



BRILL

BRILL'S JOURNAL OF AFROASIATIC LANGUAGES
AND LINGUISTICS 7 (2015) 103–131

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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

* I wish to express my gratitude to the native speaker consultants who helped with this work, Mahfoud Alibrahim, Tamim Nashed, Haro Haro and Karim Bousalem. I am also grateful to two anonymous reviewers whose advice greatly improved the quality of this work, as well as to Jamal Ouhalla for his keen editorial suggestions. The research reported here was supported by the Austrian Science Fund (FWF) grant #P27236-G23.

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 adverbial 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 extent 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 [AspP \emptyset _{PROG/HAB} ... [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 *know the answer* may occur in the simple present tense, but eventive verb phrases like *fix 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

- (5) a. Mary is fixing her car.
 b. Mary is likely to be fixing her car.
 [simultaneous/epistemic or future shifted/metaphysical]
 c. Mary is still fixing her car.

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 ϕ - 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 \emptyset , 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

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

(7) Perfective	Gloss	ϕ -Features
katab-a	write _{PERF} - \emptyset	3MS
katab-at	write _{PERF} -F	3FS
katab- \bar{u}	write _{PERF} -P	3MP
katab-na	write _{PERF} -FP	3FP

(8) Imperfective Indicative	Gloss	ϕ -Features
ya-ktub-u	\emptyset -write _{IMPF} -IND	3MS
ta-ktub-u	F-write _{IMPF} -IND	3FS
ya-ktub- \bar{u} na	\emptyset -write _{IMPF} -P.IND	3MP
ya-ktub-na	\emptyset -write _{IMPF} -FP.IND	3FP

(9) Imperfective Subjunctive	Gloss	ϕ -Features
ya-ktub-a	\emptyset -write _{IMPF} -SUB	3MS
ta-ktub-a	F-write _{IMPF} -SUB	3FS
ya-ktub- \bar{u}	\emptyset -write _{IMPF} -P.SUB	3MP
ya-ktub-na	\emptyset -write _{IMPF} -FP.SUB	3FP

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-ʔrif-u* *l-ʔawāb-a*.
 nuha (not F-*cease*_{IMPF}-IND) F-*know*_{IMPF}-IND the-*answer*-ACC
 ‘Nuha (still) knows the answer.’
- b. *nuhā* (*lā ta-zāl-u*) *tu-ʔalliḥ-u* *s-sayyārat-a l-ʔān-a*.
 nuha (not F-*cease*_{IMPF}-IND) F-*fix*_{IMPF}-IND the-*car*-ACC the-*now*-ACC
 ‘Nuha is (still) fixing the car now.’
- c. *nuhā* (*lā ta-zāl-u*) *tu-ʔalliḥ-u* *s-sayyārat-a kull-a*
 nuha (not F-*cease*_{IMPF}-IND) F-*fix*_{IMPF}-IND the-*car*-ACC every-ACC
 ʔitāʔ-in.
 winter-GEN
 ‘Nuha (still) fixes the car every winter.’

- d. * *nuhā lā ta-zāl-u* *ṣallaḥ-at s-sayyārat-a*.
 nuha not F-cease_{IMPF}-IND fix_{PERF}-F the-car-ACC

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.

- (11) a. *ʕaraf-at nuhā l-ṣawāb-a*.
 know_{PERF}-F nuha the-answer-ACC
 ‘Nuha knew the answer.’
- b. *ṣallaḥ-at nuhā s-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 *ṣallaḥa* (*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-muhtamali* (*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-muhtamali* 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-muhtamali ?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-muhtamali ?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-muhtamali ?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.³ The examples below demonstrate that a stative verb phrase is compatible with a simultaneous, epistemic reading of the modal *min l-muhtamali ?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-?aḏāf-at ?anna s-sayyār-āt-i l-atī min l-muhtamal-i*
 and-add_{PERF}-F that the-car-FP-ACC the-which of the-likely-GEN
?an ta-kūn-a muta?aṯṯir-at-an hiya min mūdīl-i 2011.
 that P-be_{IMPF}-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://arabiccorpus.byu.edu>.

- b. *ʔanna t-tāʔir-āt-i l-ʔamrikiyy-at-a tu-wāšil-u*
 that the-airplane-FP-ACC the-american-P-ACC P-continue_{IMPF}-IND
qasf-a-hā li-miʔ-āt-i l-kuʔf-i
 bombardment-ACC-their of-hundred-FP-GEN the-caves-GEN
wa-l-ʔanfāq-i l-latī min l-muhtamal-i ʔan
 and-the-tunnels-GEN the-which of the-likely-GEN that
ya-kūn-a bin lādin wa-ǧayr-u-hu min zuʕamāʔ-i
 Ø-be_{IMPF}-SUB bin laden and-other-NOM-his of leaders-GEN
l-qāʕid-at-i muxtabiʔ-ina 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-ʕtaqid-u ʔanna min l-muhtamal-i ʔan ya-kūn-a*
 I-believe_{IMPF}-IND that of the-likely-GEN that Ø-be_{IMPF}-SUB
ǧālika ʕalām-at-an ʕalā stiʕdād-i-himā
 that sign-F-ACC of readiness-GEN-their_{DUAL}
li-t-taʕāwun-i fi ʕadwal-i ʔiʕmāl-in siyāsīy-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 taʕāhul-u maʕlūm-āt-in ʔaqaḷ-a*
 so-indeed-it Ø-occur_{IMPF}-IND neglect-NOM fact-FP-GEN less-GEN
ʔiʕār-at-an wa-min l-muhtamal-i ʔan ta-kūn-a
 interest-F-ACC and-of the-likely-GEN that P-be_{IMPF}-SUB
darūriyy-at-an li-fahm-i l-mawḏūʕ-i kāmīl-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-muhtamal-i ʔan ya-kūn-a*
 and-refer_{PERF}-Ø to that of the-likely-GEN that Ø-be_{IMPF}-SUB
t-ʔfl-u yu-ʕānī min ʔiḏṭirāb-in ʕāṭifyy-in.
 the-child-NOM Ø-suffer_{IMPF} from disturbance-GEN emotional-GEN
 ‘And he pointed out that the child is likely to suffer from an emotional disorder.’

- b. *min l-muḥtamal-i ʔan ta-kūn-a hunāka ʔašyāʔ-un*
 of the-likely-GEN that Ø-be_{IMPF}-SUB there things-NOM
ta-taḥammal-u sūriyyā masʔūltiy-at-a-hā.
 F-carry_{IMPF}-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-muḥtamali ʔan*, 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.

- (14) a. *fī xilāl-i l-ṣām-i wa-nisf-i l-ṣām-i ʔaw*
 in during-GEN the-year-GEN and-half-GEN the-year-GEN or
l-ṣām-ayni l-muqbil-ayni min l-muḥtamal-i ʔan
 the-year-GEN.DUAL the-coming-GEN.DUAL of the-likely-GEN that
ya-kūn-a t-taḍaxxum-u ʔadnā bi-kaṯīr-in min hādīthi
 Ø-be_{IMPF}-SUB the-inflation-NOM lower by-much-GEN than this
n-nisb-at-i bi-sabab-i tarāḏuḥ-i ʔasṣār-i
 the-rate-F-GEN by-reason-GEN reduction-GEN prices-GEN
l-mustawrad-āt-i.
 the-import-FP-GEN.
 '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.'

- b. *ta-ḏid-u nafs-a-hā ʔalā šaf-at-i ʔazm-at-in*
 F-find_{IMPF}-IND self-ACC-her at edge-F-GEN crisis-F-GEN
nafsīyy-at-in wa-ṣātīfīyy-at-in wa-wuḏūdiyy-at-in,
 psychological-F-GEN and-emotional-F-GEN and-existential-F-GEN
laysa min l-muḥtamal-i ʔan ya-kūn-a radd-u
 not of the-likely-GEN that Ø-be_{IMPF}-SUB return-NOM
fīl-i-hā ʔalā l-madā l-mutawassaṭ-i muḥabbab-an.
 action-GEN-her in the-term the-medium-GEN pleasant-ACC.
 '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.'

- c. *min l-muḥtamal-i ʔan ta-kūn-a l-kahrabāʔ-u*
of the-likely-GEN that F-be_{IMPF}-SUB the-electricity-NOM
l-muwallad-at-u min ʔ-ʔāq-at-i š-šamsiyy-at-i
the-generated-F-NOM from the-power-F-GEN the-solar-F-GEN
xilāla l-ʔaqd-i l-ʔawwal-i ʔaw ʔ-ʔānī min
during the-decade-GEN the-first-GEN or the-second of
l-qarn-i l-muqbil-i ʔarxaṣ-a min maʔil-at-i-hā
the-century-GEN the-coming-GEN cheaper-ACC than likeness-F-GEN-its
l-muwallad-at-i min ʔ-ʔāq-at-i l-ʔahfūrīyy-at-i
the-generated-F-GEN from the-power-F-GEN the-fossil-F-GEN
bi-l-maḥaṭṭ-āt-i l-ḥarārīyy-at-i.
in-the-station-FP-GEN the-thermal-P-GEN
‘Electricity generated from solar power is likely to be cheaper in the first
or second decade of the next century than power generated by burning
fossile fuels.’

- d. *min l-muḥtamal-i ʔan ta-kūn-a nisb-at-u taḍaxxum-i*
of the-likely-GEN that F-be_{IMPF}-SUB rate-F-NOM inflation-GEN
l-ʔasfār-i fī n-niṣf-i ʔ-ʔānī min s-san-at-i
the-prices-GEN in the-half-GEN the-second of the-year-F-GEN
l-ʔārīy-at-i ʔaqall-a bi-kaṯīr-in min nisb-at-i 4.1 fī
the-current-F-GEN less-ACC by-much-GEN than rate-F-GEN 4.1 in
l-mīʔ-at-i.
the-hundred-F-GEN
‘The rate of price inflation is likely to be much less than 4.1 percent in
the second half of this year.’

- e. *min l-muḥtamal-i ʔan ta-kūn-a t-taṣrīh-āt-u*
of the-likely-GEN that F-be_{IMPF}-SUB the-statement-FP-NOM
l-yamaniyy-at-u r-rasmiyy-at-u s-salbiyy-at-u la-hā
the-yemeni-P-NOM the-official-P-NOM the-negative-F-NOM to-them
ṣad-an ʔiżābiyy-un fī dāxil-i
repercussion-NOM positive-NOM in interior-GEN
l-yaman-i.
the-yemen-GEN
‘The negative official Yemeni statements are likely to have positive
repercussions inside Yemen.’

But unlike stative verb phrases, eventive verb phrases are only compatible with the future shifted, metaphysical reading of *min l-muḥtamali 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-muhtamali* 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-muhtamal-i ʔan ya-qūm-a l-ʔamīr-u*
of the-likely-GEN that Ø-undertake_{IMPF}-SUB the-prince-NOM
nāyif bin ʕabdu l-ʕazīz bi-ziyār-at-in qarīb-at-in
nayif bin abul aziz in-visit-F-GEN soon-F-GEN
li-l-yaman-i.
to-the-yemen-GEN
‘Prince Nayif bin Abdulaziz is likely to undertake a visit to Yemen soon.’
- b. *wa-ʔawḍaḥ-a d-duktūr-u l-ʔibrāhīm ʔanna-hu min*
and-clarify_{PERF}-Ø the-doctor-NOM alibrahim that-it of
l-muhtamal-i ʔan tu-nāqīš-a l-qimm-at-u mawḍūʕ-a
the-likely-GEN that F-debate_{IMPF}-SUB the-summit-F-NOM topic-ACC
ʔiʕād-at-i ʔiʕmār-i ʔafǧānistān-a.
return-F-GEN construction-GEN afganistan-GEN
‘And Dr. Ibrahim clarified that the summit is likely to debate the issue of the reconstruction of Afganistan.’
- c. *min l-muhtamal-i ʔan ta-taʕarraḍ-a wāšintun*
of the-likely-GEN that F-subject_{IMPF}-SUB washington
li-ʔintiḳād-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-muhtamal-i ʔan tu-ʕlin-a š-šarik-at-u*
of the-likely-GEN that F-announce_{IMPF}-SUB the-company-F-NOM
l-brīṭāniyy-at-u l-yawm-a ʕ-ʕulāʕāʔ-a ʕan ʔiḥtiyāṭiyy-in
the-british-F-NOM the-day-ACC the-tuesday-ACC on reserve-GEN
naqdiyy-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-ħađir-at d-dirās-at-u ʔanna-hu min l-muħtamal-i ʔan*
 and-warn_{PERF-F} the-study-F-NOM that-it of likely-GEN that
ta-xluq-a barāmaž-u l-fađāʔiyy-āt-i
 P-create_{IMPF-SUB} programs-NOM the-satellite-FP-GEN
l-šarabiyy-at-i l-ʔiđtirāb-a l-ʔižtimāšiiyy-a wa-šadam-a
 the-arab-P-GEN the-turmoil-ACC the-social-ACC and-lack-ACC
l-ʔistiqrār-i.
 the-stability-GEN
 ‘And the study warned that the programs of the Arab satellite [media]
 are likely to create social turmoil and instability.’
- f. *min l-muħtamal-i ʔan ta-blug-a nisb-at-u*
 of the-likely-GEN that F-reach_{IMPF-SUB} rate-F-NOM
n-numuww-i fi ħāđihi l-fitr-at-i ħawālī 10%
 the-growth-GEN in this the-period-F-GEN approximately 10%
bi-sabab-i tadaffuq-i l-ʔistiḡmār-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-muħtamal-i ʔan ya-tažaddad-a l-qitāl-u fi*
 of the-likely-GEN that Ø-renew_{IMPF-SUB} the-fighting-NOM in
ḏawʔ-i mā ḏakar-at-hu l-ʔiđāš-at-u
 light-GEN what mention_{PERF-F}-it the-radio-F-NOM
l-ʔiritiriyy-at-u.
 the-eritrean-F-NOM
 ‘The fighting is likely to renew in light of what the Eritrean radio has
 mentioned.’
- h. *min l-muħtamal-i ʔan ya-nsahib-a l-ʔašḏāʔ-u*
 of the-likely-GEN that Ø-withdraw_{IMPF-SUB} the-members-NOM
l-ʔasyawiyy-ūna l-xamsat-u wa-ʔarbaš-ūna fi
 the-asian-NOM.P the-five-NOM and-forty-NOM.P in
l-ʔittihād-i d-duwaliiyy-i min
 the-federation-GEN the-international-GEN from
l-muʔtamar-i l-ʔistiḡnāʔ-i li-l-šifā.
 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-muhtamali ?an*, 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-muhtamali* 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-muhtamal-i ?an ta-kūn-a ?asliḥ-at-un*
of the-likely-GEN that P-be_{IMPF}-SUB weapons-F-NOM
ta-ṣil-u min s-sūdān-i ?ilā qiṭāf-i ġazz-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-muhtamal-i ?an ta-kūn-a s-sulṭ-āt-u*
of the-likely-GEN that P-be_{IMPF}-SUB the-authority-FP-NOM
l-?irāniyy-at-u ta-ḍurr-u bi-bilād-i-hā ?akṯar-a
the-iranian-P-NOM P-harm_{IMPF}-IND in-lands-GEN-their more-ACC
mim-mā ta-ḍurr-u bi-hā l-?uqūb-āt-u
than-what P-harm_{IMPF}-IND in-them the-sanction-FP-NOM
l-?amīrkiyy-at-u.
the-american-P-NOM
‘The Iranian authorities are likely to be harming their country more than the American sanctions are.’

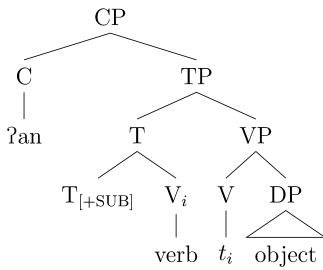
- c. *min l-muhtamal-i ʔan ya-kūn-a l-ʕāmil-ūna fī*
 of the-likely-GEN that Ø-be_{IMPF}-SUB the-worker-NOM.P in
š-šarik-at-i ya-murr-ūna bi-waqt-in ʕaṣīb-in
 the-company-F-GEN Ø-pass_{IMPF}-P.IND in-time-GEN critical-GEN
ḥālīyy-an.
 current-ACC
 ‘The workers of the company are likely to be going through a critical
 time right now.’

These observations are compatible with the claim that the complementizer *ʔan* selects a non-finite TP with the inflectional feature [+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 *ʔan*, 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

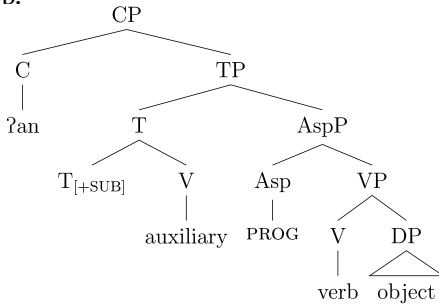
4 In contrast to the conclusions reached here, Fassi Fehri (2004) claims that the Arabic imperfective is strongly associated with a progressive reading, pointing out that the imperfective verb *yaʔkulu* (*eat*) in (i) has only a reading analogous to the English progressive *eating*, and cannot be interpreted 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 *yafūzu* (*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-raʕul-a ya-ʔkul-u t-tuffāḥat-a.*
 see_{PERF}-1S the-man-ACC Ø-eat_{IMPF}-IND the-apple-ACC
 ‘I saw the man eating/*eat the apple.’

(17) a.



b.



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. 96ff.) 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-raʔul-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-muḥtamali* 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-muḥtamali*. This is the case, as the examples in (18) show. As expected, other finite predicates occur in the context of *min l-muḥtamali 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 māḍ-in fī l-baḥṯ-i ʕan*
 the-world-NOM conducting-NOM in the-search-GEN for
l-munaḍḍam-āt-i wa-l-hayʔ-āt-i l-latī min
 the-organization-FP-GEN and-the-body-FP-GEN the-which of
l-muḥtamal-i ʔanna-hā tu-mawwil-u l-ʔirḥāb-a.
 the-likely-GEN that-they P-finance_{IMPF}-IND the-terrorism-ACC
 'The world is searching for the organizations and bodies that it is likely
 are financing terrorism.'

b. *ʔanna ʔabīb-a ʔimtiyāz-in haḍar-a*
 that doctor-ACC distinction-GEN arrive_{PERF}-Ø
wa-ʔaxbar-a-hum ʔanna-hu min l-muḥtamal-i ʔanna
 and-inform_{PERF}-Ø-them that-it of the-likely-GEN that
l-ʕumūd-a l-fiqrīyy-a ya-dḡaʔ-u ʕalā
 the-column-ACC the-spinal-ACC Ø-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-bāhiṯ-ūna ʔinna-hu min l-muḥtamal-i*
 and-say_{PERF}-Ø the-researcher-NOM.P that-it of the-likely-GEN
ʔanna hāḍihi 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 taqdīm-u maʕlūm-āt-in*
 Ø-occur_{IMPF}-IND submission-NOM information-FP-GEN
li-muqaddim-ī l-xadam-āt-i ʕ-ʕihḥīyy-at-i ḥawla
 to-provider-GEN.P the-service-FP-GEN the-health-P-GEN about
t-tamāss-i l-hāliyy-i maʕa l-ʕāʔil-at-i
 the-contact-GEN the-current-GEN with the-family-F-GEN
wa-l-ʔafrād-i wa-l-ʔaṣḍiqāʔ-i ʔaw ʔayy-i
 and-the-associates-GEN and-friends-GEN or any-GEN
ʔašxāš-in ʔāxar-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.’

- (20) a. *min l-muhtamal-i ?anna maxzūn-āt-i l-naft-i l-xāmm-i*
 of the-likely-GEN that stock-FP-ACC the-oil-GEN the-crude-GEN
l-?amīrkiyy-at-a habaṭ-at l-?usbūṣ-a l-māḍī
 the-american-F-ACC sink_{PERF-P} the-week-ACC the-past
li-l-?usbūṣ-i ʔ-ʔānī ʕalā t-tawālī.
 for-the-week-GEN 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-muhtamal-i ?anna l-farīq-a*
 say_{PERF-F} that of the-likely-GEN that the-team-ACC
l-waṭaniyy-a taṣarrad-a li-ḍuġūt-in
 the-national-ACC subject_{PERF-Ø} 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-muhtamali ?an* 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.

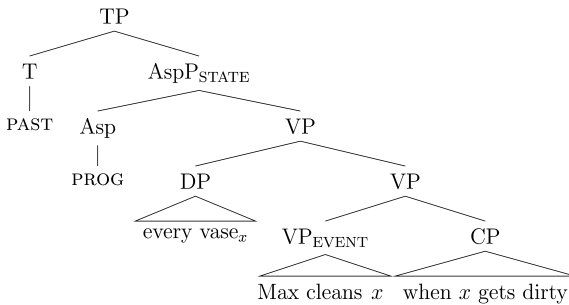
Leech (1971), Vlach (1981), Moens and Steedman (1988), Partee and Bach (1984) and others point out that the interpretation of *when*-clauses in English interacts with the aspectual status of the main clause predicate. Modifying a stative predicate, a *when* clause asserts that the *when*-clause eventuality 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. [every ashtray_x [Max cleans *x*] [when *x* gets dirty]]
 d.



If the observations above can be duplicated in Arabic, we have evidence that the progressive interpretation of the imperfective is contributed by an operator 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 *kāna*, the perfective form of the copular auxiliary *yakūnu*. The examples in (23a) and (23b) are the Arabic counterparts of (22a) and (22b). (23c)–(23f) show additional constructed examples of the construction.

- (23) a. *māhir kān-a yu-naḏḏif-u kull-a mazhariyy-at-in lammā*
 mahir be_{PERF}-Ø Ø-clean_{IMPF}-IND every-ACC vase-F-GEN when
kān-at tu-šbih-u wasix-at-an.
 be_{PERF}-F F-become_{IMPF}-IND dirty-F-ACC
 ‘Mahir was cleaning every vase when it got dirty.’
- b. *māhir kān-a yu-ḡrif-u kull-a naffāḏ-at-in lammā*
 mahir be_{PERF}-Ø Ø-empty_{IMPF}-IND every-ACC ashtray-F-GEN when
kān-at ta-tarākam-u s-sažāʾir-u fī-hā.
 be_{PERF}-F F-accumulate-IND the-cigarettes-NOM in-it
 ‘Mahir was emptying every ashtray when it filled up.’

c. *ʔal-muħarrir-u kān-a yu-ṣaħħih-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-żamārik-i kān-a yu-fattiš-u*
 inspector-NOM the-customs-GEN be_{PERF}-Ø Ø-inspect_{IMPF}-IND
kull-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
muttaħam-in lammā kān-at tu-lqī l-qabḍ-a ʔalay-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. *muwāḍḍif-u l-maktab-at-i kān-a yu-rżīf-u*
 employee-NOM the-library-F-GEN be_{PERF}-Ø Ø-return_{IMPF}-IND
kull-a kitāb-in ʔilā makān-i-hi lamma kān-a
 every-ACC book-GEN to place-GEN-its when be_{PERF}-Ø
yu-ʔīd-u-hu šaxṣ-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 combining the imperfective verb (together with the null progressive morpheme)

with the perfective copular auxiliary *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 *qišaṣ l-ʔanbiyāʔ* (*Stories of the Prophets*). It begins with the perfective auxiliary *kān-at* (*was-F*) and continues with a sequence of imperfective verb phrases in combination with the temporal quantifier *kulla laylatin* (*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 *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.

- (24) *kān-at la-hu waṣif-at-un tu-ǧliq-u l-ʔabwāb-a*
 be_{PERF-F} to-him servant-F-NOM F-lock_{IMPF-IND} the-doors-ACC
kull-a layl-at-in wa-ta-ʔtī-hi bi-l-mafātīh-i
 every-ACC night-F-GEN and-F-come_{IMPF}-him with-the-keys-GEN
ḡumma ta-nām-u wa-yu-qbil-u dāʔud-u ʕalā
 then F-sleep_{IMPF-IND} and-∅-proceed_{IMPF-IND} david-NOM to
wird-i-hi fī l-ʕibādat-i.
 time-GEN-his in the-worship-GEN
 'He had a servant who would lock [IMPF] the doors every night and bring [IMPF] him the keys and then sleep [IMPF], and David would proceed [IMPF] to his prayers.'

- (25) *fa-ʔaǧlaq-at ḡāt-a layl-at-in l-ʔabwāb-a wa-ʒāʔ-at*
 but-lock_{PERF-F} one-ACC night-F-GEN the-doors-ACC and-come_{PERF-F}
bi-l-mafātīh-i ḡumma ḡahab-at la-ta-nām-a fa-raʔa-t
 with-the-keys-GEN then go_{PERF-F} to-F-sleep_{IMPF-SUB} then-see_{PERF-F}
raʒul-an.
 man-ACC.
 'But one night she locked [PERF] the doors and brought [PERF] him the keys and went [PERF] to go to sleep but saw [PERF] a man.'

The fact that past tense in progressive and habitual contexts is expressed with the perfective auxiliary *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).

(26) [_{TP} *kāna* [_{AspP} PROG/HAB [_{VP} V_{IMPF}]]]

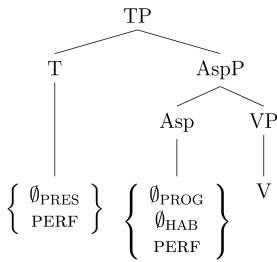
In the simple past, the main verb itself appears in the perfective form, illustrated in (11). The occurrence of the perfective morphology in both the past progressive in (23) (on the auxiliary) and the simple past in (11) (on the main verb) suggests that past tense is expressed by the perfective morphological 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-at nuhā (qad) katab-at r-risāl-at-a.*
 be_{PERF-F} nuha (QAD) write_{PERF-F} the-letter-F-ACC
 ‘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.

(28)



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-muḥtamali ʔan*. 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-muḥtamali ʔan*. 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-muḥtamali* 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-muḥtamal-i ʔan ya-kūn-a bin lādin qad ġādar-a*
 of the-likely-GEN that ∅-be_{IMPF}-SUB bin laden QAD leave_{PERF}-∅
ʔafġānistān-a.
 afghanistan-ACC
 ‘Bin Laden is likely to have left Afghanistan.’

- b. *wa-ḥaḏīr-at l-maṣādir-u min ḡanna-hu min l-muḥtamal-i*
 and-warn_{PERF-P} the-sources-NOM of that-it of the-likely-GEN
ḡan ta-kūn-a l-munaḏḏam-at-u l-ḡadīd-at-u qad
 that F-be_{IMPF-SUB} the-organization-F-NOM the-new-F-NOM QAD
ḡarsal-at waḥd-āt-in ḡilā l-ḡarāḏī l-brīṭāniyy-at-i
 send_{PERF-F} unit-FP-ACC to the-soils the-british-P-GEN
li-tanfīḏ-i ḡamalīyy-āt-i-hā.
 for-carring.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 ḡan ta-kūn-a minṡaq-at-u š-šarq-i*
 of the-likely-GEN that F-be_{IMPF-SUB} region-F-NOM the-east-GEN
l-ḡawsaṡ-i wa-šamāl-i ḡifrīqyā ḡtaḏab-at min
 the-middle-GEN and-north-GEN africa attract_{PERF-F} from
l-ḡistiḡmār-āt-i l-xāṡṡ-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 ḡan ya-kūn-a baḡḏ-u muwāṡin-ī-hā*
 of the-likely-GEN that Ø-be_{IMPF-SUB} some-NOM citizen-GEN.P-its
šarak-ū fī ḡaḡam-āt-i l-ḡusbūf-i l-māḏī.
 participate_{PERF-P} in attack-FP-GEN the-week-GEN the-last
 ‘Some of its citizens are likely to have participated in last week’s at-
 tacks.’

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

- Aoun, Joseph, and Elabbas Benmamoun, and Lina Choueiri. 2010. *The syntax of Arabic*. Cambridge: Cambridge University Press.
- Bahloul, Maher. 1994. *The syntax and semantics of taxis, aspect, tense and modality in Standard Arabic*. Ithaca, NY: Cornell University, DMLL Publications.
- Benmamoun, Elabbas. 1999. Arabic morphology: The central role of the imperfective. *Lingua* 108:175–201.
- Benmamoun, Elabbas. 2000. *The feature structure of functional categories*. Oxford: Oxford University Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, Mass.: MIT Press.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Condoravdi, Cleo. 2002. Temporal interpretation of modals: modals for the present and for the past. In *The construction of meaning*, ed. by David Beaver, Stefan Kaufmann, Brady Clark, and Luis Casillas, 59–88. CSLI Publications.
- Dowty, David R. 1979. *Word meaning and Montague grammar*, volume 7. Dordrecht: Kluwer Academic Publishers.
- Fassi Fehri, Abdelkader. 2003. Arabic perfect and temporal adverbs. In *Perfect explorations*, ed. by Artemis Alexiadou, Monika Rathert, and Arnim von Stechow, 69–99. Berlin: Mouton de Gruyter.
- Fassi Fehri, Abdelkader. 2004. Tense/aspect interaction and variation. In *The syntax of time*, ed. by Jacqueline Guéron and Jacqueline Lecarme, 235–257. Cambridge, Mass.: MIT Press.
- Hallman, Peter. 2009. Proportions in time: interactions of quantification and aspect. *Natural Language Semantics* 17:29–61.
- Hoffmann, Thomas. 1966. Past tense replacement and the English modal auxiliary system. In *Harvard computation laboratory report NSF-17*. Cambridge, Mass.
- Kamp, Hans, and Uwe Reyle. 1993. *From discourse to logic*. Dordrecht: Kluwer Academic Publishers.
- Katz, Graham. 2003. On the stativity of the English perfect. In *Perfect explorations*, ed. by Artemis Alexiadou, Monika Rathert, and Arnim von Stechow, 205–234. Berlin: Mouton de Gruyter.
- Leech, Geoffrey. 1971. *Meaning and the English verb*. London: Longman.

- Löbner, Sebastian. 1989. German *schon—erst—noch*: an integrated analysis. *Linguistics and Philosophy* 12:167–212.
- Loprieno, Antonio. 1986. *Das Verbalsystem im Ägyptischen und im Semitischen: zur Grundlage einer Aspekttheorie*. Wiesbaden: Harrassowitz Verlag.
- McCawley, James. 1970. English as a vSO language. *Language* 46:286–299.
- McCawley, James. 1971. Tense and time reference in English. In *Studies in linguistic semantics*, ed. by Charles Fillmore and Terence Langendoen, 96–113. New York: Holt, Rinehart and Winston.
- Moens, Marc, and Mark Steedman. 1988. Temporal ontology and temporal reference. *Computational Linguistics* 14:15–28.
- Montague, Richard. 1973. The proper treatment of quantification in ordinary English. In *Approaches to natural language: Proceedings of the 1970 Stanford workshop on grammar and semantics*, ed. by Jaakko Hintikka, Julius Moravcsik, and Patrick Suppes, 221–242. Dordrecht: D. Reidel Publishing Company.
- Noyer, Rolfe. 1992. Features, positions and affixes in autonomous morphological structure. Doctoral Dissertation, MIT, Cambridge, Mass.
- Parsons, Terence. 1990. Events in the semantics of English: A study in subatomic semantics. Cambridge, Massachusetts: MIT Press.
- Partee, Barbara, and Emmon Bach. 1984. Quantification, pronouns, and VP anaphora. In *Truth, interpretation and information*, ed. by J. Groenendijk, T. Janssen, and M. Stokhof. Dordrecht: Foris.
- Raposo, Eduardo. 1987. Case theory and Infl-to-Comp: the inflected infinitive in European Portuguese. *Linguistic Inquiry* 18:85–109.
- Reckendorf, Hermann. 1895. *Die syntaktischen Verhältnisse des Arabischen*. Leiden, The Netherlands: Brill.
- Ross, John. 1969. Auxiliaries as main verbs. In *Studies in philosophical linguistics, series one*. Evanston, Illinois: Great Expectations Press.
- Ryding, Karin. 2005. *A reference grammar of Modern Standard Arabic*. Cambridge: Cambridge University Press.
- Shlonsky, Ur. 1997. *Clause structure and word order in Hebrew and Arabic*. Oxford: Oxford University Press.
- Smith, Carlota. 1991. *The parameter of aspect*. Dordrecht: Kluwer Academic Publishers.
- Stowell, Tim. 2007. Sequence of perfect. In *Recent advances in the syntax and semantics of tense, mood and aspect*, ed. by Louis de Saussure, Jacques Moeschler, and Genoveva Puskas, 123–146. Mouton de Gruyter.
- Vlach, Frank. 1981. The semantics of the progressive. In *Syntax and semantics, vol. 14: tense and aspect*, ed. by Philip Tedeschi and Annie Zaenen, 271–292. New York: Academic Press.
- Vlach, Frank. 1993. Temporal adverbials, tenses and the perfect. *Linguistics and Philosophy* 16:231–284.