

On the (non)-relation between C^0 and T^0

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1 Introduction

This paper deals with the *provenance* of ϕ -features on C and T heads, exemplified in (1).

- (1) qul-tu [C^0 *le-(nen)* zɣar [T^0 *kan-o* kɪ-y-ayl-o anzarut.
said-1SG that-3PL children aux.PST-3PL PST-3-eat-PL corn
'I said that the children were eating the corn.'

It is possible to classify the proposals into three categories.

1. C as the locus of ϕ -features.

- Chomsky (2007, 2008, 2013) proposes, for conceptual and empirical reasons, that the Agree (ϕ -) features associated with the inflectional system are not an inherent property of T; instead T *inherits* these features from the phase head C.¹
 - This view is a straightforward implementation of the idea that phase heads are the driving force behind each derivation, as such only phase heads are the locus of uninterpretable features.

2. T as the locus of ϕ -features.

- Zwart (1993, 1997, 2001): the ϕ -set on C is simply a duplication of T's valued ϕ -set. C^0 acquires its agreement features during the derivation by movement of T^0 (AgrS⁰) to C^0 (also Hoekstra and Marác 1989; Watanabe 2000).

¹Richards (2007) provides further conceptual arguments for *Feature Inheritance* under the Phase theory. See also Miyagawa 2010, and Ouali 2008, 2011. This feature transmission is commonly implemented in the field for various phenomena, e.g. V2 order, small clauses, indexical shift (Aldridge 2018; Lochbihler and Mathieu 2016; Major 2021; Poole 2018).

- Common to both approaches is the hypothesis that a single head is the locus of the ϕ -features, which are shared by C and T.

3. C and T are separate probes.

- C and T are distinct probes, each with its own ϕ -features (Van Koppen 2005; Haegeman and Van Koppen 2012).

Today's Goal: to show that C^0 and T^0 are distinct probes.

- Three configurations in Arabic varieties allow the investigation of the C and T relation.
 - (i) §2. C and T can agree with the same goal, but bear different values.
The complementizer does not necessarily realize the same feature set as the finite verb or the auxiliary.
 - (ii) §3. C and T can agree with different goals – they do not necessarily agree with the same goal.
 - (iii) §4. Embedded constructions with finite, agreeing T; no higher projections, Neg or C, showing that T's features are not coming from C, but are an inherent property of T.

Results Previewed

1. These phenomena provide robust evidence that C and T are independent probes, i.e. have distinct $u\phi$ -features.
2. This ϕ -feature-checking takes place in syntax, and not at PF via either string/linear adjacency (Miyagawa 2010) or prosodic phrasing (Ackema and Neeleman 2004) [see Appendix, §6.1].

2 One goal, multiple probes

- Complementizer agreement in the context of coordinated targets:²
 - Complementizer does not necessarily realize the same feature set as the auxiliary or the lexical verb.

2.1 Conjunct Agreement in (Sason) Arabic

- Conjunct agreement in many Arabic varieties follows the generalization in (2):

- (2) a. **Generalization:** a conjoined target preceding the agreement controller triggers resolved agreement (RA); whereas the target following the controller can trigger first conjunct agreement (FCA) or RA.
- b. $X^0_{\{FCA/RA\}} \gg \text{coordinated target} \gg Y^0_{\{RA\}}$

(3) *Simplex tenses*

- a. [bint-ma u sabi-ma] {co / *ca / *ca-tte}.
[girl.SG.F-a and boy.SG.M-a]3PL {came.3PL / came.3SG.M / came-3SG.F}
'A girl and a boy came.'
- b. {co / *ca / ca-tte} [bint-ma u sabi-ma].
{came.3PL / came.3SG.M / came-3SG.F} [girl.3SG.F-a and boy.SG.M-a]3PL
'A girl and a boy came.'

- *Complex (or compound) tenses:* sentences with the auxiliary KWN and the main verb.

Assumptions about the clause structure (following Benmamoun 2000; Soltan 2007; Tucker 2011; Akkuş and Benmamoun 2018):

- In simplex tenses, the lexical verb raises to T. The preverbal subject is in Spec,TP and the postverbal subject is in Spec,AspP.
- In complex tenses, an auxiliary appears in T and the lexical verb is in Asp.

²This pattern (or a subset of it) has been discussed for Dutch varieties (Van Koppen 2005; Haegeman and Van Koppen 2012) and Polish (Citko 2018).

(4) *Complex tenses*

a. *ConjS-Aux-V-(O)*

[bint-ma u sabi-ma] {kan-o / *kan / *kan-e}
[girl.F-a and boy.M-a]3PL {aux.PST-3PL / aux.PST.3M / aux.PST-3F}
{ki-y-ayl-o / *ki-y-ayel / *ki-ta-yel} anzarut.
{PST-3-eat-PL / *PST-3SG.M-eat / *PST-3SG.F-eat} corn
'A girl and a boy were eating corn.'

b. *Aux-ConjS-V-(O)*

{kan-o / *kan / kan-e} [bint-ma u sabi-ma]
{aux.PST-3PL / aux.PST.3M / aux.PST-3F} [girl.F-a and boy.M-a]3PL
{ki-y-ayl-o / *ki-y-ayel / *ki-ta-yel} anzarut.
{PST-3-eat-PL / *PST-3SG.M-eat / *PST-3SG.F-eat} corn
'A girl and a boy were eating corn.'

2.2 Complementizer Agreement in Sason Arabic

- In SA, an agreement morpheme may be optionally attached to the complementizer *le* 'that' for some speakers, in both SVO and VSO orders.

(5) *C-(S)-V-(S)-O*

a. qul-tu le-(na) {bint-ma / iya} ayal-e {bint-ma / iya} anzarut.
said-1SG that-3SG.F {girl.F-a / she} ate-3SG.F {girl.F-a / she} corn
'I said that a girl / she ate the corn.'

b. qul-tu le-(nu) {sabi-ma / iyu} ayal {sabi-ma / iyu} anzarut.
said-1SG that-3SG.M {boy.M-a / he} ate-3SG.M {boy.M-a / he} corn
'I said that a boy / he ate the corn.'

2.3 Combining Conjunct agreement and Complementizer agreement

- The agreement pattern, $\boxed{X^0_{\{FCA/RA\}} \gg \text{coordinated target} \gg Y^0_{\{RA\}}}$, holds when C, T and the participial verb (Asp) are all potential probes.

(6) *C-ConjS-V-O*

qul-tu {le / le-na / le-nen} [bint-ma u sabi-ma] {ayal-o /
said-1SG {that.∅ / that-3SG.F / that-3PL} [girl.F-a and boy-a]PL {ate-3PL /
*ayal / *ayal-e} anzarut.
*ate.3SG.M / *ate-3SG.F} corn

‘I said that a girl and a boy ate the corn.’³

- T and C agreement also differ in that lack of agreement is available for C, but not T; neither allow 3sg.m as a default.

↔ Strikingly, the agreement values of C and T vary independently, even when the subject (in AspP) follows both. Thus,

- when T shows RA, C can show default or FCA or RA, (7a);
- when T shows FCA, C can show default or FCA or RA, (7b).

(7) *C-V-ConjS-O*

a. qul-tu {le / le-na / le-nen} ayal-o [bint-ma u sabi-ma].
said-1SG {that.∅ / that-3SG.F / that-3PL} ate-3PL [girl.F-a and boy-a]PL
‘I said that a girl and a boy ate (the corn).’

b. qul-tu {le / le-na / le-nen} ayal-e [bint-ma u sabi-ma].
said-1SG {that.∅ / that-3SG.F / that-3PL} ate-3SG.F [girl.F-a and boy-a]PL
‘I said that a girl and a boy ate (the corn).’

³Lebanese Arabic exhibits the same pattern.

- (i) Lebanese Arabic (Youssef Haddad, Zahra Ayoub, p.c.)

fakkar {?inn-un / ??inn-a / ??inn-o} [hiyye w huwwe] raah-o.
thought.3SG.M {that-PL / ?that-3SG.F / that-3SG.M} [she.F and he]PL went-3PL

‘He thought that she and he left.’

The 3sg masculine is the default realization in LA. Haddad (2006:4): “*?inno* (with the masculine singular clitic *-o*) can be used by default with all persons. My intuition is that the clitic *-o* lost its semantic value and that *?inno* is used as a complementizer-only word”. Thus the availability of this form is more like SA *le*, rather than *le-nu*.

- Same pattern with complex tenses

(8) *C-Aux-ConjS-V-O*

a. qul-tu {le / le-na / le-nen} kan-o [bint-ma u sabi-ma]
 said-1SG {that.∅ / that-3SG.F / that-3PL} aux.PST-3PL [girl.F-a and boy-a]PL
 ki-y-ayl-o anzarut.

PST-3-eat-PL corn

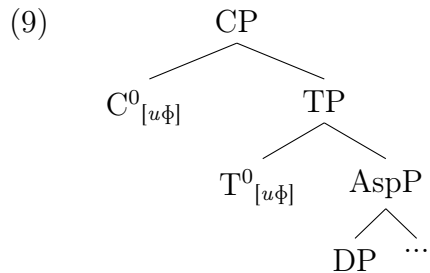
‘I said that a girl and a boy were eating the corn.’

b. qul-tu {le / le-na / le-nen} kan-e [bint-ma u
 said-1SG {that.∅ / that-3SG.F / that-3PL} aux.PST-3SG.F [girl.F-a and
 sabi-ma] ki-y-ayl-o anzarut.

boy-a]PL PST-3-eat-PL corn

‘I said that a girl and a boy were eating the corn.’

- The crucial ones for our purposes are (7) and (8):
 - C and the main verb can realize the same feature set, but do not have to. C may exhibit FCA, whereas the lexical verb RA, or vice versa, (7).
 - A similar pattern is observed between C and the auxiliary in (8).
- This state of affairs is explained by a configuration in which C⁰ and T⁰ each are endowed with ϕ -features, (9), and vary independently.⁴



- The ϕ -set on C cannot simply be a duplication of T’s valued ϕ -set. C and T vary independently.

⁴The data also show that the coordinate phrase does not need to move to Spec,TP to be able to agree with C (contra Al Khalaf 2020: fn.8). This also differs from Carstens (2003), Van Koppen (2007), Citko (2018), Al Khalaf (2020) whose systems rely on the idea that the (coordinated) subject which has been agreed with lower in the clause by T, undergoes movement to Spec,TP to be in the search domain of C.

3 C⁰ and T⁰ agree with different goals

- This section demonstrates that C and T may agree with different goals.
- C and T may also differ in their requirements for agreement, i.e. what features they are probing for (closest goal vs. Case-discriminating).

3.1 Different goals

- C⁰ agrees with the fronted object (be it a CLLD-ed object, (10b), or a focused object,⁵ (10c)) while T⁰ agrees with the subject.⁶

(10) a. qul-tu [C⁰ {le / le-nen}] [T⁰ qaraf-o] [calabma zyār] mase.
 said-1SG {that.∅ / that-3PL} broke-3PL [some children]PL table.F
 ‘I said that some children broke the table.’

- b. C agreement with CLLDed object

qul-tu [C⁰ {le / le-na}] mase [T⁰ qaraf-u-a] [calabma
 said-1SG {that.∅ / that-3SG.F} table.F broke-3PL-it.F [some
 zyār].
 children]PL

‘I said that *the table*, some children broke *it*.’

- c. C agreement with focus-fronted object

qul-tu [C⁰ {le / le-na}] MASE [T⁰ qaraf-o] [calabma zyār]
 said-1SG {that.∅ / that-3SG.F} table.F broke-3PL [some children]PL
 (qursi lā).
 (chair no)

‘I said that THE TABLE, some children broke (not the chair).’

- The same pattern also holds with a preverbal subject, i.e. in the SVO order.

⁵CLLDed objects are base-generated in the left periphery, whereas focussed objects undergo movement (e.g., Benmamoun 2000; Aoun et al. 2010; Akkuş 2021).

⁶Jarrah (2019a) looks at a similar pattern in JA, but in JA this is limited to embedded OVS clauses. Ouali (2014) also has a similar idea, but his analysis is based on the claim that Arabic complex tenses are bi-clausal.

- (11) a. qul-tu {le / le-nen} [calabma zyər] qaraf-o mase.
 said-1SG {that.∅ / that-3PL} [some children]PL broke-3PL table.F
 ‘I said that some children broke the table.’
- b. C agreement with CLLDed object
- qul-tu {le / le-na} mase [calabma zyər] qaraf-u-a.
 said-1SG {that.∅ / that-3SG.F} table.F [some children]PL broke-3PL-it.F
 ‘I said that *the table*, some children broke *it*.’
- c. C agreement with focus-fronted object
- qul-tu {le / le-na} MASE [calabma zyər] qaraf-o.
 said-1SG {that.∅ / that-3SG.F} table.F [some children]PL broke-3PL
 ‘I said that THE TABLE, some children broke (not the chair).’
- Note that C can exhibit FCA with a fronted, coordinated object.

- (12) a. qul-tu [_C^o {le / le-nu} [_T^o qaraf zyər-ma [mase u
 said-1SG {that.∅ / that-3SG.M} broke.3SG.M child.M-a [table.F and
 bābe].
 door.M]
 ‘I said that some child broke the table and the door.’
- b. FCA by C with CLLDed object
- qul-tu [_C^o {le / le-na / le-nen} [mase u bābe] [_T^o
 said-1SG {that.∅ / that-3SG.F / that-3PL} [table.F and door.M]PL
 qaraf-en zyər-ma.
 broke.3SG.M-them child.M-a
 ‘I said that *the table and the door*, some child broke *them*.’
- c. FCA by C with focus-fronted object
- qul-tu [_C^o {le / le-na / le-nen} [MASE U BĀBE] [_T^o
 said-1SG {that.∅ / that-3SG.F / that-3PL} [table.F and door.M]PL
 qaraf zyər-ma.
 broke.3SG.M child.M-a

‘I said that THE TABLE AND THE DOOR, some child broke (not the chair and the TV).’

3.2 Case-discriminating agreement types

- In SA, C^0 agrees with the closest goal in its c-command domain (cf. §3.1).
 - C cannot skip over a high object and agree with the subject, (13a).
 - C cannot skip over the subject and agree with the low-focussed object, (13b).

(13) a. qul-tu {le / le-na / *le-nen} MASE [calabma zyʔar]
 said-1SG {that.∅ / that-3SG.F / *that-3SG.PL} table.F [some children]PL
 qaraf-o (qursi lā).
 broke-3PL (chair no)

‘I said that some children broke the table (not the chair).’

b. qul-tu [C^0 {le / *le-na / le-nen} [calabma zyʔar] [T^0
 said-1SG {that.∅ / *that-3SG.F / that-3SG.PL} [some children]PL
 kan-o MASE [$_{Asp^0}$ kɪ-i-qɪrf-o (qursi lā).
 aux.PST-3PL table.F PST-3-break-3PL (chair no)

‘I said that some children were breaking the table (not the chair).’

- On the other hand, T agrees with only the grammatical subject in SA, skipping over any intervening object.

(14) a. kan-o [calabma zyʔar] kɪ-i-qɪrf-o mase.
 aux.PST-3PL [some children]PL PST-3-break-PL table.F
 ‘Some children were breaking the table.’

b. {kan-o / *kan-e } MASE [calabma zyʔar] kɪ-i-qɪrf-o
 {aux.PST-3PL / *aux.PST-3SG.F } table.F [some children]PL PST-3-break-PL
 (kursi la).

(chair no)

‘Some children were breaking the table (not the chair).’

↔ Crucially, this pattern in SA is not inherent to C and T (Hijazi Arabic behaves identically to SA - *joint work with Hassan Munshi*).

- In Jordanian Arabic (JA), both C and T agree with the closest goal: (15) shows that C agrees with a focussed constituent or CLLDed object.

(15) JA

- a. C agreement with a CLLDed object

mustaḥiil ?inn-ha ?at^f-t^faalibih ?at^faa-ha ?il-markaz musaaʔadih.
 impossible that-3SG.F the-student.F gave.3SG.M-her the-center help

‘It is impossible that *the student*.(f), the centre gave *her* help.’ (Jarrah 2019b:19b)

- b. C agreement with a focussed object (Marwan Jarrah, Issa Al-Wer, p.c.)

?il-ʔab ?iʔtaraf {?inn-uh / *?inn-ha } WALAD
 the-young.man confessed.3SG.M {that-3G.M / that-3G.F } boy.M
 z^harab-t ?il-binit.
 hit.PST-3SG.F the-girl.F

‘The young man confessed that it was a boy that the girl hit.’

- The auxiliary (i.e., T⁰) which otherwise agrees with the subject in (16a), agrees with the CLLDed object, (16b), or a focused object, (16c) in the low discourse area.⁷

(16) JA (Marwan Jarrah, Issa Al-Wer, Mahmoud Al-Sharafat, p.c.)

- a. kaan-t ?il-binit ?itlaagi l-wlaad.

aux.PST-3SG.F the-girl.F meet-3SG.F the-boys

‘The girl was meeting the boys.’

- b. CLLDed object between T and Asp

kaan-u l-wlaad ?il-binit ?itlaagi-hum.

aux.PST-3PL the-boys the-girl.F meet-3SG.F-them

⁷The low discourse-related area between TP and AspP in JA includes FocusP and TopicP (Jarrah and Abusalim 2020), whereas SA allows focus, but not topic phrases in the low position (Akkuş 2021).

‘*The boys, the girl was meeting them.*’⁸

c. focused object between T and Asp

kaan-u L-WLAAD ?itlaagi ?il-binit.

aux.PST-3PL the-boys meet-3SG.F the-girl.F

‘THE BOYS, the girl was meeting (not the parents).’

- The variation across dialects seems more like a *Case-discriminating* agreement effect (e.g., Bobaljik 2008; Preminger 2014; Deal 2017; Akkuş 2020):
 - T⁰ in SA can only agree with DPs bearing certain cases, presumably Nominative.
 - On the other hand, C⁰ in JA and SA, as well as T⁰ in JA impose no restriction in terms of Case-sensitivity.

- This suggestion can be extended to other languages (e.g. West Flemish, Haegeman and Van Koppen (2012)) and Arabic varieties [see Appendix, §6.3].
 - C⁰ in Hijazi is closest-goal targeting (modulo pronoun vs. DP sensitivity); whereas C⁰ in WF and Najdi Arabic is also Case-discriminating (coupled with the intervening element behaving like a *defective intervener* in Najdi Arabic - *joint work with Lujain Alkhazy*).
 - T⁰ in Hijazi Arabic, Najdi Arabic and West Flemish is Case-discriminating too.

3.3 Interim Summary

- C and T may agree with (different parts of) the same goal, and realize distinct ϕ -features (§2).
- C and T may agree with distinct goals, in configurations in which they may each agree with the closest element (§3). C and T agree vary in their agreement type across languages.

⁸This was judged as marginal by Mahmoud Al-Sharafat. There is some variation as well, since some other speakers do not like this option.

4 ϕ -features on T that are independent of C

- Embedded constructions that lack C, but have only finite T that agrees; this would indicate that T's ϕ -features are not inherited from C, but are part of T.

↪ The clause structure in SA consists of C > Neg > T (See [Soltan 2007](#); [Benmamoun et al. 2013](#) for MSA and several Arabic varieties).

- The structure embedded under the verbal root *HPS* 'expect (lit: wait)' exhibits ECM-like properties. However, the embedded structure manifests subject agreement, as shown for auxiliary, (17a), and modal, (17b).

(17) a. ab-i i-hapes Kemal ku i-fqez sahane.
 father-my 3SG.M-wait.IPFV Kemal aux.PRS.3M 3SG.M-run.IPFV now
 'My father expects Kemal to be running at the moment.'

b. ab-i i-hapes Kemal i-tix i-fqez.
 father-my 3SG.M-wait.IPFV Kemal 3SG.M-be.able.to.PRS 3SG.M-run.IPFV
 'My father expects Kemal to be able to run.'

- The ECM in (17) has a counterpart in which the complementizer is possible, (18).

(18) a. ab-i i-hapes le Kemal ku i-fqez sahane.
 father-my 3SG.M-wait.PRS that Kemal.M aux.PRS.3M 3SG.M-run.IPFV now
 'My father expects that Kemal is running at the moment.'

b. ab-i i-hapes le Kemal i-tix
 father-my 3SG.M-wait.IPFV that Kemal.M 3SG.M-be.able.to.PRS
 i-fqez fi lope.
 3SG.M-run.IPFV in game
 'My father expects that Kemal is able to run in the game.'

- Are we dealing with an optional complementizer of the English sort?

(19) a. My father believes [_C⁰ that [_T⁰ the children are running]].

b. My father believes [_C⁰ \emptyset [_T⁰ the children are running]].

- However, the two differ in several significant respects, leading to the conclusion that ...
 - the complementizer version embeds a full finite C, Neg and T; whereas the ECM one embeds a T that agrees, but no higher projections.

4.1 Passivization asymmetries

- Passivization of the matrix verb leads to different patterns.
 - The embedded subject becomes the matrix subject without the complementizer, (20a), but not with it, (20b).

- (20) a. Leyla t₁-n-hapes (*le) ki t₁-fqez sahanе.
 Leyla.F 3SG.F-PASS-wait that aux.PRS.3F 3SG.F-run now
 ‘Leyla is expected to be running.’ → not possible as impersonal passive
- b. in-hapes *(le) Leyla ki t₁-fqez sahanе.
 3SG.M.PASS-wait that Leyla.F aux.PRS.3F 3SG.F-run now
 ‘It is expected that Leyla is running at the moment.’ → not possible as personal passive

4.2 Realization of the embedded subject

- In the ECM, the embedded subject can be realized as an object pronoun, which cliticizes onto the matrix verb, (21a).⁹ It fills the argument position, thus cannot have another argument.
- The morpheme on the complementizer functions as an agreement morpheme, thus the argument it is associated with can be overtly realized, (21b).

- (21) a. ab-i i-hapəs-u (*Kemal / *iyu) ku i-fqez sahanе.
 father-my 3SG.M-wait-him (*Kemal / *he) aux.PRS.3M 3SG.M-run now
 ‘My father expects him to be running at the moment.’

⁹Various arguments show that the embedded subject does not raise to the matrix object position in syntax; thus in (21a) it encliticizes onto the host at PF.

- b. ab-i i-hapes le-nu (Kemal / iyu) ku i-fqez sahane.
 father-my 3SG.M-wait.PRS that-3M (Kemal / he) aux.3M 3SG.M-run now
 ‘My father expects that *pro*/Kemal/he is running at the moment.’¹⁰

4.3 Focusing or CLLD

- In the ECM, the subject cannot be preceded by a CLLD-ed or focussed constituent.

- (22) a. *ab-i i-hapes *potad* Kemal ku i-xsıl-en.
 father-my 3SG.M-wait.PRS clothes Kemal aux.PRS.3M 3SG.M-wash.IPFV-them
 ‘My father expects, clothes, Kemal to be washing them.
- b. *ab-i i-hapes POTAD Kemal ku i-xsel.
 father-my 3SG.M-wait.PRS clothes Kemal aux.PRS.3M 3SG.M-wash.IPFV
 ‘My father expects Kemal to be washing CLOTHES, (not the curtains).

- Its counterpart with the complementizer does not have such a restriction.

- (23) a. ab-i i-hapes le *potad* Kemal ku
 father-my 3SG.M-wait.PRS that clothes Kemal aux.PRS.3M
 i-xsıl-en.
 3SG.M-wash.IPFV-them
 ‘My father expects that, clothes, Kemal is washing them.
- b. ab-i i-hapes le POTAD Kemal ku i-xsel.
 father-my 3SG.M-wait.PRS that clothes Kemal aux.PRS.3M 3SG.M-wash.IPFV
 ‘My father expects that Kemal is washing CLOTHES, (not the curtains).

4.4 Sentential negation

- Sentential negation is not allowed in the ECM, whereas this is possible with the complementizer.

¹⁰Note that (21b) is not an instance of a cleft. In order to form a cleft, a nonverbal copula is required, which would be *ye* ‘be.3sg’ in this case. Furthermore, another complementizer *le* would need to follow, which could optionally be preceded by the appropriate relativizer, e.g. *ande le* ‘who that’ in this configuration. Furthermore, clefts have a different intonational pattern, which places prosodic prominence on the pivot, which is not available here with *Kemal*.

(24) ECM

- a. *ab-i i-hapes Kemal ma-ku i-fqez.
father-my 3SG.M-wait.IPFV Kemal NEG-aux.PRS.3M 3SG.M-run.IPFV
Intended: ‘My father expects Kemal not to be running.’
- b. *ab-i i-hapes Kemal m₁-i-tix i-fqez.
father-my 3SG.M-wait.IPFV Kemal NEG-3SG.M-be.able.to.PRS 3SG.M-run.IPFV
Intended: ‘My father expects Kemal not to be able to run.’

(25) with complementizer

- a. ab-i i-hapes le Kemal ma-ku i-fqez.
father-my 3SG.M-wait.PRS that Kemal NEG-aux.PRS.3M 3SG.M-run.IPFV
‘My father expects that Kemal is not running.’
- b. ab-i i-hapes le Kemal m₁-i-tix
father-my 3SG.M-wait.IPFV that Kemal NEG-3SG.M-be.able.to.PRS
i-fqez fi lope.
3SG.M-run.IPFV in game
‘My father expects that Kemal is not able to run in the game.’

- To summarize, the matrix verb embeds two structures:
 - i. a full CP including Neg and T,
 - ii. an agreeing T, which lacks higher projections.

5 Conclusions

- Arabic varieties provide a fruitful testing ground for the investigation of the potential relation between C^0 and T^0 from three different angles.
- (i) multiple probes agreeing with the same goal,
(ii) each probe agreeing with a distinct goal,
(iii) a configuration which projects up to finite T that shows agreement, and no higher projections.
- The discussion leads to the conclusion that C^0 and T^0 are distinct probes.

References

- Ackema, Peter, and Ad Neeleman. 2003. Context-sensitive spell-out. *Natural Language & Linguistic Theory* 21:681–735.
- Ackema, Peter, and Ad Neeleman. 2004. *Beyond morphology: Interface conditions on word formation*. Oxford: Oxford University Press.
- Ackema, Peter, and Ad Neeleman. 2012. Agreement weakening at PF: A reply to Benmamoun and Lorimor. *Linguistic Inquiry* 43:75–96.
- Akkuş, Faruk. 2020. On Iranian Case and Agreement. *Natural Language & Linguistic Theory* 38:671–727.
- Akkuş, Faruk. 2021. Evidence from Sason Arabic for \bar{A} -movement feeding Case-licensing Relations. *Linguistic Inquiry* (To appear).
- Akkuş, Faruk, and Elabbas Benmamoun. 2018. Syntactic outcomes of contact in Sason Arabic. In *Arabic in contact*, ed. Stefano Manfredi, Mauro Tosco, and Giorgio Banti, volume 6, 37–52. John Benjamins.
- Al Khalaf, Eman. 2020. Furthest conjunct agreement in Jordanian Arabic: Evidence for multiple (non)simultaneous Agree. *Manuscript* .
- Aldridge, Edith. 2018. C-T Inheritance and the left periphery in Old Japanese. *Glossa: a journal of general linguistics* 3:26.
- Aoun, Joseph. 1999. Clitic-Doubled Arguments. In *Beyond Principles and Parameters*, ed. Liliane Haegeman, Joan Maling, James McCloskey, Kyle Johnson, and Ian Roberts, volume 45, 13–42. Dordrecht: Springer Netherlands.
- Aoun, Joseph, Elabbas Benmamoun, and Dominique Sportiche. 1994. Agreement, word order, and conjunction in some varieties of Arabic. *Linguistic Inquiry* 195–220.
- Aoun, Joseph E, Elabbas Benmamoun, and Lina Choueiri. 2010. *The syntax of Arabic*. Cambridge University Press.

- Benmamoun, Elabbas. 2000. *The feature structure of functional categories: A comparative study of Arabic dialects*. Oxford University Press.
- Benmamoun, Elabbas, Mahmoud Abunasser, Rania Al-Sabbagh, Abdelaadim Bidaoui, and Dana Shalash. 2013. The location of sentential negation in Arabic varieties. *Brill's Journal of Afroasiatic Languages and Linguistics* 5:83–116.
- Bobaljik, Jonathan David. 2008. Where's phi? agreement as a post-syntactic operation. In *Phi theory: Phi-features across interfaces and modules*, ed. Daniel Harbour, David Adger, and Susana Béjar, 295–328. Oxford University Press.
- Carstens, Vicki. 2003. Rethinking complementizer agreement: Agree with a case-checked goal. *Linguistic Inquiry* 34:393–412.
- Chomsky, Noam. 2007. Approaching UG from below. In *Interfaces + recursion = language?*, ed. Uli Sauerland and Hans Martin Gärtner, 1–29. New York: Mouton de Gruyter.
- Chomsky, Noam. 2008. On phases. In *Foundational issues in linguistic theory. essays in honor of Jean-Roger Vergnaud*, ed. Robert Freidin, Carlos P Otero, and Maria Luisa Zubizarreta, 134–166. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33–49.
- Citko, Barbara. 2018. Complementizer agreement with coordinated subjects in Polish. *Glossa: A journal of general linguistics* 3:1–25.
- Deal, Amy Rose. 2017. Syntactic ergativity as case discrimination. In *Proceedings from WCCFL*, volume 34, 141–150.
- de Haan, Germen. 2010. Complementizer agreement. In *Studies in West Frisian grammar: Selected papers by Germen J. de Haan*, ed. Germen de Haan, Jarich Hoekstra, Willem Visser, and Goffe Jensma, 215–232. John Benjamins.
- Haddad, Youssef. 2006. Control in Lebanese Arabic. *Manuscript. Variation in Control Structures Project* URL http://accent.ucsd.edu/pdf/Arabic_Haddad_UFL_05.pdf.

- Haegeman, Liliane, and Marjo Van Koppen. 2012. Complementizer agreement and the relation between C⁰ and T⁰. *Linguistic Inquiry* 43:441–454.
- Hoekstra, Jarich, and László Marác. 1989. On the position of inflection in West Germanic. *Working Papers in Scandinavian Syntax* 44:75–88.
- Jarrah, Marwan. 2019a. Complementizer Agreement and the T⁰-Φ Parameter in Jordanian Arabic. *Studia Linguistica* 74:139–164.
- Jarrah, Marwan. 2019b. Record your Agree: A case study of the Arabic complementizer *ʔinn*. *Journal of Linguistics* 55:83–122.
- Jarrah, Marwan, and Nimer Abusalim. 2020. In favour of the low IP area in the Arabic clause structure: Evidence from the VSO word order in Jordanian Arabic. *Natural Language & Linguistic Theory*.
- Lewis Jr., Robert Eugene. 2013. Complementizer Agreement in Najdi Arabic. Master's thesis, University of Kansas.
- Lochbihler, Bethany, and Eric Mathieu. 2016. Clause Typing and Feature Inheritance of Discourse Features. *Syntax* 19:354–391.
- Major, Travis. 2021. Revisiting the syntax of monsters in Uyghur. *Linguistic Inquiry*.
- Miyagawa, Shigeru. 2010. *Why agree? Why move?: Unifying agreement-based and discourse-configurational languages*. MIT Press.
- Ouali, Hamid. 2008. On C-to-T-feature transfer: The nature of Agreement and Anti-Agreement in Berber. In *Agreement restrictions*, ed. R. D' Alessandro, G. H. Hrafnbjargarson, and S. Fischer, 159–180. Berlin: Mouton de Gruyter.
- Ouali, Hamid. 2011. *Agreement, pronominal clitics and negation in Tamazight Berber: A unified analysis*. NY: Continuum.
- Ouali, Hamid. 2014. Multiple agreement in Arabic. In *Perspectives on Arabic Linguistics XXVI: Papers from the annual symposium on Arabic*, ed. Reem Khamis-Dakwar and Karen Froud, 121–134.

- Poole, Geoffrey. 2018. Feature inheritance in Old Spanish: (re)visiting V2. In *Order And Structure In Syntax I: Word Order And Syntactic Structure*, ed. Laura R. Bailey and Michelle Sheehan, 49–68. Berlin: Language Science Press.
- Preminger, Omer. 2014. *Agreement and its failures*, volume 68. MIT Press.
- Richards, Marc. 2007. On Feature Inheritance: An Argument from the Phase Impenetrability Condition. *Linguistic Inquiry* 38:563–572.
- Soltan, Usama. 2007. On formal feature licensing in minimalism: Aspects of standard arabic morphosyntax. Doctoral Dissertation, University of Maryland.
- Tucker, Matthew A. 2011. The Morphosyntax of the Arabic Verb: Toward a Unified Syntax-Prosody. In *Morphology at Santa Cruz: Papers in Honor of Jorge Hankamer*. URL <https://escholarship.org/uc/item/0wx0s7qw>.
- Van Alem, Astrid. 2020. Complementizer agreement in West-Germanic is clitic doubling. Manuscript, Leiden University Centre for Linguistics.
- Van Koppen, Marjo. 2005. One probe-two goals: Aspects of agreement in Dutch dialects. Doctoral Dissertation, Leiden University. Utrecht.
- Van Koppen, Marjo. 2007. Agreement with coordinated subjects: A comparative perspective. *Linguistic Variation Yearbook* 7:121–161.
- Van Koppen, Marjo. 2017. Complementizer agreement. In *The Wiley Blackwell Companion to Syntax*, ed. Martin Everaert and Henk van Riemsdijk, 1–40. Wiley Online Library.
- Watanabe, Akira. 2000. Feature Copying and Binding: Evidence from Complementizer Agreement and Switch Reference. *Syntax* 3:159–181.
- Yuan, Michelle. 2021. Diagnosing object agreement vs. clitic doubling: An Inuit case study. *Linguistic Inquiry* 52:153–179.
- Zwart, Jan-Wouter. 1993. Dutch syntax: A Minimalist Approach. Doctoral Dissertation, University of Groningen.

Zwart, Jan-Wouter. 1997. *Morphosyntax of Verb Movement: A Minimalist Approach to the Syntax of Dutch*. Dordrecht: Kluwer.

Zwart, Jan-Wouter. 2001. Syntactic and phonological verb movement. *Syntax* 4:34–62.

6 Appendix

6.1 ϕ -checking is in syntax, not at PF

- The ϕ -feature-checking relation in question takes place in syntax, and not at PF via either string/linear adjacency (Miyagawa 2010) or prosodic phrasing (Ackema and Neeleman 2003, 2004, 2012).
- The availability of *intervening phrases* shows that such accounts do not extend to these configurations.

(26) V - (Phrase) - ConjS

{co / *ca / ca-tte} *fi nahar* [bint-ma u sabi-ma].
 {came.3PL / came.3SG.M / came-3SG.F} *in heat* [girl.F-a and boy.M-a]3PL

‘A girl and a boy came in the heat.’

(27) C - (Phrase) - Aux - (Phrase) - ConjS - V

qul-tu {le / le-na / le-nen} *ams sari kan-e fi*
 said-1SG {that.∅ / that-3SG.F / that-3PL} *yesterday morning* aux.PST-3SG.F *in*
nahar [bint-ma u sabi-ma] ki-y-ayl-o anzarut.
heat [girl.F-a and boy-a]PL PST-3-eat-PL corn

‘I said that yesterday morning a girl and a boy were eating the corn in the heat.’

6.2 Complementizer ‘agreement’ versus clitic doubling

1. First Conjunct Agreement with complementizer agreement vs clitic doubling

- Complementizer agreement in Lebanese Arabic may exhibit FCA (slightly marginally).

(28) Lebanese Arabic (Youssef Haddad, Zahra Ayoub, p.c.)

fakkar {ʔinn-un / ʔinn-a / ʔinn-o} [hiyye w huwwe] raaħ-o.
thought.3SG.M {that-PL / ʔthat-3SG.F / that-3SG.M} [she.F and he]PL went-3PL
‘He thought that she and he left.’

- FCA is not allowed in clitic doubling in LA.¹¹

(29) Lebanese Arabic (Youssef Haddad, Zahra Ayoub, p.c.)

- a. ʃəft-un/*a la-[Zeena w Kariim] bi-l-maktabe.
saw.1SG-them/*her to-[Zeena.F and Kariim.M]PL in-the-school
‘I saw them in the school.’
- b. ʃəft-un/*o la-[Kariim w Zeena] bi-l-maktabe.
saw.1SG-them/*him to-[Kariim.M and Zeena.F]PL in-the-school
‘I saw them in the school.’

- Indefinites or negative quantifiers are not usually allowed in CLLD or clitic doubling.
- However, they can trigger complementizer agreement.

(30) CLLD

**habbe mara*, m-adaş-tu-a.
no woman NEG-saw-1SG-her
‘No woman, I have not seen her.’

(31) C agreement

qul-tu {le / le-na} [habbe mara] ma-cat-te.
said-1SG {that.∅ / that-3SG.F} [no woman.F] NEG-came--3SG.F

¹¹Note that a pronoun can also be doubled, (i), but not preferred by the speakers I consulted. Thus I give examples with nouns.

- (i) Kariim ʃeef-o la-ʔəlo
Kariim saw-him to-him
‘Kariim saw him.’ (Aoun 1999:10a)

‘I said that no woman [lit. piece woman] came.’

↪ Van Alem (2020) notes properties of complementizer agreement in various Germanic languages, and argues that it does not behave like canonical agreement in many contexts, and that it is clitic doubling.

- Assuming van Alem’s tests are valid, they are either non-applicable or go the other way in Arabic varieties.

2. when the linear adjacency between the complementizer and the subject is disrupted by an intervening element

- In Frisian, intervention leads to ungrammaticality, (even the default form is disallowed, (32c)).

(32) a. dat-st-o [...] fegetarysk ytst.
that-2SG-you vegetarian eat.2SG
‘that you eat vegetarian.’

b. *dat-st ek do [...] fegetarysk ytst.
that-2SG also you vegetarian eat.2SG
‘that you, too, eat vegetarian.’

c. *dat ek do [...] fegetarysk ytst.
that also you vegetarian eat.2SG
‘that you, too, eat vegetarian.’

(Van Alem 2020:2)

- Arabic varieties are impervious to intervening element in most cases, as has been shown in §6.1. Consider also (33) from Hijazi Arabic.

(33) Hijazi Arabic

a. ?a-twaqqaʔ inna-ha ?ams (hiyya) ?akal-at t-tuffaaħ-a.
1SG-believe.IPFV that-3SG.F yesterday she eat.PFV-3SG.F the-apple-SG.F
‘I believe that she ate only the apple yesterday.’

b. ʔa-twaqqaʕ {innu / inna-ha / *inna-hum} BASS HIYYA, shaaf-u
 1SG-believe.IPFV {that / that-3SG.F / that-3PL} only her see.PFV-3PL
 humma.

they

‘I believe that ONLY HER, they saw.’

- Moreover, in Arabic varieties, complementizer either (i) agrees with the closest goal, SA, JA, HA, (ii) with a certain Case-bearing goal, NA, (38a), (iii) or an intervening element leads to *defective intervention*, NA, (38b).
 - All three are expected from an agreement approach.¹²
3. In Germanic languages, complementizer agreement is usually restricted to 2sg subjects, whereas this is not the case in Arabic varieties.
- Some Arabic varieties have a different contrast though - a pronominal vs common DP, e.g., Lebanese Arabic (Aoun et al. 1994:201-202), or for some speakers of Najdi (Lewis Jr. 2013), or Hijazi Arabic.
4. Most of the diagnostics in Van Alem (2020:14) are morphophonological, e.g. morphological idiosyncracies, or tense-invariance.
- As Yuan (2021) notes, morphological appearance can at best be a heuristic statement, since there is not a reliable link between affixes and agreement, and between morphophonological clitics and pronominal clitics, especially post-lexicalist frameworks.
 - For instance, *tense-invariance* as its name suggests is about ‘tense’, and goes one way. If a morpheme shows variance, it makes it agreement; but if it doesn’t show variance, it doesn’t mean it is not agreement.

¹²or the pattern in Bavarian or West Flemish, in which complementizer agreement is not affected by intervention.

This shows that even Germanic languages do not have a uniform pattern. In some, complementizer agreement is not affected by intervention; in others, it leads to default agreement, Hellendoorn Dutch. Thus, it could be that even for these languages a non-unified account is needed.

- For complementizer agreement, this would require looking at different complementizers, and seeing if there is *complementizer-(in)variance*. This is not applicable in Arabic.

5. Van Alem (2020:14): “CA morpheme is a pronominal double of the subject”

- The contrast in (21), repeated here as (34), shows that this cannot be the case for Arabic.
- A pronominal cannot be doubled¹³ (with a subject), whereas only the agreement morpheme can.

- (34) a. ab-i i-hapəs-u (*Kemal / *iyu) ku i-fqez sahane.
 father-my 3SG.M-wait-him (*Kemal / *he) aux.PRS.3M 3SG.M-run now
 ‘My father expects him to be running at the moment.’
- b. ab-i i-hapes le-nu (Kemal / iyu) ku i-fqez sahane.
 father-my 3SG.M-wait.PRS that-3M (Kemal / he) aux.3M 3SG.M-run now
 ‘My father expects that *pro*/Kemal/he is running at the moment.’

6. realization of agreement not on the subject, but on the subject modifier.

- “In Limburgian, the complementizer morpheme is realized between the subject modifier and the subject itself. This is even the case when an additional constituent, such as a topicalized object or an adverb, intervenes (6c, 6d). These observations are problematic for an Agree account, because it is not expected that the agreement morpheme is realized dissociated from the agreement trigger.”
- This at best shows that in Limburgian, the morpheme shows the behavior of a morphophonological clitic (and not syntactically), and this is not attested in Arabic.
- This also depends on one’s assumption of what agreement is. For instance, in Iranian perfective aspect, the A argument indexer is morphophonologically a

¹³unless it is like a PP in Lebanese

second-position clitic which attaches to different hosts; but for syntactic purposes, it behaves like an agreement. Thus, the *low degree of host-selectivity* may not be a reliable diagnostic.

7. Finally, Frisian and some other Germanic languages are pretty different from Arabic in that there are three 2sg morphemes: “the full pronoun *do*, a weakened form *de*, and the complementizer morpheme *-st*. *Do* and *de* can both occur in the canonical subject position with *-st* present as a double...”.

(35) a. Do moat-st my helpe.
you must-2SG me help

‘You must help me.’ (de Haan 2010:215, as cited in Van Alem 2020:25)

b. Miskien moat-*st-e* Pyt helpe.
maybe must-2SG-you Pyt help

‘Maybe you should help Pyt.’ (de Haan 2010:218, as cited in Van Alem 2020:25)

- This shows that we are dealing with two elements that are dependent, but it is entirely neutral between clitic doubling versus agreement and an argument.
- Moreover, Arabic dialects have no such pattern.

6.3 Case-discrimination

↪ The contrast between JA and SA shows that the West Flemish (WF) pattern discussed in Haegeman and Van Koppen (2012) cannot be because the object is inactive since its case features have been deleted.

- Haegeman and Van Koppen (2012) examine a pattern similar to (12c) to argue against a linear adjacency or prosodic phrasing approach to C agreement in West Flemish.
- West Flemish has the marginal option of fronting a focused direct object across the subject, (36b).

- Fronting a 3pl direct object leads to a configuration in which the complementizer is adjacent to a set of 3pl interpretable features. However, this configuration does not lead to CA with the fronted object DP, (36c). This would be expected from a ϕ -feature-checking relation at PF via either string/linear adjacency (Miyagawa 2010) or prosodic phrasing (Ackema and Neeleman 2004).

(36) West Flemish (Haegeman and Van Koppen 2012:8)¹⁴

a. Kpeinzen **dat zelfs Valère** zukken boeken niet leest.

I.think that even Valère such books not reads

b. ??Kpeinzen **dat** zukken boeken **zelfs Valère** niet leest.

I.think that such books even Valère not reads

c. *Kpeinzen **da-n** zukken boeken **zelfs Valère** niet leest.

I.think that-PL such books even Valère not reads

‘I think that even Valère would not read such books.’

- One might also expect that if the direct object is hierarchically closer to C^0 than the subject, the valued ϕ -features of the object serve as the Goal for CompAgr. Thus (36c) is predicted to be grammatical.

– (Carstens 2003:400–401): agreement with an object is not predicted because the object is inactive at this stage of the derivation, since its case features have been deleted in the strong vP-phase. As such, it is not a Goal and hence CA with objects is not.

– However, this suggestion cannot extend to some Arabic varieties, e.g., SA and JA, where it is possible for C to show full or first conjunct agreement with a CLLDed or focus fronted object.

↪ In fact, Najdi Arabic (NA) patterns like WF, in that C cannot agree with an object that is higher than the subject (*joint work with Lujain Alkhazy*).

¹⁴or Lapscheure Dutch as cited in Van Koppen 2017:35.

- (37) a. ta-gsad [inna-(ha) hi ta-sawwii al-akil].
 2SG-mean.IPFV that-3SG.F she.F 3SG.F-make.IPFV the-food
 ‘You mean that she made the food.’ (Lewis Jr. 2013,42:3)
- b. ta-gsad [inna-(ha) ta-sawwii hi al-akil].
 2SG-mean.IPFV that-3SG.F 3SG.F-make.IPFV she.F the-food
 ‘You mean that she made the food.’

- Interestingly, the complementizer cannot agree with a focus-fronted object even when it is pronominal, (38b). Moreover, the complementizer cannot agree with the embedded subject, skipping over the focus-fronted object. Default agreement on the complementizer is good.

(38) pronominal-object

- a. simfi-t in-(ha) hi thrub-t-hum.
 hear.PFV-1SG that-3SG.F she hit.PFV-3SG.F-them
 ‘I heard that she hit them.’
- b. simfi-t {inna / *in-hum / *in-ha} HUM, hi thrub-t.
 hear.PFV-1SG {that / that-3PL / that-3SG.F} them she hit.PFV-3SG.F
 ‘I heard that THEM, she hit.’

- These data indicate that C agreement is subject to locality, i.e. closest goal, but that is not sufficient. It cannot agree with an object. In this respect, it seems parallel to West Flemish, (36).
- A focus-fronted object behaves like a *defective intervener*, in that it cannot agree with a probe, but also blocks agreement with a lower potential goal.