AGREEMENT IN COPULAR CLAUSES EMBEDDED IN MODAL CONTEXTS[*]

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1.   Introduction

Our point of departure for this paper is Costa's (2004) observation that modal contexts in European and Brazilian Portuguese (hereafter EP and BP, respectively) diverge with respect to their agreement properties when they embed specificational copular clauses. In the modal context, agreement on the modal is with the first NP (hereafter NP1) in BP (1) but with the second NP (hereafter NP2) in EP (2). Costa (2004) attributes this difference to the absence of a lower phasal CP boundary in EP and its presence in BP, leading to the unavailability of NP2 for agreement in BP.

(1)   O   assassino   pode   ser   eu.   *BP (NP1 agreement)*
       the murderer   may.3sg   be   I
       'The murderer may be me.'

(2)   O   assassino   posso   ser   eu   *EP (NP2 agreement)*
       the murderer   may.1sg   be   I
       'The murderer may be me.'

This split is highly reminiscent of the better-known split attested cross-linguistically between NP1 and NP2 agreement in specificational copular contexts (Moro 1997). While in some languages such as English (3) or French, the copular verb consistently agrees with NP1, in other languages such as (Brazilian and European) Portuguese (4), Persian (5), or German, the copular verb agrees with NP2 in specificational copular clauses.

(3)   The murderer is me.   *English*

(4)   O   assassino   sou   eu.   *Portuguese*
       the   murderer   am   I
       'The murderer is me.'

(5)   qaatel   man-am   *Persian*
       murderer   I-1sg.
       'The murderer is me.'

Persian presents an interesting case study in that it manifests, within a single language, not just two but three agreement patterns for copular clauses embedded under the modal *tavaanestan* 'can'. The goal of this paper is to provide an account for these agreement patterns. Other modals such as *baayad* 'must' and *shayad* 'may' are impersonals and do not show agreement (see also Ghomeshi 2001, Taleghani 2008).

2.   Agreement in Modal Contexts: Persian

The various agreement possibilities under *tavaanestan* 'can' are shown in the examples in (6)-(8) where NP1 is third person singular and NP2 is second person singular.

(6)   qaatel   mi-tun-e   to   baash-i   *modal 3sg, copula 2sg*
       murderer   dur.-can-3sg. you   be.subjunctive-2sg
       'The murderer can be you.'

(7)   qaatel   mi-tun-i   to   baash-i   *modal 2sg, copula 2sg*
       murderer   dur.-can-2sg. you   be.subjunctive-2sg
       'The murderer can be you.' (to be revised)

(8)   qaatel   mi-tun-e   to   baash-e   *modal 3sg, copula 3sg*
       murderer   dur.-can-3sg. you   be.subjunctive-3sg
       'The murderer can be you.'

The data in (6)-(8) illustrate three agreement patterns, realized on two agreeing verbs, the modal and the copula. On the one hand, we see variation with respect to the agreement on the modal: 3sg in (6)/(8) versus 2sg in (7). This pattern is reminiscent of the EP and BP contrast discussed by Costa (2004) (1)-(2). On the other hand, we see variation with respect to the agreement on the copula: 2sg in (6)/(7) versus 3sg in (8). This latter pattern is reminiscent of the variation found in copular contexts both cross-linguistically (3)-(5) or within a language depending on the types of NPs involved, e.g. in Persian, agreement is sometimes with NP2 (9) and sometimes with NP1 (10) (See Bejar and Kahnemuyipour, in prep).

(9)   qaatel   to-yi
       murderer   you-be.2sg
       'The murderer is you.'

(10)   to   qaatel-i
       you   murderer-be.2sg
       'You are the murderer.'

It is worth noting that the fourth logical possibility with respect to agreement on the modal and copula, shown in (11), is ungrammatical.

(11) *qaatel   mi-tun-i   to   baash-e   *2sg NP2, 3sg NP1*
       murderer   dur.-can-2sg you   be.subjunctive-3sg
       'The murderer can be you.'

Moreover, a closer examination of the data in (6)-(8) reveals some interpretive differences which we now turn to. In (6), NP1 can only be intensional, leading to a specificational interpretation of the copular clause and an epistemic reading of the modal. We refer to this as the "Poirot"[1] reading.[2] A typical context for the "Poirot" reading would be one where detective Hercules Poirot has concluded his investigation and identifies the murderer by announcing: *The murderer can be you.* By contrast, NP1 can only be extensional in (8), leading to an equative reading of the copular clause. The modal is most saliently deontic, but the epistemic reading is also possible. We refer to this reading as the "charades" reading. An example of a context for the "charades" reading would be one where a murderer, a thief and an arsonist are playing charades using themselves as characters in a prison's. The arsonist turns to the thief and says: The murderer can be you. Finally, in (7), NP1 is most naturally extensional ("charades" reading), but can be intensional ("Poirot" reading). The modal can be epistemic or deontic.[3]

In this section, we laid out the basic facts about the agreement patterns found in Persian copular clauses embedded in the context of the modal 'can'. In order to account for these agreement patterns, we need to have a better understanding of the syntax of the modal's complement clause. This is the topic of the following section.

3.   Defective Structure of the Embedded Clause

Ghomeshi (2001) looks at non-finite complementation in Persian and argues that the complement of matrix verbs like *tavaanestan* 'can' is reduced in Persian. Rather than being a full CP, the complement is a vP with a PRO subject. Ghomeshi's claim is based on the following diagnostics: (i) identical agreement on matrix and embedded verbs; (ii) impossibility of overt subject in the embedded clause; (iii) local relation between matrix and embedded clauses; (iv) negligible semantic consequences of scrambling out of the embedded clause; (v) impossibility of conflicting temporal modifiers in matrix and embedded clauses.

Like Ghomeshi (2001), we take the clause embedded under "can" to be reduced. However, we depart from Ghomeshi in two important ways. First, we argue for more structure, namely a defective (tenseless) IP. In other words, the embedded clause is not as reduced for us as it is for Ghomeshi. Second, we argue for a raising analysis for NP1 (cf. Ghomeshi's control analysis). In the remainder of this section we justify our view of the embedded copular clause as reduced (following Ghomeshi) but fuller than vP. In section 4, we provide arguments for the raising analysis.

Note that Ghomeshi 2001 does not discuss embedded copular contexts, so the facts relevant to us represent an expansion of her empirical domain. In some respects, the embedded copular contexts behave exactly as predicted by

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[1]   Reference to Hercule Poirot, the fictional Belgian detective created by Agatha Christie (as per Heycock 2010).

[2]   As further proof for the intensional status of NP1 in (6), we note that the colloquial definite marker –e cannot be added to NP1: *qaatel-e   mi-tun-e   to   baash-i.

[3]   The combination of an intensional NP1 and a deontic reading of the modal is very marked, and possibly even ungrammatical. The tendency is to replace the copula "be" with "become". This does not appear to have any bearing on our discussion here. We leave further examination of this interesting point for future research. Many thanks for Annahita Farudi for bringing this point to our attention.

Ghomeshi, supporting the view that these are indeed reduced domains.[4] For example, with respect to diagnostic (ii), the copular context behaves just like the non-copular one in that it does not allow for an overt embedded subject (12).

(12) qaatel   mi-tun-e/i   (*Ali) to   baash-i/e
      murderer   dur.-can-3/2sg   Ali you   be.subjunctive-2/3sg

Furthermore, copular clauses embedded under "can" behave just like their non-copular counterparts with respect to the diagnostic (v): they do not allow the use of conflicting temporal modifiers in the embedded and matrix clauses (13).

(13) *qaatel   emruz   mi-tun-e/i   fardaa   to   baash-i/e
      murderer today   dur-can-3/2sg tomorrow   you   be.subjunctive-2/3sg
      'The murderer can today be you tomorrow.'

However, embedded copular contexts differ with regards to diagnostic (i) which involves the identical agreement on matrix and embedded verbs. The cases Ghomeshi examines all involve identical agreement, which in her system must entail phi-feature agreement between PRO and its antecedent the matrix subject (with both subjects subsequently controlling agreement for the same features in their respective domains). Crucially, we note that the copular context — specifically (6) — presents an interesting case of agreement mismatch between the verbs, which we will argue arises from the syntax of copular clause agreement.[5] For Ghomeshi, the locus of agreement in the embedded clause is v, and furthermore the agreement relation is argued to be established thematically at merge. We will take the locus of agreement to be Infl, as is standardly assumed.

4.   "Can" as a Raising Verb in Persian

In order to establish the properties of *tavaanestan* 'can', we set up a contrast with *xaastan* 'want', which is another verb that takes a non-finite (subjunctive) complement in Persian, but has strikingly different properties from 'can'.[6] We discuss these differences here.

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[4]   Ghomeshi's diagnostics (iii) and (iv) are difficult to apply to the copular context for reasons we will not get into here.

[5]   Our example (6) seems to be the first case noted in the literature which demonstrates the possibility of agreement mismatch between 'can' and the embedded verb. Ghomeshi does note certain mismatching cases (not the ones presented here), but they involve cases of object control where the antecedent for PRO is not the matrix agreement controller. Ghomeshi uses the object control mismatch cases to rule out a possible analysis where agreement between the modal and the embedded verb arises from direct V-V agreement.

[6]   While acknowledging several differences, Ghomeshi (2001) appears to ultimately treat "want" on a par with "can" structurally. We are departing from her analysis in this regard as well.

First, unlike 'can', 'want' allows for an overt subject in the embedded copular clause (14) and allows for conflicting temporal modifiers in the matrix and embedded clauses.

(14) qaatel   mi-xaa-d[7]   Ali   to   baash-e
      murderer   dur.-want-3sg   Ali   you   be.subjunctive-3sg
      'The murderer wants Ali to be you.'

(15) qaatel   emruz   mi-xaa-d   farda   to   baash-e
      murderer   today   dur.-want-3sg tomorrow   you   be.subjunctive-3sg
      'The murderer wants today to be you tomorrow.'

Moreover, "want" does not allow for an intensional subject. Therefore, the agreement pattern for "can" given in (6) ("Poirot" reading), i.e. 3sg agreement on the modal and 2sg agreement on the embedded clause, is impossible (16). The equivalent of (8) ("charades" reading), with the modal and embedded clause both agreeing with NP1, is fine.

(16) * qaatel mi-xaa-d   to   baash-i
      murderer   dur.-want-3sg   you   be.subjunctive-2sg

(17) qaatel   mi-xaa-d   to   baash-e
      murderer   dur.-want-3sg   you   be.subjunctive-3sg
      'The murderer wants to be you.'

We now turn to our arguments for a raising structure for the complement of 'can' in Persian. We establish these raising properties by showing the contrast with 'want'.

The first argument for the raising status of the clauses embedded within 'can' comes from the behaviour of floating quantifiers (see also Karimi 2008). This test is standardly used in the generative literature as a diagnostic for raising (Sportiche 1988, among others). We can see in (18) and (19) that the quantifier 'all' can be floated in the subject position of the embedded clause with 'can' but not with 'want', showing that the subject NP1 originates inside the embedded clause with the modal 'can' (but not 'want').

(18) (hame) bachchehaa (hame) mi-tun-an   (hame) to   baash-an
      all   kids   all   dur.-can-3pl all   you   be.subj.-3pl
      'All the kids can be you.'

(19) (hame) bachchehaa (hame) mi-xaa-n   (??hame) to   baash-an
      all   kids   all   dur.-want-3pl all   you   be.subj-3pl
      'All the kids want to be you.'

The second argument for the raising status of the clause embedded within 'can' comes from idiomatic/proverbial expressions, another standard diagnostic for raising (Higgins 1974, and subsequent authors). In (20) and (21), we see that the subject of an idiomatic/proverbial expression can be separated from the rest

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[7]   This is the colloquial form derived from the full form mi-xaah-ad by dropping the "h" at the end of the root and the "a" in the agreement marker.

of the expression by 'can' (but not 'want') while retaining its meaning. The example in (21) does not involve a copular clause, but still shows the relevant property for 'can'.[8]

(20) Proverbial expression: doruqgu   doshman-e   xodaa-s
                                liar   enemy-Ez   God-is
                                'A liar is God's enemy.'

   a.   doruqgu   mi-tun-e   doshman-e   xodaa   baash-e
         liar   dur.-can-3sg enemy-Ez   God   be.subj-3sg

         vali   tu   donyaa   eshq   mi-kon-e
         but   in   world   love   dur-do-3sg
         'A liar can be God's enemy but s/he has all the fun in the world.'

   b. * doruqgu   mi-xaa-d   doshman-e   xodaa baash-e
         liar   dur.-want-3sg   enemy-Ez   God   be.subj-3sg

         vali   tu   donyaa   eshq   mi-kon-e
         but   in   world   love   dur-do-3sg
         'A liar wants to be God's enemy but s/he has all the fun in the
         world.'

(21)   Idiomatic expression: parande   par   ne-mi-zan-e
                                    bird   wing   neg.-dur-hit-3sg
                                    'The place is so empty.'
                                    (Lit. A (single) bird doesn't fly (here)).

   a. ? parande   mi-tun-e   par   na-zan-e   vali owzaa-shun
         bird   dur.-can-3sg wing   neg.-hit-3sg but situation-their

         bad nist
         bad isn't
         'The place might be empty but their situation is not bad (i.e. they
         are doing OK).'

   b. * parande   mi-xaa-d   par   na-zan-e   vali
         bird   dur.-want-3sg   wing   neg.-hit-3sg but

         owzaa-shun   bad   nist
         situation-their bad   isn't

In this section, we have argued for a raising analysis of the clauses embedded inside the modal 'can'. It is worth noting here that while we have established a contrast between 'can' and 'want' in Persian and taken the former

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[8]   The application of this test is complicated by the fact that most idiomatic/proverbial expressions involving subjects in Persian are fixed phrases which do not allow any kind of manipulation. In order to find a wider range of cases, a systematic review of idiomatic expressions is necessary, a task we leave for future research.

to be a case of raising, we do not take 'want' to be an example of control. All evidence appears to point to the complement of 'want' being a full-fledged clause, implying a structure schematized in (22) for the cases we have considered so far.[9,10]

(22) $[_{CP} \ldots NP_1 \ldots$ want $\ldots[_{CP} \ldots[$ pro NP2 BE$]]]$

In the following section, we develop an account for the various agreement patterns we illustrated for copular clauses embedded within "can" in Persian.

5.   Deriving the agreement patterns (6)-(8)

In this section, we will show how the raising analysis of 'can' interacts with the syntax of copular clauses as embedded (defective) InflPs to derive the agreement patterns in (6)-(8). We begin by outlining our assumptions about the syntax of copular clauses.

There have been various proposals in the literature with respect to the kind of variation found in (3)-(5) (notably Moro 1997, Costa 2004, Heycock 2012). For the purposes of this paper, we take the derivation of predicative and equative clauses (with NP1 agreement) to proceed as schematized in (23).[11] For specificational clauses (with NP2 agreement), we assume (24).

phi Agree with extensional NP1

(23) $[_{IP}$ Infl$[_{FP} \quad [_{SC}$ NP1s_{ubj} NP2$_{Pred}$ $]]]$

phi Agree fails with intensional NP1

(24)   a. $[_{IP}$ Infl$[_{FP}$ NP1$_{Pred}$ $[_{SC}$ NP2s_{ubj} t$_{Pred}$ $]]]$

phi Agree with NP2

   b. $[_{IP}$ NP1$_{Pred}$ Infl $[_{FP}$ t$_{Pred}$ $[_{SC}$ NP2s_{ubj} t$_{Pred}$ $]]]$

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[9]   Recall that the complement clause of 'want' can have an independent subject. In a null-subject language such as Persian, this can be pro. NP1 and pro can have different person features. Meanwhile, the cases we have seen on a par with 'can' are ones where the two share the same features and as such present the appearance of a shared subject. When NP1 and pro are both third person, it is nearly impossible to construct the pro as anyone other than NP1. This is a pragmatic effect which is not limited to subjunctive complements and can be found in all other complementation (see Hashemipour 1989, cited in Ghomeshi 2001).

[10]   We remain skeptical about whether true control structures exist in Persian. The verbs to be considered next are the ones showing mixed properties, see Ghomeshi (2001). We leave a closer examination of those verbs for future research.

[11]   In (23) the second NP is tagged as a predicate. For an equative clause it might be more appropriate to depict it as a referential NP, but see Adger & Ramchand 2003 for arguments to the contrary. The crucial point for us is that equative clauses, like predicational ones, do not involve the inversion step.

In (23), the subject and predicate NPs are introduced in a small clause (SC) which is the complement of an FP that is in turn selected by Infl. The position of the copula can be taken to be the head of F, but nothing hinges on this. Agreement on the copula is a reflex of a phi-probe on Infl. NP1$_{subj}$ is the closest goal, and as a reflex of Agree it moves to the structural subject position Spec, Infl.

In (24), the syntax of specificational clauses includes an inversion step (cf. Heycock 2011, Moro 1997) in which the predicate NP fronts past the subject NP to spec,FP. In (24i) this makes the NP$_{Pred}$ the closest goal to the phi-probe on Infl, however, the intensional NP cannot value the probe. As a reflex of the failed Agree relation, the intensional NP moves to Spec, Infl. Then the probe, which remains unvalued/active, triggers a second search which finds the NP2$_{Subj}$ in (24ii). The derivation is analogous to the sequence of steps posited to account for defective intervention patterns with quirky subjects in Chomsky 2000, Anagnostopoulou 2003, and elsewhere.

With these assumptions in place, we now proceed to deriving the agreement patterns in (6)-(8). We will start with the most straightforward matching case (8) and proceed to (7) and then to the mismatching case (6).
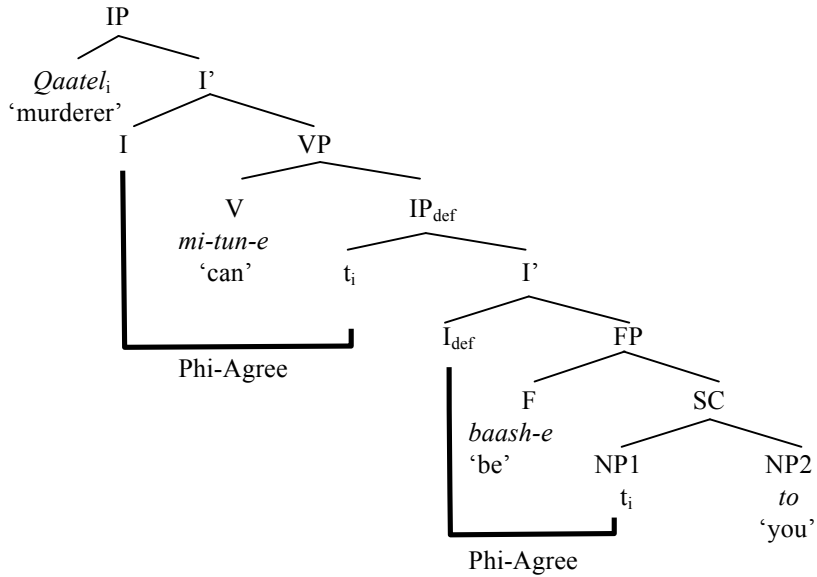
5.1 Deriving (8)

The characteristic agreement pattern in (8) is 3rd person agreement on both the embedded copula, and on the modal.

(8) qaatel   mi-tun-e   to   baash-e   *modal 3sg, copula 3sg*
     murderer   dur.-can-3sg. you   be.subjunctive-3sg
     'The murderer can be you.'

Recall that in (8), NP1 can only be extensional, leading to an equative reading of the copular clause (the "charades" reading), thus the structure of the embedded copular clause in (25) conforms to (23), with no inversion step and no NP2 agreement.[12] We take (8) to involve NP1 agreement in both clauses, with agreement in the higher clause being the result of raising. The embedded Infl, being defective, can Agree but cannot assign Case (Chomsky 2000). Phi-Agree of NP1 with defective Infl of the embedded subjunctive clause results in valuation of phi on Infl (3.sg) but no Case for NP1, which therefore remains active in the derivation. It is thus available to Agree with the matrix Infl (valuing 3.sg) higher in the derivation, where it likewise receives nominative case.

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[12]   Note that for convenience all of our tree structures abstract away from the question of whether Persian is head-initial or head-final. Persian simple clauses are SOV, but those with clausal complements are SVO. Thus, in (25), (26) and (37) the copula surfaces on the right edge of the clause, but the modal does not. For convenience we abstract away from this and take the base structure in Persian to be right-branching, as depicted, with the SOV surface order being derived by movement (cf. Kayne 1994) where warranted. An alternative would be to draw the base structure as being right-headed (at least for VP). The analysis proposed here is unaffected, either way.

(25) Tree for (8), with extensional NP1 (equative reading of embedded clause)

```
                    IP
                   /  \
            Qaatelᵢ     I'
           'murderer'  /  \
                      I    VP
                      |   /  \
                      |  V    IP_def
                      | mi-tun-e  /  \
                      | 'can'   tᵢ    I'
                      |             /   \
                      |          I_def   FP
                      |           |     /  \
                      |           |    F    SC
                      |           |  baash-e / \
                      |_____|  'be'  NP1  NP2
                      Phi-Agree      |      tᵢ   to
                                     |          'you'
                                     |_____|
                                      Phi-Agree
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5.2   Deriving (7)
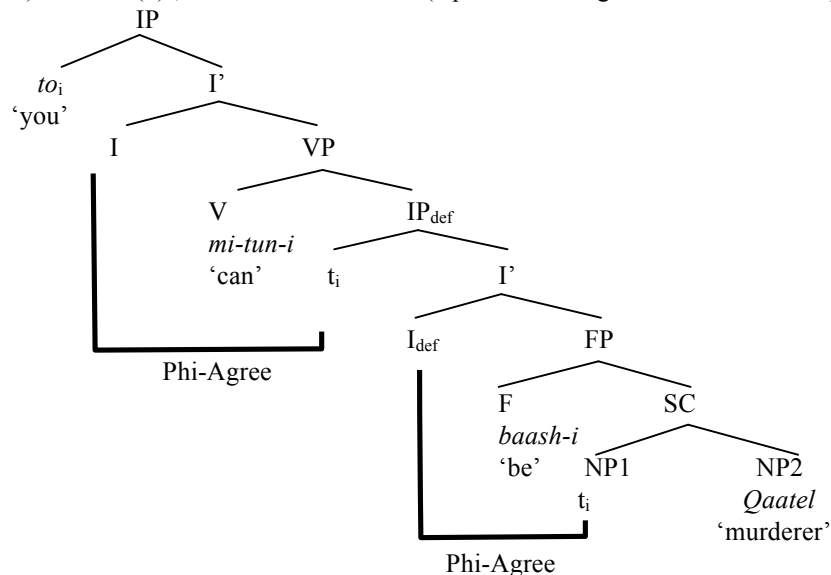
In (7) the modal manifests 2[nd] person agreement and so does the embedded copula.

(7)   qaatel   mi-tun-i   to   baash-i   *modal 2sg, copula 2g*
      murderer   dur.-can-2sg. you   be.subjunctive-2sg
      'The murderer can be you.'

Recall that in (7) NP1 is most naturally interpreted as extensional ("charades" reading), but an intensional reading of NP1 is also available. We deal first with the extensional/"charades" reading, which is surprising because the expectation is that this reading should correlate with NP1 agreement, as per (23), not with NP2 agreement as in (7). We argue below (see sections 5.2.1 to 5.2.3) that the NP2 agreement in (7) is superficial. In fact, (7) is derived from (7)' — where the agreeing 2[nd] person NP is an extensional NP1 — with an extra step of A-bar fronting for information structure purposes. The Agree operation occurs before A-bar fronting, when the 2[nd] person is still high. Thus, the agreement pattern in (7) is actually derived in the same manner as (8) discussed above, as shown in (26), where the final step of A-bar fronting of 'murderer' is not shown.

(7)'   to   mi-tun-i   qaatel   baash-i
       You   dur.-can-2sg. murderer   be.subjunctive-2sg.
       'You can be the/a murderer.'

(26) Tree for (7)', with extensional NP1 (equative reading of embedded clause)

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                        IP
                    ┌────┴────┐
                  toᵢ        I'
                 'you'   ┌────┴────┐
                         I        VP
                         |    ┌────┴────┐
                         |    V        IP_def
                         | mi-tun-i  ┌──┴──┐
                         |  'can'   tᵢ     I'
                         |        ┌────────┴────────┐
                         |      I_def              FP
                         |       |         ┌────────┴────────┐
                         |       |         F               SC
                         |       |      baash-i        ┌────┴────┐
                         └───────|       'be'        NP1        NP2
                     Phi-Agree   |                    tᵢ       Qaatel
                                 └────────────────────┘       'murderer'
                                       Phi-Agree
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Recall that in (7), in addition to the extensional reading of *murderer*, an intensional reading is also possible. This originates with the interpretive possibilities for (7)'. When *murderer* is extensional, (7)' is equative. When *murderer* is intensional, (7)' is predicational. Either way, the structure of the (embedded) copula conforms to (23). Note that the predicational reading of *murderer* in (7) is only possible with contrastive focus, which we take as additional support for its rearranged word order due to general restrictions on this kind of predicate fronting in Persian. We now turn to further arguments for the claim that (7) is the topicalized version of (7)'.

5.2.1 Echo questions

If the sentence in (7) is followed by the echo question in (27), the only felicitous answer is *to* 'you'. The same is true of (7)'. This suggests that *to* is the more prominent NP in (7), just as in (7)'.

(27)   ki   mi-tun-e
       who   dur.-can-3sg
       'Who can?'

5.2.2 Adverb placement tests

In Persian, the most natural place for temporal/frequency adverbs is after the subject (or before the object especially when it is non-specific):

(28) Ali   hamishe   bastani   mi-xor-e
     Ali   always   ice-cream   dur.-eat-3sg
     'Ali always eats ice-cream.'

When we insert a frequency adverb in (6), as in (29), two unmarked positions are available — after NP1 in the matrix clause, before NP2 in the embedded clause — as well as one highly marked option in between NP2 and the copula. The same order is possible with the pattern in (8), as shown in (30).

(29) qaatel (hamishe) mi-tun-e   (hamishe) to   (??hamishe) baash-i
     killer always   dur.-can-3sg. always   you   always   be.subj.-2sg
     'The murderer can always be you.'

(30) qaatel (hamishe) mi-tun-e   (hamishe) to   (??hamishe) baash-i
     killer always   dur.-can-3sg. always   you   always   be.subj.-3sg
     'The murderer can always be you.'

With (7), the adverbial position between NP2 and the copula is improved (31). This is predicted under the A-bar fronting proposal, as *to* 'you' is in fact in Spec,Infl.

(31) qaatel (hamishe) mi-tun-i   (hamishe) to   (hamishe) baash-i
     killer always   dur.-can-2sg. always   you   always   be.subj.-2sg
     'The murderer can always be you.'

Note that (7)' behaves like (6) and (8) in this respect, as predicted:

(32) to   (hamishe) mi-tun-i   (hamishe) qaatel (??hamishe) baash-i
     you   always   dur.-can-2sg. always   killer always   be.subj.-2sg
     'You can always be the murderer.'

5.2.3 Negative concord tests

The above word order difference is even clearer when we consider a negative concord adverb like *hichvaqt* 'never'. This adverb has to be in the same clause as the sentential negation, which, therefore, limits its distribution. The data in (33)-(35) show the distributional possibilities of *hichvaqt* for each of our agreement archetypes (6)-(8) when negation *ne-/na-* is on the higher modal, as in the (a) sentences, and on the embedded copula, as in the (b) sentences. In (33) and (35), which correspond to (6) and (8) respectively, the adverb must appear between the modal and its subject when the modal is negated ((a) sentences), or between the embedded copula and the selecting modal when the copula is negated ((b) sentences). However in (34), which corresponds to (7), we see a broader range of possibilities. When the modal is negated (34a), the adverb can appear either between the modal and the A-bar fronted predicate, or between the modal and its subject *to*. When the copula is negated (35), all the indicated positions are possible, suggesting that A-bar fronting co-occurs with a cluster of other fronting operations, bringing more lexical material into the lexical domain (and into the scope of negation). The details of this do not matter to the present

context, the important point being that the syntax of (34)/(7) is clearly very different from the syntax of (33)/(6) and (35)/(8).

(33) distribution of *hichvaqt* in (6): possible positions ✓, impossible *
      a.   qaatel ✓ **ne**-mi-tun-e ?   to   *   baash-i
      b.   qaatel * mi-tun-e   ✓   to   *   **na**-baash-i

(34) distribution of *hichvaqt* in (7): possible positions ✓, impossible *
      a.   qaatel ✓ **ne**-mi-tun-i ✓   to   *   baash-i
      b.   qaatel ✓ mi-tun-i   ✓   to   ✓   **na**-baash-i

(35) distribution of *hichvaqt* in (8): possible positions ✓, impossible *
      a.   qaatel ✓ **ne**-mi-tun-e ?   to   *   baash-e
      b.   qaatel * mi-tun-e   ✓   to   ?? **na**-baash-e

Note that for (7)' prime — which does not involve A-bar fronting — the range of possible adverbial restrictions is again restricted, as in (36).[13]

(36) distribution of *hichvaqt* in (7)': possible positions ✓, impossible *
      a.   to   ✓ **ne**-mi-tun-i ✓   qaatel * baash-i
      b.   to   ?? mi-tun-i   ✓   qaatel ? **na**-baash-i

5.3   Deriving (6)

The agreement pattern instantiated in (6) involves 3^{rd} person agreement on the modal and 2^{nd} person (NP2) agreement on the embedded copula.

(6)   qaatel   mi-tun-e   to   baash-i   *modal 3sg, copula 2sg*
        murderer   dur.-can-3sg. you   be.subjunctive-2sg
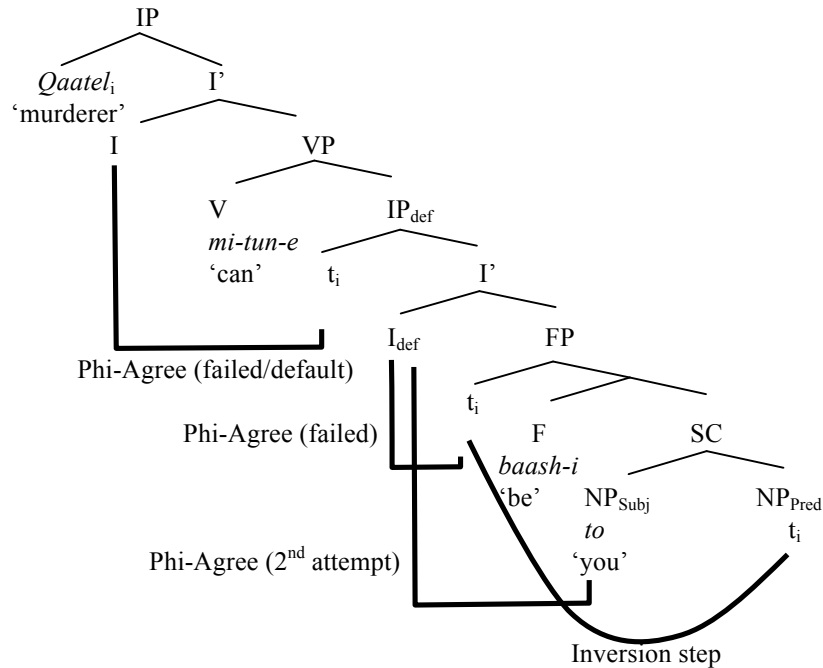   'The murderer can be you.'

Recall that (6) involves an obligatorily intensional reading of NP1 with an epistemic reading of the modal. Given the intensional reading of NP1, the derivation for this example must factor in the inversion step in the embedded copula, as in (24), and 2^{nd} person agreement on the copula is NP2 agreement. At issue is the mismatching 3sg agreement on the modal. If the intensional NP1 is unable to Agree, why is there not NP2 agreement on the modal? The derivation for (6) is shown in (37), where for the sake of clarity we label the NPs as Pred or Subj (of the small clause), rather than NP1 or NP2. The inversion step has NP$_{Pred}$ *qaatel* move to Spec,FP. The defective Infl probes and finds the intensional NP$_{Pred}$ which moves to the embedded Spec, IP. Since NP$_{Pred}$ is intensional it cannot value phi-features and the defective Infl remains active. The defective Infl probes again and is valued by NP$_{Subj}$ 'you' giving NP2 agreement (2sg), but NP$_{Subj}$ remains in situ as the Spec, IP has already been filled by NP$_{Pred.}$[14] Matrix

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[13]   We leave to future research the question of why (36a) fully permits the adverb immediately to the right of the modal, unlike its counterparts (33a) and (35a).
[14]   An issue arises here for our analysis with respect to how the 2^{nd} person NPSubj is licensed if it only agrees with defective Infl. This is not a new problem. Similar issues arise in the literature on nominative objects in embedded nonfinite contexts in Icelandic.

Infl probes next and finds intensional NP$_{Pred}$ which displaces to the higher clause but cannot value Infl. Given the established mechanics, we expect displacement of NP$_{Pred}$ to the higher clause to clear the path for the still active probe on matrix Infl to Agree again, this time finding the 2nd person NP$_{Subj}$ in its path. However, 2nd person agreement does not arise. It seems that Infl gets default agreement (3sg) instead. We suggest that this arises either because the ability to probe a second time is not categorically available to all probes, or because the raised NP$_{Pred}$ displaces to a position in the matrix clause that is not high enough to clear the search path to the 2nd person NP$_{Subj}$. A third possibility is that a domain boundary intervenes between the higher probe and the in situ 2nd person NP$_{Subj}$. We leave a fuller exploration of these two possibilities to future research.

(37) Tree for (6), with intensional NP1 (specificational embedded clause)

5.4   Impossibility of deriving (11)

The agreement patterns represented in (6)-(8) represent all but one of the logical possibilities. Absent is the case of NP2 agreement on the modal with NP1 agreement on the embedded copula (11).

(11) *qaatel mi-tun-i   to   baash-e   *modal NP2, copula NP1*
     murderer   dur.-can-2sg. you   be.subjunctive-3sg
     'The murderer can be you.'

One possible route to explore for future research is default case assignment, which, in Persian, is nominative, as in (6).

We note that (11) is impossible to derive given our assumptions. If we take the copular clause to be specificational, then (11) is ungrammatical because agreement on 'be' should be 2.sg, not 3.sg. If we take the copular clause to be equative (extensional NP1) then (11) is ungrammatical because raising of *qaatel* to the subject position of the modal should correlate with 3rd person agreement on 'can', not 2.sg. Under standard assumptions, (11) cannot be predicational because the pronominal DP *to* 'you' cannot be a predicate. But even if it were to turn out that Persian pronouns could have predicative properties (see Adger & Ramchand 2003 for Scottish Gaelic), we would nonetheless expect *qaatel* to pattern as an extensional NP1, triggering 3.sg agreement on the modal.

6.   Conclusion

Our point of departure for this talk was Costa's (2004) observation that modal contexts in European and Brazilian Portuguese diverge with respect to their agreement properties when they embed specificational copular clauses. This split is highly reminiscent of the better-known split attested cross-linguistically between NP1 and NP2 agreement in specificational copular contexts (Moro 1997). Persian presents an interesting case study in that it manifests, within a single language, not just two but three agreement patterns for copular clauses embedded under the modal 'can'.

Costa analyzes the contrast between EP and BP in terms of the strength of the clause boundary between the modal and the embedded clause (EP modals are restructuring verbs and BP modals are not). However, we have argued for Persian that all three agreement patterns (6)-(8) are special cases of the BP pattern: in all three cases, matrix 'can' only agrees with the matrix subject. The EP pattern (long-distance agreement between 'can' and NP2) does not exist in Persian modal contexts. The closest Persian case to EP is pattern (7) which we have shown to arise from A-bar fronting, rather than from any special properties of the clause boundary when the modal embeds a specificational clause.

The heterogeneity of agreement patterns in Persian arises strictly from an interaction between the basic syntax of copular clause agreement and the fact that Persian 'can' is a raising verb.

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