

## Aspectual object marking in Libyan Arabic

Kersti Börjars, Khawla Ghadgoud & John Payne  
The University of Manchester

Though it is not a common phenomenon cross-linguistically, there are a number of languages in which propositional tense, aspect and mood (TAM) is marked inflectionally within a noun phrase. In many cases, the nominal TAM marking works in conjunction with verbal marking, but it can also be the sole, or primary, marking of the relevant features. In their survey of nominal TAM marking, Nordlinger & Sadler provide examples of the full range of TAM features being marked inflectionally within a noun phrase, but refer to ‘the relative rarity of mood (and indeed aspect) marking’ (2004a:801). In this paper, we show that Libyan Arabic is an example of a language that marks propositional aspect on objects, and we provide an analysis of the data within LFG. Like Nordlinger and Sadler (2004b), in their analysis of nominal tense, we use inside-out functional designators to account for the feature distribution. Our data differ from those analysed by Nordlinger & Sadler not only in that it concerns aspect rather than tense, but the marking involves a preposition rather than a bound case marker.

In Libyan Arabic, direct objects of dynamic verbs can be either unmarked, as in (1), or preceded by the preposition *fi*, as in (2) (for discussion of a similar use of *fi* in Cairo Arabic, see Woidich 2006 and in Tunisian Arabic, see Pallottino and Askri 2015).

- (1) Ahmed kle (\*fi) el-kosksi.  
Ahmed eat.PST.3MSG FI DEF-couscous  
‘Ahmed ate the couscous.’
- (2) a. Ahmed yakil fi el-kosksi tawwa.  
Ahmed eat.NONT.3MSG FI DEF-couscous now  
‘Ahmed is eating couscous now.’
- b. Ahmed kan yakil fi el-kosksi amis.  
Ahmed be.PST.3MSG eat.NONT.3MSG FI DEF-couscous yesterday  
‘Ahmed was eating couscous yesterday.’
- c. Ahmed yakil fi el-kosksi kol youm.  
Ahmed eat.NONT.3MSG FI DEF-couscous every day  
‘Ahmed eats couscous every day.’
- d. Ahmed kan yakil fi el-kosksi kol youm.  
Ahmed be.PST.3MSG eat.NONT.3MSG FI DEF-couscous every day  
‘Ahmed used to eat couscous every day.’

While *fi* is systematically excluded when the governing verb takes the past form *kle*, as in (1), it is obligatory when the governing verb takes the non-tensed form *yakil* and the interpretation is progressive as in (2-a) and (2-b), or habitual as in (2-c) and (2-d).

Note that what we call the non-tensed form of the verb has a past progressive or past habitual interpretation when used as the complement of the past form of the verb *kan* ‘be’. The non-tensed verb-form is cognate with what is often termed the “imperfective” verb-form in Modern Standard Arabic (see for example Ryding 2005). The aspectual term “imperfective” is, however, an inappropriate label for the Libyan Arabic form. One reason is that the Libyan Arabic form is not only compatible with the progressive and habitual aspect, as in (2), but can also be used to denote a scheduled future, as in (3-b) below. Another is that the contrasting past form in (1) is not perfective in the same sense as the classic perfective verb-forms of Slavic. The past form does however uniquely denote past time.

When the interpretation is not strictly progressive or habitual, the co-occurrence of a *fi*-marked object and the non-tensed form of the verb is excluded:

- (3) a. Ahmed yakil kosksi.  
Ahmed eat.NONT.3MSG couscous  
‘Ahmed eats couscous.’ (i.e. he is a couscous-eater)
- b. Fi rijīmī ġoḍwa nakil kosksi.  
in diet.1SG.PSS tomorrow eat.NONT.1SG couscous

‘In my diet, tomorrow I eat couscous.’

- c. Lamma nakil            kosksi    netfakker            hinn-ai.  
when eat.NONT.1SG couscous remember.NONT.1SG grandma-1SG.PSS  
‘When I eat couscous I remember my grandma.’

This occurs for example when the interpretation is generic as in (3-a), a scheduled future as in (3-b), or there is universal quantification over event-tokens as in (3-c).

It is apparent from the above data that *fi* has the role of enforcing a progressive or habitual interpretation on clauses headed by non-tensed verb-forms. Its function is similar to one of the functions of the partitive case in languages such as Finnish, where partitive-marked objects allow a progressive interpretation of the clauses which contain them. Libyan *fi* and the Finnish partitive are not identical, however, since the Finnish partitive can co-occur with past-tense verb-forms, and in addition to its aspectual function it can also have the function of marking quantitatively indeterminate objects (see for example Kiparsky 1998). Aspectual *fi* has no such additional function, and is perfectly compatible with both definite and indefinite construals of the object.

The progressive and the habitual are not distinguished in Libyan Arabic either by the verb-forms they are associated with (compare (2-a)/(2-c) and (2-b)/(2-d)), or by *fi*. In order to unify the progressive and the habitual, we will assign to *fi* the single aspectual feature INTERIOR (with value +): progressive aspect portrays an event as happening inside a short time-span, and habitual aspect portrays an event as happening inside a longer time-span (for the characterisation of the progressive and habitual as “interior” aspects, see Stassen 1997:252). Alternative features such as IMPERFECTIVE would be inappropriate since they are far too broad. Imperfective aspect is generally taken to encompass more than just the progressive and the habitual: it also encompasses states (Comrie, 1976). However stative verbs in Libyan Arabic disallow objects with *fi*:

- (4) Ahmed yhib                    (\*fi) el-kosksi.  
Ahmed like.NONT.3MSG FI DEF-couscous  
‘Ahmed likes couscous.’

Secondly, as we have seen, *fi* is incompatible with generic and universally quantified interpretations, both of which are essentially imperfective in nature.

In a different function, *fi* is simply the locative preposition ‘in’:

- (5) Ahmed yoskun            fi London.  
Ahmed live.NONT.3MSG in London  
‘Ahmed lives in London.’

In addition to the obvious cognitive connection between interior locative *fi* and interior aspectual *fi*, the two forms are structurally indistinguishable. For example, either type of *fi* phrase can be fronted as a PP as in (6).

- (6) a. Fi London Ahmed yoskun  
in London Ahmed live.NONT.3MSG  
‘It is in London that Ahmed lives.’  
b. Fi el-kosksi Ahmed yakil            kol youm.  
FI DEF-couscous Ahmed eat.NONT.3MSG every day  
‘It is couscous that Ahmed eats every day.’

Alternatively the NP within the PP can be fronted, leaving the preposition governing a resumptive pronoun:

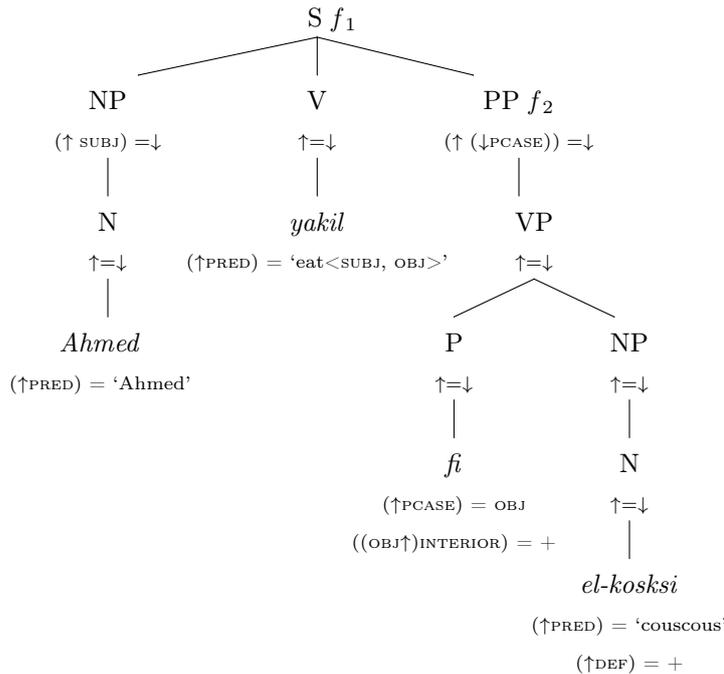
- (7) a. London Ahmed yoskun            fi-ha.  
London Ahmed live.NONT.3MSG in-3FSG.OBL  
‘It is London that Ahmed lives in.’

- b. El-kosksi Ahmed yakil fi-h kol youm.  
 DEF-couscous Ahmed eat.NONT.3MSG FI-3MSG.OBL every day  
 ‘It is couscous that Ahmed eats every day.’

In our analysis, we will therefore maintain a close structural parallelism between locative *fi* and aspectual *fi*: both are prepositions taking an NP as their complement.

The analytical challenge which aspectual *fi* presents is that an element internal to the object contributes aspectual information to the clause containing the object. The inside-out functional designators of LFG are ideally equipped to model this situation (e.g. Nordlinger 1998, Dalrymple 2001:143–6). A representative analysis of (2-a) is given in (8), with the resulting AVM in (9).

(8)



(9)

SUBJ	[ PRED ‘Ahmed’ ]
PRED	‘eat < SUBJ , OBJ >’
INTERIOR	+
OBJ	[ PRED ‘couscous’ DEF + ] <sub><math>f_2</math></sub>

$f_1$

Note first in relation to (8) that we assume a non-configurational structure for Libyan Arabic: there are no special features (other than the category V) which could be associated with a putative I projection, and there is no distinctive system of auxiliary verbs. Secondly, the non-tensed verb-form *yakil* is not associated lexically with any tense or aspect features. In particular, the absence of aspect features means that *yakil* by itself has no value for INTERIOR (a specification which in the absence of any further contextual information will lead to a generic interpretation), but it will also be compatible with [INTERIOR +] as projected from aspectual *fi* (leading to a progressive or habitual interpretation, depending on the time-span involved). By contrast, past verb forms will have only the value [INTERIOR –], and stative verbs are lexically specified as (¬ INTERIOR), i.e. they cannot have any value for INTERIOR.

The key to the analysis is then the annotations on *fi*. The annotation (↑PCASE)=OBJ entails that the function associated with  $f_2$  is that of object. PCASE is normally associated with oblique functions, and indeed will be associated with the interior locative in the case of locative *fi*. However, the unusual association of PCASE with the object function seems to be justified by the structural parallelism between aspectual and locative *fi*. The second annotation on *fi* then contains the inside-out designator (OBJ↑), it denotes  $f_1$ , the f-structure associated with the clause as a whole, and hence the INTERIOR feature of  $f_1$

will have the value +. Aspectual *fi* will thus force a progressive or habitual reading of the non-tensed verb. It will be blocked from co-occurring either with past forms of dynamic verbs or stative verbs, since the former are specified as [INTERIOR -] and the latter are not permitted any value for INTERIOR.

An interesting complication is that the occurrence of aspectual *fi* is blocked when a dynamic verb in the non-tensed form is subordinated to a verb which is itself stative:

- (10) Ahmed *yħib*                      *yakil*                      (\**fi*) *el-kosksi*  
 Ahmed like.NONT.3MSG eat.NONT.3MSG FI    DEF-couscous  
 ‘Ahmed likes to eat couscous.’

We handle this by assuming that *yħib* ‘like’ in examples such as (10) functions as a control verb taking an XCOMP. In addition to the standard control equation ( $\uparrow$ SUBJ)=( $\uparrow$ XCOMP SUBJ), *yħib* will be assigned the negative existential equation ( $\neg$  XCOMP INTERIOR). This will mean that the clause headed by *yakil* cannot be associated with a value for INTERIOR, and hence the occurrence of aspectual *fi* is blocked. This restriction on the complement clauses of verbs like *yħib* provides support for a feature-based rather than a purely semantic analysis.

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