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PSYCHOLOGICAL PREDICATES AND VERBAL COMPLEMENTATION IN ARABIC

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Abstract

The issue of verbal complementation patterns in the Arabic vernaculars is one which is relatively under-researched: this paper aims to make a small contribution in this area, focussing on essentially two issues (i) the syntax of so-called experiencer-object psychological predicates (EOPVs) (that is, predicates in the *frighten* or *please* classes) and (ii) the syntax of aspectual or phasal predicates (that is, verbs such as *begin* and *continue*). We argue that the latter class of verbs are in fact raising verbs and go on to show that in some dialects the interaction of EOPV and aspectual predicates permits a pattern reminiscent of Copy Raising.

1 Introduction

The issue of verbal complementation patterns in the Arabic vernaculars is one which is relatively under-researched: this paper aims to make a small contribution in this area, focussing on essentially two issues (i) the syntax of so-called experiencer-object psychological predicates (EOPVs) (predicates in the *frighten* or *please* classes) and (ii) the syntax of aspectual or phasal predicates (that is, verbs such as *begin* and *continue*). Our work concentrates on the complementation patterns for these classes of verb in three geographically diverse dialects, Hijazi Arabic (a Gulf dialect from the West of Saudi Arabic, henceforth HA), Egyptian Cairene Arabic (henceforth ECA) and Maltese (henceforth MT). EOPVs are known to exhibit unusual properties crosslinguistically, and we will explore the extent to which this is true for Arabic and provide evidence that the experiencer really *is* a normal OBJ in this class of verbs. As for the aspectual verbs, we will argue that they are raising predicates in Arabic. We will then show that in some dialects, the interaction of EOPVs with aspectual verbs shows a pattern highly reminiscent of copy raising, although this in turn raises a number of open questions about the correct approach to the analysis of such constructions. Throughout, our principal aim is not theory development but a relatively detailed description of some under-studied verbal complementation patterns.

2 Psychological predicates

The term psychological predicates refers to those classes of predicates with an argument structure or thematic role grid involving an experiencer and a theme or stimulus argument (the content or object of the mental state). Verbs such as *fear* and Italian *temere* 'fear', which map their arguments so that the experiencer is the SUBJ and the theme or stimulus is the OBJ contrast sharply with verbs such as *frighten* or Italian *preoccupare* 'worry', which exhibit the inverse mapping, with the experiencer as OBJ and the theme or stimulus as SUBJ. Furthermore this 'inverted' mapping occurs whether or not the stimulus is interpreted causally. A third class of verbs also exhibiting an apparently 'inverse' mapping include those which mark the experiencer with a

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preposition or dative case marker, for example Italian *piacere* 'please'. These classes are illustrated with the examples from Belletti and Rizzi (1988, 291).[1]

(1) Gianni teme questo
Gianni fears this

(2) Questo preoccupa Gianni
this worries Gianni

(3) A Gianni piace questo
to Gianni pleases this

(4) Questo piace a Gianni
this pleases to Gianni

In common with other literature we use the term EOPV to refer to predicates in both of these last two classes, that is, as a superordinate term for the *frighten*, *preoccupare* and the *piacere* classes (Belletti and Rizzi (1988)'s Classes 2 and 3). Class 3 (*piacere*) predicates are always stative and class 2 predicates (*frighten*, *preoccupare*) are usually ambiguous between stative and eventive readings. A representative sample of the class of predicates is given in Table 1.

Meaning	**HA**	**ECA**	**MT**
anger	yuġdib, yuzaʕil	-	jagħdab
overcome	yaġlib, yusaiṭir	yiġlib	jegħleb
tease/annoy/bother	yuzʕiğ, yuqliq	yiġīz, yidaayeʔ	jdejjaq
tire	yatʕib	yetʕib	jgħejja
hurt	yağraḥ	yigraḥ	jweġġa'
frighten	yaẖawif	yixawwef	jbeżża'
make happy/please	yafarriḥ	yifarraḥ, yibsit	jferraħ
like	yaḥib	yiʕgib	jogħġob
make sad	yaḥzin, yuʕlim	yizaʕʕal	jnikket
enable	yumakin	yiʕaddar	-

Table 1: Experiencer Object Psych Predicates

Arabic verbal morphology is characterised by a system of forms (Arabic *ʔawzān* (sg: *wazn*) or Hebrew *binyanim* (sg: *binyan*)) involving derivational morphological processes by which new verbal lexemes are formed. In the Western tradition, these forms (or measures) are referred to by means of roman numerals, with the Ist form being the basic underived lexeme. In Arabic we find some *fear-frighten* pairs expressed through a change in *binyan*, such as ECA *xaaf* 'fear' < SUBJ OBL> (Ist binyan) and *xawwef* 'frighten' <SUBJ, OBJ> (IInd binyan) or MT *beża'* 'fear' (Ist binyan) - *bežża'* 'frighten' (IInd binyan).[2] In other cases, we find that the same verbal stem

[1]For Belletti and Rizzi (1988) verbs in the *fear* class have the experiencer as an external argument, while the remaining two classes lack an external argument and associate the experiencer argument with ACC and DAT case respectively. For *piacere* the experiencer can 'end up' in preverbal subject position while for the *preoccupare* class the theme is generated in canonical object position but ends up in preverbal position, while the experiencer is sister of V′.

[2]These two EOPVs are IInd binyan derived verbs. Amongst the semantic shifts associated with the use of the IInd binyan is causativisation, but it is also associated with a number of other semantic shifts. Note that EOPVs in the IInd binyan are *not* necessarily interpreted as agentive or causative.

simply permits both the experiencer-SUBJ mapping and the EOPV mapping.

The following examples from ECA illustrate the class of EOPV predicates we are concerned with. In (5) it is *el-walād* 'the boys' that controls verbal agreement as SUBJ of the matrix clause.[3] Note however that, just as in other languages, an animate SUBJ stimulus does not necessarily entail an agentive or causative interpretation. In (6) the experiencer argument occurs as an OBJ incorporated pronominal *-ha* and the SUBJ is the inanimate theme/stimulus *el-sarāḥa* 'frankness'.

(5) el-welād bi-dayʔ-u el-banāt
DEF-boys BI-annoy.IMP.3-PL DEF-girls
The boys annoy the girls. ECA

(6) b-t-ʕegeb-ha el-sarāḥa
BI-3SGF-like.IMP-3SGF.ACC DEF-frankness
She likes frankness. ECA

The stimulus argument may be propositional, with default 3SGM agreement on the verb as in (7) and (8). Although we will not pursue this matter here, examples with a propositional stimulus argument raise the interesting question of whether the propositional argument *is* the subject or whether these are essentially extraposition structures with an expletive subject and an XCOMP or COMP argument. We note that it is possible for the experiencer argument to correspond to the SUBJ of the embedded proposition, as in (9)-(10).[4]

(7) bi-dāyeʔ-ni ʔin el-sōt yi-kūn ʕāly
BI-annoy.IMP.3SGM-1SG.ACC COMP DEF-sound 3-be.IMP.SGM loud.SGM
It annoys me that the sound is loud. ECA

(8) ya-ʕġib-ha ʔin Muḥammad ḍal
3-like.IMP.3SGM-3SGF.ACC COMP Muhammad remain.PV.3SGM
sākit
quiet.ACT.PRT.SGM
It pleases her that Muhammad remained quiet. HA

In the dialects, the morphological system of binyanim or ʔawzān is basically a system of templatic phonological structures with appended affixes. The IInd binyan involves gemination of the verb's second radical.

[3]The gloss BI marks a particular indicative realis form of the imperfective verb. This matter is discussed in some detail below. Other glosses are standard.

[4]Further interesting issues are raised by examples such as (i), in which the psych verb agrees with *Marija*, suggesting that this NP is the SUBJ. The question is whether this subject is raised from the embedded predication, which we would then expect to be an XCOMP, or whether on the other hand the matrix SUBJ is thematic and the clause has the status of an adjunct. We leave this matter for future research.

(i) Marija d-dejjaq-hom to-ħroġ weħid-ha
Mary 3-annoys.IMP.SGF-3PL.ACC 3-goes.out.IMP.SGF alone-3SGF.ACC
Mary annoys them going out on her own. MT

(9) ya-ʕġib-ha Sarah ta-ḫrōġ li-waḥda-ha
3-pleases.IMP.3SGM-3SGF.ACC Sarah 3SGF-go.out.IMP for-alone-3SGF.ACC
It pleases Sarah to go out alone./Going out alone pleases Sarah. HA

(10) Jien j-o-għġob-ni n-o-ħroġ
I 3-FRM.VWL-pleases.IMP.SGM-1SG.ACC 1-FRM.VWL-go.out.IMP.SG
waħd-i
alone-1SG.ACC
It pleases me to go out alone.
Going out alone pleases me. MT

Although the stimulus or theme does correspond to the SUBJ with verbs in this class, it is worth noting that it does not always appear in the canonical SUBJ position in terms of word order in Maltese. While both SVO and VSO (and indeed other orders) are quite freely available in ECA and HA, Maltese is a predominantly SVO language. However there appears to be a marked preference for the SUBJ stimulus of these verbs to follow the verb, as in example (14). Note that such a postverbal SUBJ is really part of the matrix sentence, and not in a clause-external dislocated position (although the language makes extensive use of such dislocation structures involving external topics). Nonetheless, this (postverbal position) is not an invariant requirement as examples such as (11) have the experiencer in postverbal position and the stimulus or theme preverbally.

(11) Xi kliem li nt-qal dejjaq
some word.SGM COMP PASS-said.PV.3SGM annoyed.PV.3SGM
lin-nies
ACC.DEF-people
Some words that were said annoyed the people. MT

For the majority of the EOPV verbs we have investigated, the experiencer is coded as an OBJ. This can be seen in examples such as (6)-(10), where the pronominal experiencer is coded by means of an OBJ inflection on the verbal element. The contemporary Arabic dialects do not exhibit case marking, but the corresponding nominals would be marked with ACC case in Modern Standard Arabic (MSA). For some verbs, however, the experiencer is either an OBL or marked by the dative (i.e. goal or recipient) marker/preposition *li-*. Note that in MT, pronominal *li*-marked arguments are also expressed inflectionally as part of the verbal form.[5]

[5]Elsewhere we have argued that recipient/goal *li*-marked arguments in Maltese are actually instances of the grammatical function OBJ_θ rather than OBL (Sadler and Camilleri, 2013). For some discussion of the possibility that this might also be the case in ECA see Camilleri et al. (2013). We will have nothing further to say here on this question.
In relation to (14), a reviewer questions our assumption that this is a *psych* predicate in this context, suggesting that *li* may mark 'a recipient or goal' here, a function which it certainly has in other contexts. While we believe that it does mark an experiencer in this example, detailed discussion of this example would take us too far afield. A further example of a psych verb with a DAT-marked experiencers is

(12) kabas ʕalē-ha al-noum
compress.PV.3SGM on-3SGF.ACC DEF-sleep
Sleep overcame her. ECA

(13) ṣār yu-saiṭir ʕala Muhammad al-nawm
become.PV.3SGM 3-overcome.IMP.SGM on Muhammad DEF-sleepiness
Muhammad is overcome by sleepiness. HA

(14) Naqas-l-i d-dawl
reduce/lack.PV.3SGM-DAT-1SG DEF-light
Lit: The light reduced to me
I am experiencing increased blindness. MT

Before leaving the question of pronominal experiencers, it is worth noting in passing that while these are expressed as verbal affixes in neutral discourse conditions, it is possible in Maltese to use a full pronoun in cases of contrastive focus such as (15).

(15) LILHA għoġob il-ktieb, u mhux lili.
her please.PV.3SGM DEF-book.SGM CONJ NEG me
It was she who liked the book and not me. MT

In a recent book on experiencers, Landau (2010) proposes that many of the unusual properties that experiencer objects exhibit crosslinguistically follow if the experiencer arguments of non-agentive (readings of) psych verbs are not OBJ but are taken to be underlyingly obliques, that is, objects of an abstract locative preposition, as mental locations. In particular, he argues for this position in Modern Hebrew, a related Semitic language. However, data from the Arabic dialects we are concerned with does not appear to support the extension of this abstract analysis to Arabic. As we have already noted, evidence from the surface forms supports the view that the experiencer is straightforwardly an OBJ; in particular, pronominal experiencers are verbal inflections. Objects of prepositions are expressed as prepositional inflections (and these inflectional paradigms are not identical, at least in the form used to realize the 1SG set of values).[6] A further piece of robust evidence is the fact that the experiencer argument may be the SUBJ under passivisation of predicates in this class

appella 'appeal', as in (i):

(i) Appella-t-l-i ferm dil-esperjenza
appealed.PV-3SGF-DAT-1SG a.lot DEM.SGF.DEF-experience.SGF
This experience appealed to me a lot.

[6]It must of course be acknowledged that the use of ACC morphology does not provide irrefutable proof of GF status, especially given that in Maltese there is a set of defective verbs (the 'pseudo-verbs') (Peterson, 2009) which take ACC pronominal markers in what is probably a SUBJ function e.g. *donn-ok, donn-hom, donn-ha* 'appear'/'seem', *il-ek, il-u, il-na* 'long.time' and *qis-ni, qis-kom, qis-ha* 'as.though/look like/appear'. Nonetheless the general point is clear - the morphological evidence is most consistent with the OBJ rather than the OBL analysis of the experiencer arguments.

(despite the fact that Belletti and Rizzi (1988, 309) claim that experiencer object verbs cannot be passivised). (16)-(17) illustrates this with a HA active-passive pair involving a shift from the Ist to the VIIth binyan and (18)-(19) an active-passive pair in MT involving a shift from the IInd to the Vth binyan. (In (18) and other subsequent examples, the parenthesised NPs indicate typical positions for the NP, which may also be dropped.)[7]

(16) al-film ya-fġaʕ-ha
DEF-film 3-frighten.IMP.SGM-3SGF.ACC
The film frightens her. HA

(17) n-faġaʕ-at minn al-film
PASS-frighten.PV-3SGF from DEF-film
She was frightened by the film. HA

(18) (Lil Mario) t-beżżgħ-u l-mewt (lil Mario)
ACC Mario 3-make.fear.IMP.SGF-3SGM.ACC DEF-death.SGF ACC Mario
Death frightens Mario. MT

(19) Mario dejjem t-bezza' mill-mewt
Mario always PASS-cause.fear.PV.3SGM from.DEF-death.SGF
Mario was always frightened by death. MT

One special property of the experiencer which Landau (2010, 5) interprets as favouring an OBL analysis concerns the distribution of resumptive pronouns (RPs). This also holds in Maltese, and for this reason we mention the relevant data here, although it is not clear to us that any analytic consequences in terms of GF follow from this observation. Landau notes that in Hebrew, while a RP is typically optional in OBJ position within relative clauses, a RP encoding an *experiencer* object is obligatorily present. In this respect, the experiencer appears to behave more like an oblique, since

[7]Passivisation in Classical Arabic and MSA involves the use of specific vowel patterns but this strategy is largely (although not entirely) absent in the contemporary vernaculars, where derivational processes in the binyanim system are generally used for verbal diathesis alternations. In Classical Arabic and MSA these same binyanim fulfill other broadly intransitivising functions. The fact that these forms yield passives in the dialects is well established in the literature (see Holes (2004, 135-138) and Abdel-Massih (1979/2011, 195)). Further evidence can be provided from MT, which also has a syntactic passive formed from the use of *ġie* 'come' and the passive participle. The following pair shows the promotion of the experiencer to SUBJ of the syntactic passive.

(i) a. J-beżżagħ-ni l-fatt li ħa m-mut-u
3-make.fear.IMP.SGM-1SG.ACC DEF-fact.SGM COMP PROSP 1-die.IMP-PL
The fact that we will die frightens me.

b. Ġej-t im-beżża' mill-fatt li ħa m-mut-u
come.PV-1SG PASS.PRT-fear.SGM from.DEF-fact COMP PROSP 1-die.IMP-PL
I was frightened from the fact that we will die.

obliques involve an obligatory RP. A similar pattern is found in MT: normally an object relative clause with a definite head noun would involve a gap, but the experiencer OBJ of an EOPV requires an obligatory RP. We give the data in (20)-(21) but as noted, it is not clear what to make of this observation.

(20) Kellim-t lit-tifel li weġġgħ-et-**u**
spoke.PV-1SG ACC.DEF-boy COMP make.hurt.PV-3SGF-3SGM.ACC
ras-u / għajr-u-**h** xi subien
head-3SGM.ACC / tease/call.out.names.PV.3-PL-3SGM.ACC some boys
ilbieraħ
yesterday
I spoke to the boy whose head was hurting yesterday/who some children teased yesterday. MT

(21) Kellim-t lit-tifel li ra-t-***u**
spoke.PV-1SG ACC.DEF-boy COMP saw.PV-3SGF-*3SGM.ACC
omm-i ilbieraħ
mother-1SG.ACC yesterday
I spoke to the boy who my mother saw yesterday. MT

When we turn to data involving binding and scope, the pattern which emerges is one in which the experiencer OBJ patterns alongside the OBJ of other verbs, contrary to the special behaviour which is reported for (non-agentive) EOPVs in other languages. Here we merely summarise the situation as it appears in the data we have explored: very little is clear about the syntactic hierarchical and linear conditions on binding and scope in Arabic in general. We can conclude, however, that the accessibility relations for experiencer objects are little or no different from those for standard transitive objects, supporting the view that such arguments are indeed OBJs. Consider first so-called **backward binding**, where an EO but not a 'normal' object can bind a reflexive within the subject (compare *Pictures of herself pleased Mary* with **Pictures of herself hit Mary*). In the dialects we consider, on the other hand, there is no difference in this regard between EOPV objects and other objects, as shown in the MT examples in (22) and ECA (23).

(22) a. Dal-kliem dwar-u nnifs-u_i
DEM.SGM.DEF-words.SGM about-3SG.ACC breath-3SG.ACC
dejjaq lil Pawlu_i / dejjq-u_i 'l Pawlu
bother.PV.3SGM ACC Paul / bother.PV.3SGM-3SGM.ACC, ACC Paul
These words about himself bothered Paul. MT

b. ħolma dwar-u nnifs-u_i qajjm-et 'l
dream.SGF about-3SG.ACC breath-3SG.ACC make.wake.PV-3SGF ACC
Pawlu_i b'ħasda
Paul with.shock
A dream about himself woke up Paul all of a sudden. MT

(23) ʕali dayʔ-u el-kalam ʕan nafs-u
Ali annoy.PV.3SGM-3SGM.ACC DEF-talk about self-3SGM.ACC
Ali was annoyed by the talk about himself. ECA

A second data constrast is argued to arise for English in terms of **weak crossover**. EOPV (but not other objects) allow crossover violations, inverse variable binding of the reflexive within the subject by the experiencer argument. However our initial investigations suggest that EOPV pattern just like other transitive verbs in not permitting weak crossover violations, as shown in (25)-(27).

(24) a. His$_i$ promotion pleases everyone$_i$
His$_i$ health worries every patient$_i$

b. *His$_i$ father hit everyone$_i$
∗His$_i$ father killed everyone$_i$

(25) a. ʔuslūb-uh$_i$ bi-ġīz kol wāḥed$_j$
behaviour-3SGM.ACC BI-annoy.IMP.3SGM every/each one
His behaviour annoys everyone/each one. ECA

b. ʔumm-uh$_i$ gawb-et kol wāḥed$_j$
mother-3SGM.ACC answer.PV-3SGF every/each one
His mother answered everyone/each one. ECA

(26) a. solūk-uh$_i$ ya-zʕiğ kul wāḥid$_j$
behaviour-3SGM.ACC 3-annoy.IMP.3SGM every one
His behaviour annoys everyone. HA

b. ʔumm-uh$_i$ ğawab-at kul wāḥid$_j$
mother-3SGM.ACC answer.PV-3SGF every one
His mother answered everyone. HA

(27) a. Imġiebt-u$_i$ għadb-et ’l kulħadd$_j$
behaviour.SGF-3SGM.ACC angered.PV-3SGF ACC everyone
His behaviour angered everyone.

b. Omm-u$_i$ wieġb-et lil kulħadd$_j$
mother-3SGM.ACC answered.PV-3SGF ACC everyone
His mother answered everyone. MT

A third issue concerns **anti-local binding**. It is claimed that non-agentive EOPVs do not allow local binding of an anaphor in direct object position by the causer subject (see (28)). But here too, Arabic EOPVs appear to permit local binding in a manner analogous to other verbs. Contrary to Landau (2010)’s ‘universal’ claim that this is

not possible (on non-agentive readings), examples such as (29) and (30) have non-agentive readings and involve local binding.[8]

(28) a. ??John amuses/disgusts/horrifies/irritates himself.

b. John killed/hurt himself.

(29) Muḥammad$_i$ bi-yi-tʕib nafs-u$_i$
Muhammad BI-3-tire.IMP.SGM self-3SGM.ACC
Muhammad tires himself. ECA

(30) In-dejjq-u$_i$ lil xulxin$_i$ / lilna nfus-na$_i$ xi kultant
1-bother.IMP-PL ACC each.other / us breath-1PL.ACC some time
We bother each other/ourselves sometimes. MT

Our investigation of the syntactic properties of these verbs, in which the experiencer argument maps to a lower function than SUBJ leads us to conclude that there is good evidence that the experiencer is a *bona fide* OBJ for verbs in this class. In particular, it appears to lack many of the special properties often ascribed to EOs. In the following section, we turn to a completely different set of verbs which embed verbal complements, before turning in section 4 to the interaction of these two classes of predicates.

3 Aspectual or Phasal verbs

By aspectual or phasal verbs we refer to a cass of predicates which take a verbal complement and which denote the inception, duration, continuation or termination (and so on) of an event or state. Such verbs are typically either PRED-less auxiliaries, or (more often) control or raising predicates. A representative sample of verbs in this class for the dialects we discuss is given in Table 2; (31) and (32) exemplify the structure.

Meaning	HA	ECA	MT
begin	bada/qām	badaʔ	beda/qam
remain	qaʕid/ḍal	ʔaʕad/fedel	baqa'/fadal
finish/achieve	baṭṭal/liḥiq	battal/leḥeʔ	laħaq
repeat	-	regeʕ	reġa'
(be)near/almost	qarrab	ʔarrab	qorob
become	ṣār	baʔa	sar

Table 2: Aspectual/Phasal Verbs

[8] A fourth observation is that EOPV but not standard transitives permit both scopings of SUBJ and OBJ in cases such as (8) (Kim and Larson, 1989).

(i) a. What worried everyone? what$>\forall, \forall >$ what

b. Who hit everything on purpose? who $>\forall$, *$\forall >$ what

We have not yet investigated this for the dialects.

(31) Beda j-i-ġbor l-iltiema
begin.PV.3SGM 3-FRM.VWL-gather.IMP.SGM DEF-orphans
He started gathering the orphans. MT

(32) el-welād badaʔ-u ya-kl-u
DEF-boy.PL start.PV-3PL 3-eat.IMP-PL
The boys started to eat. ECA

The most salient properties of this class of verbs include the fact that they are time reference dependent. Al-Aqarbeh (2011) provides extensive discussion of the complementation patterns of Jordanian Arabic (JA), documenting this property (amongst others) for JA *ballash* 'begin', see (33), and other verbs in this class.

(33) ʕali ballash yi-ktub i-risalih
Ali begin.PV.3SGM 3-write.IMP.SGM the-letter
Ali began to write the letter. (Al-Aqarbeh:128) JA

Further salient properties are that (i) they take verbal (or nominalised verbal) complements, (ii) typically nothing intervenes betwen the aspectual verb and its verbal complement, (iii) that generally, there is no embedded complementiser, (iv) the aspectual verb and the embedded verb have the same SUBJ, which is not expressed as an NP in the lower clause, and (v) the embedded verb shows subject agreement and is a morphologically finite form.

Arabic does not have an infinitival verb form, although it does have a nominal (verb-noun) form, the *masḍar*, and participle forms. Morphologically, the basic contrast is between the perfective and the imperfective stem. In Classical Arabic (and MSA) the imperfective stem is used to form the imperfective indicative, the future and two 'moods' — the jussive and the subjunctive in the Western tradition. These moods are essentially dependent verb forms used in a variety of contexts.[9] The dialects which we discuss here all display a basic contrast between perfective, imperfective and future (the form of the latter involving a prefix added to the imperfective forms). In addition, ECA (and other dialects such as JA) distinguish between an imperfective form with a *bi-* prefix, which is used in most indicative declarative contexts and seems to be essentially a realis form, and a 'bare' imperfective form, which is used in many modal and embedded contexts, and may be thought of as an irrealis form. We simply gloss the former form as BI. Formally, the distinction made by the Classical Arabic system of moods built on the imperfective verb form does not exist in HA (as far as we are aware) and MT. The verbal complements to the class of aspectual verbs across all three dialects are usually the imperfective forms (and in ECA usually bare imperfective forms), but perfective and future forms are not completely excluded.

[9]Compound tenses are formed using combinations of imperfective and perfective verbs with perfective and imperfective forms of *kān* 'be'. The fact that the basic perfective and imperfective forms can be used to relate speech time to reference time and to relate reference time to event time provides significant evidence that morphological forms must be sharply distinguished from their (multiple) interpretations. See Fassi Fehri (2012) for some discussion of the Arabic tense and aspect system.

Evidence that the aspectual verbs have PRED values and hence head their own f-structures (rather than forming complex predicates with the lexical verb or introducing only featural information under a co-head analysis) comes from their interaction with modifiers and with negation. Consider the meaning distinction which arises between (34a) and (34b), and similarly between (35a)-(35b) and (36a)-(36b), according to whether the aspectual verb or the embedded verb is negated. Example (37) shows that modification may target the predicates separately (and this is true also of the other dialects).

(34) a. el-walad ma-bada?-š ya-kul
DEF-boy NEG-start.PV.3SGM.NEG 3-eat.IMP.SGM
The boy didn't start to eat. ECA

b. el-walad bada? ma-ya-kul-š
DEF-boy start.PV.3SGM NEG-3-eat.IMP.SGM.NEG
The boy started to not eat. ECA

(35) a. ma ḍal ʔa-kallim-ak kul yawm.
NEG remain.PV.3SGM 1SG-speak.IMP-2SG.ACC every day
I will not remain/stay talking to you every day. HA

b. qaʕid ʔali ma ya-kallim-ni li modat ʔisbūʕ.
stay.PV.3SGM Ali NEG IMP.3-speak-1SG.ACC for period week
Ali stayed not talking to me for one week. HA

(36) a. Ma n-o-qgħod-x in-kellm-ek
NEG 1-FRM.VWL-stay.IMP.SG-NEG 1-speak.IMP.SG-2SG.ACC
darb'oħr-a
once.SGF.another-SGF
I won't stay speaking to you next time.
I will not endure speaking to you next time. MT

b. Qagħad ma j-kellim-ni-x għall-ġimgħa
stayed.PV.3SGM NEG 3-speak.IMP.SGM-1SG.ACC-NEG for.DEF-week.SGF
sħiħ-a
complete-SGF
He stayed not talking to me for a whole week. MT

(37) a. Jekk j-i-bde-w kull darba j-morr-u l-għada
if 3-FRM.VWL-start.IMP-PL every once 3-go.IMP-PL DEF-tomorrow
If they start all the time going the next day ... MT

b. Jekk j-i-bqa' l-ħin koll-u
if 3-FRM.VWL-stay.IMP.SGM DEF-time.SGM all-3SGM.ACC
j-iekol ħafna
3-eat.IMP.SGM a.lot
If he remains all the time eating a lot.... MT

If we are correct in arguing that the aspectual verb has a PRED value, the verbal complement (with controlled subject) could in principle be a case of control or raising. We believe that the evidence favours the conclusion that this is in fact raising.

First, at least some verbs in this class, but not all, allow a variant structure in which the aspectual verb takes default 3SGM agreement (and no NP subject) and the embedded verbal complement may contain its own independent subject. (35a) above illustrates that the HA *ḍal* 'remain' permits this: others include MT *baqa'/fadal* 'remain', *sar* 'become' and *laħaq* 'achieve'.[10] If these are raising verbs, then both variants have the same set of thematic or semantic arguments. But under a control analysis, the two variants of the verb do not share a single thematic/semantic argument frame underlying the surface valency patterns. (38) shows that both patterns occur with MT *sar* 'become', in contrast with HA *ṣar* 'become', which does not permit the 3SGM default/impersonal pattern. In (40) both the aspectual verb and the embedded verb show 3SGF agreement with the subject 'she', in contrast to (41), which shows default agreement on the aspectualiser.

(38) Sar/sar-et ma t-i-swa xejn
become.3PV.SGM/become.PV-3SGF NEG 3-FRM.VWL-cost.IMPV.SGF nothing
il-ħajja
DEF-life.SGF
It became such that life costs nothing, i.e. is futile. MT

(39) ṣar-at/*ṣar ma ti-swa ḥāğah al-ḥayāh.
become.PV-3SF/*become.PV.3SGM NEG 3SGF-cost.IMP thing DEF-life
It becomes such that life costs nothing. HA

(40) Qed t-i-bqa' t-webbes ras-ha
PROG 3-FRM.VWL-remain.SGF 3-make.hard.IMP.SGF head-3SGF.ACC
Lit: She is continuing to harden her head.
She keeps being hard-headed. MT

(41) Baqa' n-a-għmel dan koll-u
remain.PV.3SGM 1-FRM.VWL-do.SG DEM.SGM all-3SGM.ACC
Lit: It remains I do all this.
I still have to do all this. MT

For MT in particular, we find structures with multiple embedded impersonal (default 3SGM) verb forms, with the thematic argument expressed by a DAT-marked pronoun, suggesting that these verbs impose no selectional restrictions on their SUBJ.

[10]There is very little literature on the topic of subjectless, expletive subject or impersonal constructions in Arabic. However see Firanescu (2010) for discussion of a similar pattern with a subset of aspectual verbs in Syrian Arabic.

(42) Ha j-e-rġa' j-i-bda
PROSP 3-FRM.VWL-repeat.IMP.SGM 3-FRM.VWL-start.IMP.SGM
j-kol-l-i mara t-għin-ni fid-dar
3-be.DAT-1SG woman 3-help.IMP.SGF-1SG.ACC in.DEF-house
Lit: It will repeat start it be to-me a woman helps me in the house
I will again start having a woman helping me in the house MT

Second, aspectual predicates (irrespective of whether they permit impersonal constructions such as those illustrated in (41) above) do not appear to impose any selectional restrictions on their subjects, permitting human, inanimate and idiom chunks (preserving idiomatic meaning). Inanimate subjects are shown in (43) and (44) and an idiom chunk in (45).

(43) al-bard bada ya-ǧi.
DEF-cold start.PV.3SGM 3-come.IMPV.SGM
It started being cold. HA

(44) Baqgħ-et t-a-għmel/nieżla
remain.PV-3SGF 3-FRM.VWL-do.IMP.SGF/PROG.PRT.falling.SGF
x-xita
DEF-rain.SGF
The rain continued falling/It continued to rain. MT

(45) Alla skont il-muntanja (j-i-bqa')
God according DEF-mountain (3-FRM.VWL-remain.IMP.SGM)
j-ti-ha s-silġ
3-give.IMP.SGM-3SGF.ACC DEF-ice/snow
Lit: God keeps giving snow according to the mountain.
God will never give you more than you can handle. MT

Third, the passivisation test supports the conclusion that these verbs are instances of raising: the version with an active embedding in (46) and the corresponding passive embedding in (47) are equivalent in meaning in the sense that they describe the same event, as is expected with raising verbs but not with control.[11]

(46) el-walad bada? ya-kul el-?akl
DEF-boy start.PV.3SGM 3-eat.IMP.SGM DEF-food
The boy started to eat the food. ECA

[11]Note that the aspectual verb 'start' in (47) is given here in the VIIIth binyan, but this is not itself a passive: it is the embedded verb which is passive. It would also be possible to use an (underived) Ist binyan form here, although the resultant sentence is less natural.

(i) el-?akl bada? yi-t-ākel
DEF-food start.PV.3SGM 3-PASS-eat.IMP.SGM
The food started to be eaten. ECA

(47) el-ʔakl ʔibtada yi-t-ākel
DEF-food start.PV.3SGM 3-PASS-eat.IMP.SGM
The food started to be eaten. ECA

(48) a. bada ya-ǧamiʕ al-maḥṣūl
start.PV.3SGM 3-gather.IMP.SGM DEF-harvest
He started gathering the harvest. HA

b. al-maḥṣūl bada ya-n-ǧimʕ
DEF-harvest start.PV.3SGM 3-PASS-gather.IMP.SGM
The harvest started being gathered. HA

(49) a. Beda j-i-ġbor l-iltiema
begin.PV.3SGM 3-FRM.VWL-gather.IMP.SGM DEF-orphans
He started gathering (together) the orphans. MT

b. L-iltiema bde-w j-i-n-ġabr-u
DEF-orphans begin.PV.3-PL 3-FRM.VWL-PASS-gather.IMP-PL
The orphans started being gathered (together). MT

This section has considered the behaviour of a class of verbal predicates, the aspectual or phasal verbs, all of which take same subject verbal complements, while a small number of them also permit a construction with an impersonal or expletive subject. These temporally dependent complements are usually, but not always, in the imperfective form. In ECA, which distinguishes a clearly tensed realis form of the imperfective (using the verbal prefix *bi-*) from a dependent form of the imperfective (used inter alia in modal contexts), it is the dependent form of the imperfective which is used. Standard tests for distinguishing cases of raising from control support the conclusion that verbs in this class are raising verbs. We suggest that this is indeed the case. There is no reason in principle to reject a raising analysis on the basis of the embedded verbal morphology. First, there is substantial evidence in the literature that languages including Greek, Romanian, Bulgarian, Nguni, Shona, Kikuyu and Kirundi have finite raising or hyperaising. Second, we must clearly distinguish the use of particular surface *forms* (that is, finiteness as a inflectional property of verbs) from grammatical content (that is, FINITENESS as a property of a clause in discourse); see Sells (2007) for discussion of this point. The use of morphologically finite verb forms in Arabic does not then necessarily entail that these verbal complements are syntactically FINITE, and certainly does not rule out a raising analysis using functional control, even if it should turn out that they are in fact syntactically finite. Arka (2000) suggests an f-control analysis for raising out of finite complements in Indonesian, while on the other hand Asudeh (2005, 495) proposes that all cases of finite control should be analysed as obligatory a-control. On the basis of the observations made in this section, we suggest that these aspectual verbs are indeed raising predicates.

4 EOPV complements to Aspectual Predicates

In section 2 we argued that a certain class of psychological predicates in the Arabic vernaculars ECA, HA and MT are EOPVs: the stimulus or theme argument is SUBJ and the experiencer argument is usually OBJ, sometimes OBJ_θ or OBL. In section 3 we argued that a class of aspectual or phasal verbs in these dialects are subject to subject raising verbs (with a small number of verbs in this class also permitting a non-raised construction, with default 3SGM verbal morphology). If these observations are along the right track, it is expected that the EOPV non-experiencer argument will raise in the complement of an aspectual verb. This is shown in (50)-(52).

(50) el-welād bada?-u yi-day?-u mona
DEF-boys start.PV-3PL 3-annoy.IMP-PL Mona
The boys started to annoy Mona. ECA

(51) bad-u al-ʔawlād yu-ḍayiq-ū-n mona
started.PV.3-PL the-boys 3-annoy.IMP-PL-IND Mona
The boys started to annoy Mona. HA

(52) Is-subien bde-w i-dejq-u 'l-bniet
DEF-boys started.PV.3-PL 3-bother.IMP-PL ACC.DEF-girls
The boys started to bother the girls. MT

Abstracting away from a number of details (for example simply using the gloss labels as VFORM:VALUE pairs), and assuming for the purposes of illustration an XCOMP f-control analysis rather than a COMP a-control analysis, the structure of such examples would be as in (53), and the lexical entry for a verb form such as that in (50) would include the information in (54).

(53)
$$\begin{bmatrix} \text{PRED} & \text{`BEGIN}\langle\ \text{XCOMP}\rangle\ \text{SUBJ'} \\ \text{VFORM} & \text{PV} \\ \text{SUBJ} & \square \\ \text{XCOMP} & \begin{bmatrix} \text{VFORM} & \text{IMP} \\ \text{PRED} & \text{`ANNOY}\langle\text{SUBJ OBJ}\rangle\text{'} \\ \text{SUBJ} & \square\begin{bmatrix} \text{PRED} & \text{`BOYS} \\ \text{NUM} & \text{PL} \\ \text{PERS} & 3 \\ \text{DEF} & + \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`MONA'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 3 \end{bmatrix} \end{bmatrix} \end{bmatrix}$$

(54) *bada?*-u:
(↑ PRED) = 'BEGIN< XCOMP> SUBJ'
(↑ XCOMP VFORM) = IMP

However, the intriguing fact is that a further possibility is found robustly in HA and ECA, but not in MT. In these cases, the EO in the embedded clause is apparently allowed as SUBJ of the matrix aspectual predicate, with the EO being a pronominal form that is co-referent with the matrix subject. Examples in (55)-(58) illustrate this pattern with various word orders: note that the aspectual verb agrees with *Mona* (the experiencer of the embedded predication) and the psych verb agrees with *the boys* (the stimulus).

(55) bada?-et mona yi-day?-ū-ha el-welād
start.PV-3SGF Mona 3-annoy.IMP-PL-3SGF.ACC the-boys
Mona started to be annoyed by the boys. ECA (VSVS)

(56) mona bada?-et yi-day?-ū-ha el-welād
Mona start.PV-3SGF 3-annoy.IMP-PL-3SGF.ACC the-boys
Mona started to be annoyed by the boys. ECA (SVVS)

(57) mona bad-at ya-ḍayiq-un-aha al-ʔawlād
Mona start.PV-3SGF 3-annoy.IMP-PL-3SGF.ACC the-boys
The boys started to annoy Mona. HA (SVVS)

(58) mona bad-at al-ʔawlād ya-ḍayiq-un-aha
Mona start.PV-3SGF the-boys 3-annoy.IMP-PL-3SGF.ACC
The boys started to annoy Mona. HA (SVSV)

Although we have not (yet) made any systematic investigation of written MSA sources, and we know of no literature on MSA (or indeed on any of the dialects) which discusses the possibility of this unusual pattern of apparent raising, the following example, taken from Haddad (2012, 73), appears to illustrate a similar phenomenon in MSA. In the second conjunct of (59) (*wa-badʔa-at ya-ġlib-u-hā l-sawād-u l-kāḥil*) the aspectual verb agrees with what is also the SGF object of the psych verb *ya-ġlib-u* 'overcome' while the psych verb agrees with its SGM subject *l-sawwad-u l-kāḥil* 'pitch blackness'. Note that here too, the raised subject also occurs as an OBJ affix on the embedded predicate.

(59) Sawwad-ū l-malāmiḥ-a l-ʔarabīyat-a wa-badʔa-at
blacken.PV.3-MPL DEF-features-ACC DEF-Arab-ACC and-started.PV-3SGF
ya-ġlib-u-hā l-sawād-u l-kāḥil
3-overcome.IMP-IND-3SGF.ACC DEF-blackness-NOM DEF-pitch
They tarnished the Arab face, and it started to look pitch black. MSA

The existence of this construction, which to our knowledge has not been discussed in the literature on (varieties of) Arabic, raises many interesting analytic questions, which we cannot address in full here. In particular, it has a number of characteristics in common with Copy Raising (CR), and these commonalities suggest a possible

analysis.[12] In recent work, Asudeh (2012) and Asudeh and Toivonen (2012) distinguish English copy raising, illustrated in (60), from a complementation pattern found with perceptual resemblance verbs (such as *look, sound,...*), illustrated in (61).

(60) Chris seemed like he enjoyed the marathon.
John seems like the judges ruled that he defeated Mary.
John seems like Mary defeated him.

(61) John looked/sounded/smelled like Bill had served asparagus.

Copy raising with verbs such as *seem, appear* has the following characteristics: (i) a pronominal copy of the raised subject is found in the complement of the copy raising verb (according to Asudeh and Toivonen (2012) the copy is obligatory for nearly all speakers of English); (ii) the copy raised subject must be interpreted as a perceptual source (PSOURCE). Note that PSOURCE is not a *thematic argument* of the copy raising verb, but is an entailed participant in the state that the verb denotes (Asudeh and Toivonen, 2012, 334). On the other hand, Asudeh and Toivonen (2012) argue that this argument *is* thematic in the case of the perceptual resemblance verbs (see *inter alia* Landau (2011) for a different view on copy raising verbs and the notion of thematic argument).

A striking aspect of the Arabic construction we focus on here relates to this key notion of a PSOURCE, which seems to be applicable to the circumstances in which these 'raised object' constructions arise. Asudeh and Toivonen (2012) note for English and Swedish that "a copy raising subject is interpreted as the PSOURCE - the source of perception - and ascribing the role of PSOURCE to the subject is infelicitous if the individual in question is not perceivable as the course of the report." This also appears to hold for the distribution of this construction in Arabic. Examples such as (55)-(58) above are felicitious (roughly) when the state of affairs can be verified by inspection of *Mona*: that is, *Mona* is a perceptual source. This is naturally often the case when the embedded predication is a psych verb. Although we are at an early stage of investigating this pattern for other classes of verbs, we have found that examples of this 'raised object' construction such as (62) and (63) are acceptable under particular conditions, for example when inspection of the state of the car leads one to conclude that Ali has started driving it. This is perhaps suggestive of a connection to the PSOURCE factor which is at work in English and Swedish copy raising, although these remarks are necessarily highly speculative at this point.

(62) el-ʕarabeyya bada?-et yi-su?-ha ʕali
DEF-car(SGF) started.PV-3SGF 3-drive.IMP.SGM-3SGF.ACC Ali
The car started to be driven by Ali. ECA

[12] In addition to our discussion here, Sadler (2013) provides for a preliminary exploration of how the approach of Asudeh (2012) and Asudeh and Toivonen (2012) might be extended to the Arabic data, although many questions remain unexplored.

(63) badaʔ-et el-ʕarabeyya ʕali yi-suʔ-ha
started.PV-3SGF DEF-car(SGF) Ali 3-drive.IMP.SGM-3SGF.ACC
The car started to be driven by Ali. ECA

In MT we do not find this construction at all with the aspectual/phasal verbs. However, it does seem to occur with verbs such as *seem, happen*. In (64) the matrix verb agrees with the experiencer of the embedded predication in the raised version, and may alternatively show default 3SGM agreement, with *Marija*, (if present), left or right dislocated from the embedded clause containing the OBJ pronominal. A further example showing putative 'object raising' is given in (65).[13]

(64) (Marija) t-i-dher/j-i-dher (li)
Mary 3-FRM.VWL-appears.IMP.SGF/3-FRM.VWL-appears.IMP.SGM COMP
j-o-għġob-ha dal-ktieb (Marija)
3-FRM.VWL-pleases.IMP.SGM-3SGF.ACC DEM.SGM.DEF-book.SGM Mary
Mary, it appears that the book pleases her.
Mary appears such that this book pleases her. MT

(65) Seħl-u/seħel qabad-hom n-ngħas.SGM
happen.PV.3-PL/happen.PV.3SGM catch.PV.3SGM-3PL.ACC DEF-sleepiness
It appears that they were overcome by sleepiness.
They happened to be overcome by sleepiness. MT

A characteristic of CR (see the examples in (60)) is that the copy can be embedded at some distance within the complement. We can show this to be the case with the pseudo-verbs of appearance such as *donn-* or *qis-*. These so-called pseudo-verbs in MT are aspectually defective predicates which use ACC bound pronominal forms to code what is in fact (we believe) their SUBJ argument. The examples in (66) and (67) show that agreement on the matrix (pseudo-verb) predicate may be controlled by either argument of an embedded EOPV: that is, alongside the expected pattern in which the theme or stimulus is raised (*donn-kom* and *qis-u*, respectively), an alternative is grammatical in which the experiencer controls agreement on the pseudo-verb. The crucial example is now (68): here an additional level of embedding is inserted into the complement of the pseudo-verb by adding an aspectual predicate, and we see that the pseudo-verb may still agree with the (experiencer) object of the embedded psych predication, showing the long distance pattern also found in cases of CR in other languages. Both the long distance agreement and the appearance of the pronominal copy in a range of different grammatical functions[14] would follow from the analysis of CR proposed by Asudeh and Toivonen (2012) which involves anaphoric binding between the matrix SUBJ (as the antecedent) and the embedded GF.

[13]It appears so far that this 'object raising' pattern is heavily restricted: the examples we give all involve embedded EOPVs.

[14]In MT the copy can be an OBJ, OBJ_θ, POSS or OBL OBJ.

(66) Donn-kom/ha ġħoġob-t-u-ha
think-2PL.ACC/3SGF.ACC pleased.PV-2-PL-3SGF.ACC
She seems to have been pleased by you.
You seem to have pleased her. MT

(67) Qis-u/hom ġħelib-hom
measure-3SGM.ACC/3PL.ACC overcome.PV.3SGM-3PL.ACC
in-ngħas.SGM
DEF-sleepiness.SGM
They seem to have been overcome by tiredness.
Tiredness seems to have overcome them. MT

(68) Qis-ha / donn-ha ġa bde-w
measure-3SGF.ACC / think-3SGF.ACC already started.PV.3-PL
j-i-stkerrh-u-ha
3-FRM.VWL-disgust.IMP-PL-3SGF.ACC
She seems/appears as though they already started disgusting her. MT

If the observations in this section are on the right track, a promising approach would be to extend the style of analysis outlined in Asudeh (2012) and Asudeh and Toivonen (2012) to these data from the Arabic dialects. Such an analysis would need to take account of a number of syntactic differences between these constructions and English Copy Raising, not least the lack of an intervening *as if, like* predication, which plays a crucial role in the syntactic part of that analysis. Since our concern here is mainly with establishing and discussing the data patterns which we have investigated, we leave these details of analysis for future work.

5 Conclusion

This paper has aimed to make a contribution to the syntactic description of the contemporary Arabic vernaculars from the perspective of LFG. We have investigated two classes of verbs. We have shown that the dialects in question have a class of psych predicates in which the experiencer is realized as a surface OBJ, and we have shown that this argument shares the properties we associate with normal transitive objects. We then showed that the dialects have a class of aspectual verbs which should be treated as subject-subject raising verbs. The final section explored the interaction of these two classes of verbs, where we see a construction which bears a number of resemblances to Copy Raising.

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