

Scheming Probes – On Number Agreement in Standard Arabic

Anke Himmelreich, Leipzig University

Claim: Subject (S) agreement in Arabic marks up to three categories on the verb: person, gender, and number (#). In Modern Standard Arabic (MSA), #-marking is obligatory when the postverbal S position is null (Benmamoun 2000:128). This generalization can be derived without referring to the nullness of S: #-agr in MSA applies in the vP. Afterwards, v's #-probe can betray S for EPP-movement: If it moves to Spec-TP, S cannot move AND the #-feature cannot be realized on the verb. This account is superior to previous accounts for two reasons: It captures the entire agreement pattern in MSA and it does not shift the problem to morphology.

Data: In MSA, the verb is marked for # (sg, du, pl) with S iff there is no overt postverbal S. Otherwise it bears a default sg marker (1)-(2). Three types of these null positions exist: (i) null due to movement (3) (\bar{A} -movement ex. omitted), (ii) null due to a base-generated *pro* (4), (iii) null to the lack of a S-position (5). (Unless noted otherwise, ex. are taken from Benmamoun (2000:121-132). Judgments were confirmed by a speaker of MSA.)

- (1) ʔakal-at/*na t-aalibaat-u (2) al-ʔawlaad-u raʔ-**at**-hum bint-un
ate-**3SG.F/*3PL.F** the-students.F.-NOM the-boys-NOM saw-**3SG.F-CL** girl-NOM
'The students ate.' 'The boys, a girl saw them.' (Mohammad 2000:50)
- (3) t-aalibaat-u; $\text{ʔakal-}*at/na$ t_i (4) $*kaan-**at**/kun-**na**$ ya-ʔkul-na
the-students.F-NOM ate-***3SG.F/3PL.F** *was-**3SG.F/was-3PL.F** 3-eat.PL.F
'The students ate.' 'They were eating.'
- (5) a. $kaan-**at**/*kun-**na**$ t-aalibaat-u ya-ʔkul-**na**
was-**3SG.F/*was-3PL.F** the-students.F-NOM 3-eat.**PL.F**
'The students were eating.'
- b. t-aalibaat-u $*kaan-**at**/kun-**na**$ ya-ʔkul-**na**
the-students.F-NOM *was-**3SG.F/was-3PL.F** 3-eat.**PL.F**

Problem: An analysis of (1)-(5) has to account for the facts (i) that number is different from gender and person, (ii) that the phonological realization is irrelevant for syntactic operations (under a Y-model of grammar), and (iii) that the agreement target has to be S (cf. (2)).

Previous Analyses: There is plenty of literature on the phenomenon, yet (to the best of my knowledge) none of the syntactic accounts to date (Mohammad 1990; Aoun et al. 1994; Soltan 2006; Al-Horais 2009; Bjorkman and Zeijlstra 2014; Preminger and Polinsky 2015; Fakhri 2016) has considered the full paradigm. Independent of the exact mechanisms, those accounts have to stipulate a biclausal structure for the complex tense in (5). Morphological accounts, on the other hand, rely on adjacency between S and the functional head responsible for agreement. This, however, causes problems for word orders, where S and V are not adjacent. For example, Benmamoun's (2000) idea of morphological merger between the #-marker and S in a VS-order does not account for the lack of agreement in VOS orders (ex. omitted). Walkow's (2010) account of a special post-syntactic number matching operation (based on Bahloul and Harbert (1992)) in SV orders cannot handle agreement on the lexical verb in (5-b).

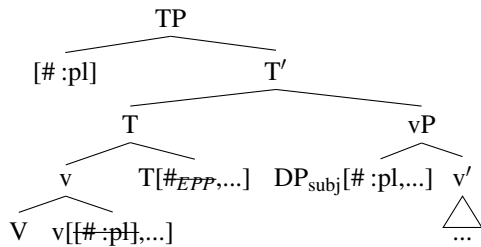
Assumptions: The analysis is couched in a standard minimalist framework combined with Distributed Morphology. I make the following additional assumptions: [1.] Head movement is syntactic movement leading to adjunction of the head to the higher head (Baker 1988). Following standard assumptions about MSA, V moves to v and V+v move to T. [2.] SV order in MSA comes about by EPP-movement and is due to T's #-feature triggering movement rather than agreement ([#*EPP*]). [3.] Movement always targets a feature. Consequently, feature movement is possible, leaving head and phrasal movement to be instances of generalized pied-piping (Chomsky 1995). Pied-Piping is restricted and can only apply if it is needed for morphosyntactic or semantic reasons (Heck 2009). [4.] Agreement is implemented as the syntactic operation Agree (Chomsky

2000). Probe features on a head H can find a goal in the m-command domain of H. A valued probe doesn't delete but is accessible to further operations. [5.] A feature F on a head H triggering Move can target elements in the m-command domain of H (see Müller 2010 for melting effects).

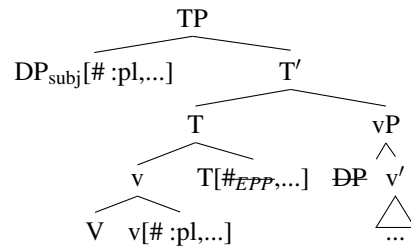
[6.] In MSA, both v and T bear ϕ -features for S agreement. Thus, V+v+T can bear two instances of gender and person features. I assume that these features are unified postsyntactically or, alternatively, that one marker can realize multiple instances of the same feature.

Derivations: In a nutshell, the proposal predicts that #-agreement is always carried out, since the #-probe on v agrees with S in the vP. At the point of EPP-movement, [#_{EPP}] on T can choose to move either the #-feature of v or S bearing a #-feature. As shown in the structures in (6)-(7), there is no intervention between the two. I thus assume that they are equidistant to T (cf. Clem (2018)). Now, if [#] on v moves (6), the #-feature is detached from the verbal complex and cannot be realized (all possible entries are too specific since they realize other ϕ -features as well). This derivation results in the lack of #-agreement under the word order VS. If DP_{subj} [#] is moved (7), S is linearized preverbally and the #-feature stays on V+v+T.

(6) [#]-movement \Rightarrow Partial agreement



(7) DP-movement \Rightarrow Full agreement



It is also possible to just move the [#]-feature of the DP. This would, however, derive a VS order with a S that has no #-feature, resulting in a sg interpretation. Thus, pied-piping is needed for a pl interpretation. (A solution to a possible concord problem would involve a late (postsyntactic or acyclic) concord operation.) Under this theory, (2)-(5) are derived as follows. (2) is due to Os not being a target for agreement. (4) is due to *pro* having to be licensed by an aboutness topic that is above the TP (McFadden and Sundaresan (2016)). Movement of *pro* is a prerequisite for this licensing. (5) is due to an additional projection between vP and TP headed by Aux. Aux bears a ϕ -probe, leaving v's ϕ -probe to be realized V+v. Aux behaves just like v in (6)-(7).

Predictions: [1.] Other features of v should be not affected by movement. This is borne out since e.g. the same agreement asymmetry emerges in passive clauses ((8)-(9), primary data).

[2.] The account so far has nothing to say about examples, where an overt postverbal pronoun triggers agreement (ex. omitted). Overt pronouns in Arabic are marked and bear contrastive focus (Soltan 2006). One way out would be to say that these pronouns are complex and contain a focus operator that needs to be licensed by a focus head and that bears a [#]-feature. In any case, this is a problem for all accounts.

[3.] That nullness does not play a role at all makes the right predictions with respect to verbal coordination: In V&VS orders ((8), primary data), both verbs lack #-agreement; in VS&V orders, only the final verb bears #-agreement; in SV&V orders, both verbs agree (ex. omitted). All structures follow under TP coordination with postsyntactic ellipsis: [TP V S] & [TP V S]. Given parallelity, also the first TP must involve #-movement to Spec-TP. (6). That the subject is elided later does not play a role for agreement.

(8) al-dawlatani wuDi^c-*at/ataa ^calaa l-qaa'imat-i.
the-countries.DU placed.PASS-*3SG.F/3DU.F on the-list-GEN
'The two countries were placed on the list.'

(9) ukil-at/*na al-tufahat (10) ?kal-a wa-šarib-a al-?awlad
ate.PASS-3SG.F/*3PL.F the-apples ate.M.SG and-drank.M.SG the-children.M
'The apples were eaten.' 'The children ate and drank.'