within the complement of \(?an\), but that this interpretation requires auxiliary support. This observation is compatible with the view that a progressive head may intervene between T and VP that blocks verb movement to the subjunctive-marked T. A copular auxiliary verb is adjoined instead to T to host the subjunctive morphology, while the main verb in this case receives default indicative morphology, shown in (17b). Neither the auxiliary nor the imperfective verb are finite in this context. Note that in the trees in (17), there is no syntactic locus of imperfective morphology, i.e. no ‘imperfective’ head. Imperfective is the default non-finite morphological form of the verb.4

4 In contrast to the conclusions reached here, Fassi Fehri (2004) claims that the Arabic imperfective is strongly associated with a progressive reading, pointing out that the imperfective verb yaʔkululu (eat) in (i) has only a reading analogous to the English progressive eating, and cannot be interpreted like the bare infinitive eat, which is unexpected if an eventive reading is available to the imperfective in principle. On one hand, this might mean that the progressive reading is obligatorily selected by the context the imperfective occurs in in (i). On the other hand, a reviewer of the present work points out that the achievement verb yaʃuzu (win) is grammatical in the same context (ii). In this case, an eventive reading analogous to win is available alongside the progressive reading analogous to winning, which brings us back to the question of why the eventive reading is not available in (i). It appears that the readings available here are a function of the aspectual type of the underlying verb, the range of interpretations available to the imperfective, and the meaning of raʔā (see). I must leave a detailed investigation of these interactions for future research.

(i) raʔay-tu l-raẓul-a ya-ʔkul-u t-tuffāḥat-a.
\textit{see-perf-1s the-man-ACC ∅-eat.impf-ind the-apple-ACC}
‘I saw the man eating/*eat the apple.’
The picture in (17) lends support to the analogy between the Arabic indicative and the English non-finite verb. Both are compatible with the progressive if a copula is introduced. The progressive morphology appears overtly in English as the verb suffix -ing. In Arabic, the progressive is non-overt, but detectable by virtue of the fact that it interrupts the concatenation of the main verb with the subjunctive morphology in the non-finite T head in (17b). The trees in (17a) and (17b) are similar to phrase structure trees given for Arabic in Shlonsky (1997), Benmamoun (1999, 2000), and Fassi Fehri (2004), where the Arabic imperfective is argued to be a non-finite verb form. Shlonsky (1997, p. 96 ff.) addresses the issue of which non-finite form exactly the imperfective corresponds to, claiming that the Arabic imperfective is analogous to the active participles in Hebrew, which in turn bear a resemblance to participles in Romance languages that, like the Arabic indicative, inflect for agreement with the subject. But as Shlonsky describes in detail, the active participles in Hebrew (the ‘benoni’ form) consistently show a progressive reading in combination with an eventive base verb. This is the interpretation that the Ara-

(ii) raʔay-tu l-ražul-a ya-fūz-u bi-s-sibāq-i.
see perf-1s the-man-ACC ∅-win IMPF-IND in-the-race-GEN
‘I saw the man winning/win the race.’
bic imperfective appears to have at first glance, but the data discussed here cast doubt on this view of the imperfective. While the literature cited above is largely uniform in its claim that the imperfective is not a finite verb form, the present study contributes the observation that the imperfective does not have any particular aspectual profile, either. That is, it is neither a temporal nor an aspectual category. Consequently, the analogy to the English infinitive appears to be better motivated than the analogy to the Hebrew benoni. The evidence reviewed here nonetheless supports Shlonsky’s view that the Arabic imperfective is a non-finite form that occurs low in the clause, and that, consequently, the agreement inflection it bears is not associated with finiteness.

I add in passing at this juncture that min l-muħtamali also occurs freely (though less commonly in the database) with the complementizer ʔanna, which embeds a finite sentence including a left peripheral topic position. The complementizer ʔanna assigns accusative Case to the topic. Since the progressive interpretation of the imperfective occurs freely in finite contexts, as we have already seen, we expect to find progressive readings of indicative imperfective verbs under ʔanna triggering the epistemic reading of the modal predicate min l-muħtamali. This is the case, as the examples in (18) show. As expected, other finite predicates occur in the context of min l-muhtaralalimi ʔanna, including sentences with non-verbal predicates (19) and sentences with a perfective verb (20). The epistemic simultaneous reading of the modal seems to be intended in all three sentence types in the attested examples below.

(18) a. l-ʕālam-u māḏ-in fi l-bahθ-i ʔan
the-world-nom conducting-nom in the-search-gen for
l-munadθam-āt-i wa-l-hayʔ-āt-i l-latī min
the-organization-fp-gen and-the-body-fp-gen the-which of
l-muθtamal-ʔanna-hā tu-mawwil-u l-ʔirḥāb-a.
the-likely-gen that-they p-finance imperative the-terrorism-acc
‘The world is searching for the organizations and bodies that it is likely are financing terrorism.’
b. ʔanna ṭabīb-a ṭimtiyāz-in haḍar-a
that doctor-ACC distinction-GEN arrive_{PERF}∅
wa-ʔaxbar-a-hum ʔanna-hu min l-muḥtamal-i ʔanna
and-inform_{PERF}∅-them that-it of the-likely-GEN that
l-ʕumūd-a l-fiqrīyy-a ya-dgiatan ʕalā
the-column-ACC the-spinal-ACC ∅-press_{IMPF-IND} on
l-muxx-i.
the-brain-GEN.
'[He said] that a distinguished specialist arrived and told them that it
was likely that the spinal column was putting pressure on the brain.'

(19) a. wa-qāl-a l-bāhiθ-ūna ṭinna-hu min l-muḥtamal-i
and-say_{PERF}∅ the-researcher-NOM.P that-it of the-likely-GEN
ʔanna hādihi s-sulāl-at-a ʔašadd-u fatk-an.
that this the-variety-F-ACC stronger-NOM lethality-ACC
'And the researchers said that it is likely that this variety [of virus] is
highly lethal.'

b. ya-timm-u taqdim-u mašlūm-āt-in
∅-occur_{IMPF-IND} submission-NOM information-FP-GEN
li-muqaddim-i l-xadam-āt-i š-sihhiyy-āt-i ḫawla
to-provider-GEN.P the-service-FP-GEN the-health-P-GEN about
t-tamāss-i l-ḥāliyy-i maša l-ʕāʔil-īn al-ʕāʔil-at-i
the-contact-GEN the-current-GEN with the-family-F-GEN
wa-l-ʔafrād-i wa-l-ʔaṣdiqāʔ-i ʔaw ʔayy-i
and-the-associates-GEN and-friends-GEN or any-GEN
ʔašxās-in āxar-īna min l-muḥtamal-i ʔanna-hum
persons-GEN other-GEN.P of the-likely-GEN that-they
ḥamalat-un li-maraḍ-i s-sill-i.
carriers-NOM to-sickness-GEN the-tuberculosis-GEN
'Information is submitted to health service providers about current
contact with the family or associates or friends or any other persons
who it is likely are carriers of tuberculosis.'
a. min l-muḥtamal-i ʔanna maxzūn-āt-i l-naft-i l-xāmm-i of the-likely-GEN that stock-FP-ACC the-oil-GEN the-crude-GEN l-ʔamīrkiyyat-a habaṭ-āt l-ʔusbūʕ-a l-mādī the-american-F-ACC sink_PERF-PEF the-week-ACC the-past li-l-ʔusbūʕ-i ẓ-ẓānī ʕalā t-tawālī. for-the-week-ACC the-second on the-succession

'It is likely that American crude oil stocks sank last week for the second successive week.'

b. qāl-at inna min l-muḥtamal-i ʔanna l-farīq-a say_PERF-F that of the-likely-GEN that the-team-ACC l-waṭaniyya-taʕarraḍ-a li-ḍuġūṭ-in the-national-ACC subject_PERF-∅ to-pressures-GEN li-t-taxallī ʕan l-mubārāt-i. to-the-withdrawal-GEN from the-match-GEN

'She said that it was likely that the national team was subjected to pressure to pull out of the match.'

The fact that min l-muḥtamali ʔan must be followed by an imperfective verb but excludes a progressive interpretation of that verb shows that the imperfective morphology is not itself responsible for the progressive (or habitual) interpretation found in root contexts. In this case, the imperfective verb shows its basic lexical aspectual type. This supports the hypothesis that the imperfective form of the verb is its unaugmented basic form. The progressive and habitual interpretations are derived by covert progressive and habitual operators to the extent they are compatible with the syntactic context. The remainder of this paper turns to two tangential issues in the analysis of the imperfective, namely the question of where the syntactic locus of the null progressive morpheme is, and the question of the imperfective’s relation to the perfective. These issues are dealt with in turn below.

5 Where is the Progressive?

This section presents evidence that the progressive interpretation found in imperfective contexts in Arabic has a syntactic locus external to the verb phrase. That is, the operator that introduces the progressive meaning is not a word-level operator, but a vp-level operator. This view is in line with the semantics literature on the progressive, which from Montague (1973) onward takes the progressive to apply to a proposition, and with syntactic literature that
characterizes VP (more recently ‘vP’) as a proposition-denoting constituent (Ross 1969, McCawley 1970, Chomsky 2000, and many others). I emphasize that this claim is actually independent of the question treated above of whether the operator in question is a null operator or the imperfective morphology itself. The conclusions reached below about the locus of the progressive are compatible with both hypotheses, though the discussion above supports the null operator hypothesis.

Leech (1971), Vlach (1981), Moens and Steedman (1988), Partee and Bach (1984) and others point out that the interpretation of when-clauses in English interacts with the aspectual status of the main clause predicate. Modifying a stative predicate, a when clause asserts that the when-clause eventuality takes place during the main clause state (21a). Modifying an eventive predicate, a when-clause asserts that the when-clause eventuality happens before the main clause event (21b). Note that the when-clause interacts with the progressive predicate in (21c) in the way typical of stative predicates. Vlach concludes that progressive predicates are stative on the basis of this and other parallels.

(21) a. Max was here when I arrived. [arrival during being here]
   b. Max ran when I arrived. [running after, perhaps caused by, arrival]
   c. Max was running when I arrived. [arrival during running]

Hallman (2009) points out that there are in principle two possible attachment sites for the when-clause in a progressive VP like (21c). It could apply to the higher, progressive, stative VP be running, as it seems to in (21c), or it could apply to the lower, eventive VP run. It is possible to disambiguate in favor of the lower reading by placing a variable in the when-clause that is bound by a quantifier in the main clause which itself is in the scope of the progressive operator. The examples in (22) illustrate such a construction (Hallman 2009, p. 52). Example (22a) is intended to describe a scene in which various vases repeatedly get dirty, and every time one gets dirty, Max goes and cleans it. Here, the when-clause interacts with the main verb clean in the manner typical of eventive predicates. Max cleans each vase after it gets dirty. The progressive derivative describes a subinterval during this complex event, as standard analyses of the progressive predict (Dowty 1979, and many others). Likewise, (22b) describes a subinterval of a complex event in which every time an ashtray fills up, Max empties it. The underlying event description is the highest VP node in (22c). The progressive morpheme applies to this complex predicate, including the main verb phrase and the adjunct, illustrated in the tree in (22d). This progressive derivative describes a time span during the event described by (22c). The quantifier must scope above the VP+CP complex because it binds a variable in both VP
and CP, and thus intervenes between the progressive operator and the main
verb phrase. The past tense applies to the result, placing the time span at
which the progressive predicate holds in the past with respect to the utterance
time. The interpretation of this and similar examples shows that in English
the progressive operator can be separated from the underlying eventive verb
phrase it applies to by an adjunct clause and a quantifier.

\[(22)\]

a. Max was cleaning every vase when it got dirty.
b. Max was emptying every ashtray when it filled up.
c. \([\text{every ashtray}_x [\text{Max cleans } x] \text{ when } x \text{ gets dirty}]\)
d. 

\[
\begin{array}{c}
\text{TP} \\
\text{T} \\
\text{PAST} \\
\text{PROG} \\
\text{Asp} \\
\text{Asp} \\
\text{VP} \\
\text{VP} \\
\text{DP} \\
\text{every vase}_x \\
\text{Max cleans } x \text{ when } x \text{ gets dirty}
\end{array}
\]

If the observations above can be duplicated in Arabic, we have evidence that
the progressive interpretation of the imperfective is contributed by an oper-
ator occurring potentially at some distance from the underlying eventive verb
phrase, as in the tree in (22d), supporting the syntax in (22d) for Arabic. The
progressive reading of the Arabic imperfective is put in the past tense by the
auxiliary \textit{kāna}, the perfective form of the copular auxiliary \textit{yakūnu}. The exam-
pies in (23a) and (23b) are the Arabic counterparts of (22a) and (22b). (23c)–
(23f) show additional constructed examples of the construction.

\[(23)\]

a. \textit{mahīr kān-a yu-naissance kull-a mazhariyyat-in lammā māhīr be}_{\text{PERF}} / \text{∅-clean}_{\text{IMPF}} / \text{IND} \text{ every-ACC vase-F-GEN when kān-at tu-ṣbīh-u wasix-at-an. be}_{\text{PERF}} / \text{F-become}_{\text{IMPF}} / \text{IND} \text{ dirty-F-ACC}
\]

‘Mahir was cleaning every vase when it got dirty.’

b. \textit{mahīr kān-a yu-ṭrif-u kull-a naffād-at-in lammā māhīr be}_{\text{PERF}} / \text{∅-empty}_{\text{IMPF}} / \text{IND} \text{ every-ACC ashtray-F-GEN when kān-at ta-tarākam-u s-sażāʔir-u fi-hā. be}_{\text{PERF}} / \text{F-accumulate}_{\text{IND}} \text{ the-cigarettes-NOM in-it}
\]

‘Mahir was emptying every ashtray when it filled up.’
c. ʔal-muḥarrir-u kān-a yu-ṣahḥih-u kull-a maqāl-at-in
the-editor-NOM be PERF Ø Ø-correct IMPF-IND every-ACC article-F-GEN
lamma kān-at ta-ṣil-u la-hu.
when be IMPF-F F-arrive IMPF-IND to-him
‘The editor was proofreading every article when he received it.’

d. mufattiš-u l-žamārik-i kān-a yu-fattiš-u
inspector-NOM the-customs-GEN be PERF Ø Ø-inspect IMPF-IND
cull-a qārib-in lamma kān-a ya-qif-u fī
every-ACC boat-GEN when be PERF Ø Ø-stop IMPF-IND in
l-mīnāʔ-i.
the-marina-GEN
‘The customs agent was inspecting every boat when it docked.’

e. ʔaš-šurṭ-at-u kān-at ta-stažwib-u kull-a
the-police-F-NOM be PERF Ø F-interrogate IMPF-IND every-ACC
muttaham-in lammā kān-at tu-lqī l-qabḍ-a ʕalay-hi.
suspect-GEN when be PERF-F F-throw IMPF the-arrest-ACC on-him
‘The police were questioning every suspect when they arrested him.’

f. muwaḏḏif-u l-maktab-at-i kān-a yu-ržiʕ-u
employee-NOM the-library-F-GEN be PERF Ø Ø-return IMPF-IND
cull-a kitāb-in ʔilā makān-i-hi lamma kān-a
every-ACC book-GEN to place-GEN-its when be PERF Ø
yu-ʕīd-u-hu šaxš-un mā.
Ø-return IMPF-IND-it someone-NOM any
‘The librarian was reshelving every book when someone returned it.’

These observations show that the syntactic analysis of English in (22d) carries
over to Arabic, and therefore that the syntax of the progressive construction is
identical in English and Arabic in spite of the covertness (as argued in section 3)
of the Arabic progressive morpheme. I conclude this paper with some remarks
on the relationship between imperfective and the perfective in light of the view
proposed here of the imperfective.

6  The Arabic Perfective

As illustrated in the examples in (23), the past progressive is expressed by com-
bining the imperfective verb (together with the null progressive morpheme)
with the perfective copular auxiliary \textit{kāna}. The habitual reading of the imperfective verb is put in the past in the same manner, as the following example from Reckendorf (1895, p. 57) illustrates, which he cites from Tha’labi’s \textit{qiṣaṣ l-ʔanbiyāʔ} (\textit{Stories of the Prophets}). It begins with the perfective auxiliary \textit{kān-at} (\textit{was-f}) and continues with a sequence of imperfective verb phrases in combination with the temporal quantifier \textit{kulla laylatin} (\textit{every night}). These imperfective verb phrases describe activities that the servant mentioned at the beginning would perform every night. The continuation of the narrative in (25) describes the things she did on one particular night, and in this context all the verb phrases that are imperfective in (24) appear in the perfective form. In (24), the habitual actions described in the imperfective are put in the past tense by the perfective morphology on the auxiliary \textit{kāna}. The auxiliary occurs only once, temporally subordinating all the habitual imperfective verbs in (24). As soon as the focus of the narrative turns to the particular night in question in (25), the narrative continues in the perfective.

\begin{verbatim}
(24) kān-at la-hu waṣīf-at-un tu-ġliq-u l-ʔabwāb-a
to-him servant-f-nom f-lock\textsuperscript{IND} the-doors-ACC
kull-a layl-at-in wa-ta-ʔtī-hi bi-l-mafātiḥ-i
every-ACC night-f-GEN and-f-come\textsuperscript{IMPF} him with-the-keys-GEN
ϑumma ta-nām-u wa-yu-qbil-u dāʔud-u ʕalā
then f-sleep\textsuperscript{IMPF}IND and-∅-proceed\textsuperscript{IMPF}IND david-nom to
wird-i-hi fi l-ʕibādat-i.
time-GEN-his in the-worship-GEN
\end{verbatim}

‘He had a servant who would lock \textsuperscript{IMPF} the doors every night and bring \textsuperscript{IMPF} him the keys and then sleep \textsuperscript{IMPF}, and David would proceed \textsuperscript{IMPF} to his prayers.’

\begin{verbatim}
(25) fa-ʔaġlaq-at ðāt-a layl-at-in l-ʔabwāb-a wa-žāʔ-at
but-lock\textsuperscript{PERF} one-ACC night-f-GEN the-doors-ACC and-come\textsuperscript{PERF}-F
bi-l-mafātiḥ-i ʔumma daḥab-at la-ta-nām-a fa-raʔa-t
with-the-keys-GEN then go\textsuperscript{PERF} to-f-sleep\textsuperscript{IMPF}SUB then-see\textsuperscript{PERF}-F
ražul-an.
man-ACC.
\end{verbatim}

‘But one night she locked \textsuperscript{PERF} the doors and brought \textsuperscript{PERF} him the keys and went \textsuperscript{PERF} to go to sleep but saw \textsuperscript{PERF} a man.’

The fact that past tense in progressive and habitual contexts is expressed with the perfective auxiliary \textit{kāna} means that here, too, tense is associated with a syntactic locus distinct from that of the main verb, as illustrated in (17b), sketched below in (26).
In the simple past, the main verb itself appears in the perfective form, illustrated in (11). The occurrence of the perfective morphology in both the past progressive in (23) (on the auxiliary) and the simple past in (11) (on the main verb) suggests that past tense is expressed by the perfective morphological form, and the auxiliary *kāna* functions in (23) as a default host for the perfective morphology in *T*. If the syntactic locus of the perfective morphology is cross-constructionally uniform, then the simple past shown in (11) is formed by syntactic concatenation of *v* and *T*, arguably by virtue of head movement of *v* to *T*. Once again, it is evident from the sketch in (26) what might prevent *v*-to-*T* movement in the past progressive/habitual, necessitating insertion of *kāna* instead. The intervening aspectual head blocks it.

As is well known, the perfective form of the main verb may also occur under the perfective auxiliary *kāna*, with or without the particle *qad*, an optional marker of the perfect construction. The resulting construction has a past shifted reading analogous to the English perfect. This observation suggests, as Fassi Fehri (2003, 2004) claims, that the perfective morphology may occur in an aspectual head lower than tense in addition to its independent locus in *T*.

(27) $kān-\text{at} \quad nuhā\ (qad)\ katab-\text{at}\ r-risāl-\text{at-a.}$

'Nuha had written the letter.'

We can accommodate this observation by adding the perfective morpheme to the repertoire of operators that occur in AspP, in addition to its function as *T*. The issue of whether its meaning as an aspectual head differs from its meaning as a tense head requires further inquiry. Even if differences exist, they clearly have the past shifting effect of past and perfect in common. In both cases, the perfective shifts the time argument of its complement into the past with respect to its own time argument (the ‘reference’ time). These considerations implicate the picture in (28). Each of the operators notated “∅” has no overt reflex. The operator labeled “perf” manifests itself as the perfective form of the verbal base it syntactically concatenates with by head movement. Again, the imperfective morphology has no syntactic locus of its own in this picture. Rather, it is the default form of the verbal base that occurs when the verb does not syntactically concatenate with the perfective morpheme in either Asp or *T*. 

(26) $[\text{tr} \quad kāna\ [\text{AspP PROG/HAB [vp v_{IMPF}] moralsh}]]$
The claim that the Arabic perfect is expressed by a perfective verb with auxiliary support leads to the prediction that the perfective may also occur together with a subjunctive auxiliary in the context of min l-muhtamali ?an. This prediction is borne out, as described below. Like the progressive construction, the English perfect construction meets criteria of stativity. It may occur in the present tense (29a) and licenses the simultaneous, epistemic reading of modal be likely (29b), although in this case we must understand ‘simultaneous’ to mean simultaneous with the post state that the perfect construction describes, not the underlying event itself. It may not occur with still but Katz (2003) reduces this to a semantic incompatibility with the meaning of the perfect, and discusses additional tests that confirm the stativity of the perfect construction. See also Stowell (2007)

(29) a. Mary has fixed the car.
   b. Mary is likely to have fixed the car.
       [simultaneous/epistemic or future shifted/metaphysical]

In light of this observation, the kāna-perfective construction in Arabic is expected to license the simultaneous epistemic reading of min l-muhtamali ?an. This prediction is borne out in the Arabic corpus data, as the examples cited below demonstrate. The perfective verb form occurs with a subjunctive auxiliary after min l-muhtamali both with the particle qad (30) and without it (31). It seems clear that the expected epistemic interpretation of the modal is intended in the following examples.

(30) a. min l-muhtamali-i ?an ya-kūn-a bin lādin qad ġādar-a
       of the-likely-gen that ∅-be Impf-SUB bin laden QAD leave Perf ∅
       ?afġānistān-a.
       afghanistan-acc
   ‘Bin Laden is likely to have left Afghanistan.’
b. wa-haḏir-at l-maṣādir-u min ʔanna-hu min l-muḥtamal-i and-warn\textsubscript{perf} the-sources-NOM of that-it of the-likely-GEN ʔan ta-kūn-a l-munaḏḏam-at-u l-ḏaḏid-at-u qad that F-be\textsubscript{imperf} SUB the-organization-F-NOM the-new-F-NOM QAD ʔarsal-at wahd-āt-in ʔilā l-ʔarāḏī l-briṯāniyyāt-at-i send\textsubscript{perf} unit-F-ACC to the-soils the-british-P-GEN li-tanfīd-i ūmaliyy-āt-i-hā. for-carrying.out-GEN operation-FP-GEN-its ‘And the sources warned that the new organization is likely to have sent units to British soil to carry out its operations.’

(31) a. min l-muḥtamal-i ʔan ta-kūn-a minṭaq-at-u š-šarq-i of the-likely-GEN that F-be\textsubscript{imperf} SUB region-F-NOM the-east-GEN l-ʔawsat-i wa-šamāl-i ʔifrīqyā žtaḏab-at min the-middle-GEN and-north-GEN africa attract\textsubscript{perf} from l-ʔistiϑmār-āt-i l-xāṣš-at-i. the-investment-FP-GEN the-special-P-GEN ‘The Middle East and North Africa region is likely to have attracted special investments.’

b. min l-muḥtamal-i ʔan ya-kūn-a baḏ-d-u muwāṭin-i-hā of the-likely-GEN that Ø-be\textsubscript{imperf} SUB some-NOM citizen-GEN.p-its šārak-ū fi haḏam-āt-i l-ʔusbūš-i l-mādi. participate\textsubscript{perf} in attack-FP-GEN the-week-GEN the-last ‘Some of its citizens are likely to have participated in last week’s attacks.’

7 Conclusion

The evidence presented here supports a view of Arabic verb morphology in which the imperfective form marks neither an aspectual nor a temporal category. Rather, it is the default form of the verb that occurs when the verb is not marked perfective, and therefore corresponds both morphologically and semantically to the English non-finite verb form. Progressive and habitual interpretations are derived by the application of non-overt PROG and HAB aspectual operators at the VP-level, the former of which is overtly lexicalized in some modern dialects. These results indicate that a characterization of the perfective/imperfective contrast in Arabic as reflecting a semantic distinction between a ‘perfective’ meaning and an ‘imperfective’ meaning, however
defined, is ill-founded. On the present view, the perfective has a past shifting effect in all its occurrences, while the imperfective is a default morphological form expressing no temporal or aspectual information at all.

References


