Feature interaction in the Tira agreement complex

This paper provides new evidence for two contested claims in contemporary theories of Agree: 1) when probes interact with multiple goals, they copy features from these goals even if those features are not exponed on the probe-bearing head, a claim of the interaction/satisfaction theory of Deal (2022); 2) when cases of iterated feature-copying occur, some probes realize only the features of the terminal goal, as in Grishin (2023)'s *Expone Outermost*. The evidence for these two claims comes from novel data and a new analysis of clausal agreement in Tira (Kordofanian: Sudan): we claim finite clausal agreement arises due to two distinct probes realized in the same feature complex; one on C, is a complex A/A′-probe, and another on T, which is an insatiable φ-probe. Such an analysis requires the corollary claim that identical features on morphologically adjacent probes can trigger impoverishment as a repair (Oxford 2023 a.o.), which we conjecture always involves deletion on the syntactically lower head.

Previous work (Authors 2023) has established that *Tira topic clauses* have an initial A/A′-position, whose occupant, a DP topic, is case-marked nominative and controls *noun class agreement* (NCA) on the verb or auxiliary. Such topic clauses exhibit fixed V2 order, illustrated in the alternation between Subject-Verb-Object (SVO) order (1), where the subject is nominative and controls NCA while the postverbal object is accusative, and Object-Verb-Subject (OVS) clauses, where both arguments receive nominative case, but the object controls NCA. (Tira orthography: tt=/t̪/, z=/ð/)

(1) Ttuli tta-morz-o apri-nya unere
CLt̪.lion.NOM CLt̪-watch-VPFV CLy.boy-ACC yesterday
'The lion bit the boy yesterday.' (AVO, NOM V ACC)

(2) Apri ya-morz-o ttuli unere
CLy.boy.NOM CLy-bite-VPFV CLt̪.lion.NOM yesterday
'The boy, the lion bit yesterday.' (OVA, NOM V NOM)

We take the initial topic position indexed by NCA to be in [Spec, CP]; previous work established its hybrid A′-properties; ϕ-features are copied onto C from a goal with [TOP+φ]. Additionally, the postverbal position of the object in (1) vs. the subject in (2) are distinct: postverbal objects are VP internal while postverbal subjects are in [Spec, TP]. One piece of evidence for this claim comes from case marking: only postverbal subjects are nominative. Another argument comes from unaccusatives and passives, which promote non-agent subjects to this position (not shown). Evidence specifically for the structural height of the subject position comes from clauses with auxiliaries—which lack V-to-T movement—which have non-subject topics. In such clauses, the subject occurs between the auxiliary and the verb, which we propose is its case position, in [Spec, TP]. Thus, topicalized objects result in O_{Top}-Aux-S-V order (3), while topicalized oblique DPs, stranding their P, result in Obl_{Top}-Aux-S-V-O order (4):

(3) [$_{CP}$ Zondo$_j$ z-a$_i$ [$_{TP}$ apri$_k$ t_i [$_{VP}$ t_k ideci t_j [$_{PP}$ ləbu kari]]]]
CLð.gourd.NOM CLð-APFV.AUX CLy.boy.NOM drop CLl.well inside
'The gourd, the boy dropped inside the well far away.' (O_{Top}-Aux-S-V-Obl))

(4) [$_{CP}$ Ləbu$_j$ l-a-l$_i$ [$_{TP}$ apri$_k$ t_i [$_{VP}$ t_k ideci zonda [$_{PP}$ t_j kari]]]]
CLl.well.NOM CLl-APFV.AUX-WH.LOC CLy.boy.NOM drop CLð.gourd.ACC inside
'The well, the boy dropped the gourd inside (far away).' (Obl_{Top}-Aux-S-V-O))

The following claims, illustrated above, derive these patterns: i) T always moves to C in Tira, ii) both T and C mark their specifiers as nominative, accounting for the multiple nominative pattern in (2), and (iii) verbs only sometimes move to T, and hence automatically to C, as in the venitive perfectives in (1-2). Otherwise, Verbs stay low, hence below the subject, as in the andative perfectives in (3-4).

We turn now to the critical agreement facts: whatever head occupies T/C, whether a verb (e.g. 1-2) or an auxiliary (e.g. 3-4), shows a complex pattern of agreement, characterized by four generalizations: i) the topic is always indexed by an agreement prefix; this can be a pronominal agreement prefix, as in (5), or NCA with an overt DP, as in (1-4, 6-7), and includes *wh*-agreement with oblique topics (*-l* in (4, 8));

ii) non-topic human pronouns trigger an agreement suffix on the C/T complex (suffixes are on the V if in C, not shown) with distinct suffixal paradigms for subject (6) vs. object (7) agreement, both distinct from the topic agreement paradigm; iii) pronominal agreement suffixes never double topic prefixes, even if both are available, as shown crucially in (5) vs. (6), where the suffix *-e* is in principle available for (5); iv) only a single agreement suffix can occur, with preferential agreement with the object if, e.g., both subject and object are pronouns and the topic is an oblique DP (8a-b).

(5) **Ingg**-a(-*e) dongzatte Kúkú-ŋú ləbu kárí unere
1SG.PFV-APFV.AUX push Kuku-ACC well inside yesterday
'I pushed Kuku into the well yesterday. (far)' **Sbj$_{\text{TOP}}$**-Aux-∅

(6) Apri **y**-a-**e** dongz-att-e ləbu kárí unere
CLY.boy.NOM CLY-IPFV.AUX-1SG.SBJ push well inside yesterday
'The boy, I pushed into the well yesterday. (far)' **Obj$_{\text{TOP}}$**-Aux-**Sbj**

(7) Apri **y**-a-**nge** dongz-att-e ləbu kari unere.
CLY.boy.NOM CLY-APFV.AUX-1SG.OBJ push-LOC.APPL-FV inside yesterday
'The boy pushed me into the well yesterday. (far)' **Sbj$_{\text{TOP}}$**-Aux-**Obj**

(8) a. (Ləbu) **l**-a-**nge**-l dongz-att-e kari unere
CLl.well.NOM CLl-APFV.AUX-1SG.OBL-LOC.WH push-LOC.APPL-FV inside yesterday
(The well), you/(s)he pushed me into (it) yesterday. (far) **Obl$_{\text{TOP}}$**-Aux-**Obj**

b. (Ləbu) **l**-a-**ŋga**-l dóngz-att-é kárí unere
CLl.well.NOM CLy-APFV.AUX-2SG.OBJ-LOC.WH push-LOC.APPL-FV well inside yesterday
(The well), I/(s)he pushed you into (it) yesterday. (far) **Obl$_{\text{TOP}}$**-Aux-**Obj**

Strikingly, we find that (8a-b) are both ambiguous as a result of the object preference; features on T due to agreement with the subject have been suppressed as a result of subsequent agreement with the object.

This pattern is puzzling on several counts if the agreement features on C/T are attributed to a single probe, as the same features c-commanded by such a probe fail to be consistently realized in the same way, such as the first person subject in (5) and (6). An account with φ-intervention from a single $u\varphi$ probe on T also fails catastrophically: local person subjects would be expected to intervene in (8a-b), as they are clearly suitable targets for the probe, but fail to do so. Finally, a low-probe attempt to derive the object preference (e.g. Bejar & Rezac 2009) is untenable as the probe is higher than v, above the subject.

We claim that A/A′-probe on C_{TOP} are reliably exponed by the agreement prefix, while a distinct insatiable person probe on T is exponed by agreement suffixes. In the interaction/satisfaction framework of Deal (2015, 2023), suppose C_{TOP} has complex specification [int:φ+TOP,sat:φ+TOP] while T bears [int:φ+PERS,sat: -], copying features from accessible human pronouns. Two further conditions derive the facts. First, that probes can be subject to realization conditions such as Grishin 2023's *Expone Outermost*:

(9) *Expone Outermost*: Given a multiply-valued head H([A], [B], …, [C]), expone only the outermost feature bundle [C].

(9) results in only object features being realized in configurations such as (8a-b), and may be required elsewhere in Tira, for example to account for the fact that the complex topic probe on C never realize features besides those on the eventual topic.

Second, to capture the no-doubling generalization in example (5), feature bundles copied to T identical to those on C must delete. Given that T and C are always realized on the same complex head in Tira, this clearly constitutes a case of morphological OCP, which has been identified as a trigger of impoverishment or feature deletion in Algonguian (Oxford 2023), Bantu, where it is dubbed Kinyalolo's Constraint (Kinyalolo 1992, Carstens 2005, Tyler 2021 a.o.), and Romance (Nevins 2007). In all of the cases where multiple identical features trigger deletion, we observe that it is always the syntactically lower head which deletes. We conjecture this is a universal of OCP-conditioned impoverishment rules.

Selected references: **Oxford 2023**, N. B. 2023. The Algonquian Inverse. OUP. **Deal**, A. R. 2022. Interaction, Satisfaction, and the PCC. *LI*. **Grishin** 2023. Omnivorous third person agreement in Algonquian, *Glossa: a journal of general linguistics* 8(1).