

(8) φ -feature impoverishment
[φ] \rightarrow \emptyset / [–, WH]

- The difference between ‘anti-agreement’ and ‘wh-agreement’ reduces to **variation in the morphology**.
 - In a language like Berber, (1), impoverishment results in the appearance of default agreement.
 - In a language like Abaza, (2), impoverishment allows for the insertion of a morpheme expressing the remaining WH-feature.
- This analysis centers the explanation in the **featural make up** of the DP targeted for agreement.
 - Anti-agreement is not the result of syntactic constraints on \bar{A} -movement (Ouhalla 1993; Richards 1997; Schneider-Zioga 2007; Diercks 2010; Henderson 2013, a.o.) or Agree (Georgi 2014).

3 Anti-agreement with bound variables

• Prediction of the featural account:

- It should in principle be possible for an XP to trigger anti-agreement even when that XP has not undergone \bar{A} -movement itself, as long as that XP bears a WH-feature.
- Abaza confirms this prediction. The core data comes from possessor agreement.

- In addition to argument-verb agreement, Abaza has possessor agreement.⁴

(9) *Possessor agreement*

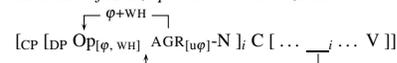
- a. **aphas_i** **l-qas'a**
woman 3SG.F.POSS-man
'the woman's husband' (O'Herin 2002:50)
- b. (**wara_i**) **w_i-nap'o**
2SG.M 2SG.M.POSS-man
'your hand' (O'Herin 2002:50)

- Possessor agreement also participates in the anti-agreement system.
- When a possessor serves as the head of a relative clause, the agreement prefix that cross-references that possessor on the possessed noun must be the anti-agreement prefix *z-*.

(10) [CP [DP **Op_i** **z-tdzə**]_k *pro* \bar{A} **yə_k-w-x^waʕz**] a-qac'a_i
[[POSS.AA-house] 2SG.M ABS.AA-2SG.M-buy.PST DEF-man
'the man whose house you bought' (O'Herin 2002:260)

- We follow O'Herin (2002) and assume that relativization in Abaza involves null operator movement to Spec-CP.
 - When a relative operator serves as a possessor, it pied-pipes the DP that contains it to Spec-CP.
 - Possessor anti-agreement arises from agreement with the null operator, as shown in (11).
 - The possessor φ -probe copies both [φ] and [WH], and impoverishment occurs.

⁴We assume that possessor agreement originates as a φ -probe on a possessor D, which agrees a with the possessor in its specifier.

(11) *Structure of Abaza possessor relativization*

- **Strikingly, we also find cases of possessor anti-agreement where the possessor is *not* an operator.**
- When a possessor acts as a variable bound by an \bar{A} -operator, *both* the operator and the bound possessor obligatorily trigger anti-agreement.

(12) *Bound anti-agreement*

- a. [DP **pro** **z_i-qk^wmarga**] ayfa ac'axk^j **dəzda_i** yə-qa-**z_i**-chwaxəz
POSS.AA-toy table under who 3SG-PV-ERG.AA-hide
'Who_i hid his_i toy under the table?' (O'Herin 2002:272)
- b. [CP **Op_i** [DP **pro** **z_i-pa**] bzəy də-**z_i**-bawa] a-qac'a_i
Op POSS.AA-son good 3SG-ERG.AA-see.PRS DEF-man
'The man_i who_i loves his_i son.' (O'Herin 2002:274)

- In (12a), a wh-question, the possessor of 'toy' is bound by the wh-subject 'who' and triggers anti-agreement *z-* on the noun.
- In (12b), a relative clause, the possessor of 'son' is bound by the relative operator and is also cross-referenced with anti-agreement *z-*.

- There are two important observations here:

- ① Anti-agreement is triggered by **an element which is not an operator**.
- ② Anti-agreement is triggered by an element which **does not move**.

- These observations are challenging for accounts that derive anti-agreement through constraints on \bar{A} -movement.
- Conversely, the theory defended here provides a way of explaining how these variables trigger anti-agreement.

(13) The bound variable bears a WH-feature, triggering anti-agreement on the possessive probe.

4 Deriving bound anti-agreement

4.1 Unification with fake indexicals

- The bound anti-agreement effect shown in (12) displays strong parallels with **fake indexicals**, suggesting a unified analysis of these two phenomena.

- **Proposal:**
Like fake indexicals, bound anti-agreement involves **Feature Transmission** between an antecedent and a bound variable.

→ Thus, in both cases, the features on the bound variable are **not inherent** to the variable; rather, the variable **acquires** these features in the course of the derivation.

- Fake indexicals are bound variables that are morphologically realized as **pronouns**, despite lacking the referential semantics of pronouns (Rullmann 2003; Kratzer 2009; Wurmbrand 2015):

- (14) Only you did **your** homework.
- Referential paraphrase:*
Nobody else did *your* homework.
 - Bound variable paraphrase:*
Nobody else did *their* homework.
→ You are the only x such that x did x 's homework.

- Kratzer (2009) argues that bound variables are **minimal pronouns** which enter the structure without features and acquire the ϕ -features of their antecedents postsyntactically.

- Specifically, the minimal pronoun receives its features from an intermediate λ -**introducing head** (e.g. ν , C; henceforth 'binder'),⁵ which interacts with both the antecedent and the minimal pronoun in turn, in two steps:

- (15) *Predication (Spec-Head Agreement under Binding)* (Kratzer 2009)

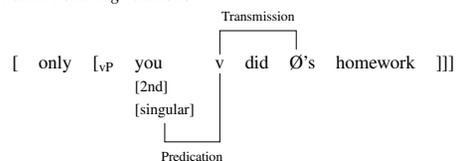
When a DP occupies the specifier position of a head that carries a λ -operator, their ϕ -feature sets unify.

- (16) *Feature Transmission Under Binding* (Kratzer 2009)

The ϕ -feature set of a bound DP unifies with the ϕ -feature set of its binder.

- An illustration in (17):

- (17) a. Only you did **your** homework.
b. *Feature sharing relations* (Adapted from Kratzer 2009)



- **We extend this analysis to bound anti-agreement:** Variables bound by wh-extracted elements receive **both ϕ - and WH-features** under Feature Transmission.

- (18) *Derivation of bound anti-agreement in Abaza*

- a. [DP **pro** _{i} z_i -qk^wmarga] ayfa ac'axk^j **dəzda** _{i} yə-qa-z-chwaxəz
POSS.AA-toy table under who 3SG-PV-ERG.AA-hide
'Who _{i} hid his _{i} toy under the table?' (O'Herin 2002:272)

- b. [CP DP _{i} C ... [vP DP_[\phi,WH] [Y_[\lambda_i, \phi, WH] ... [PRO_[\phi,WH] AGR_{[\phi,WH]-N}]]]

⁵Kratzer (2009) argues that evidence for the intermediate binder comes from the observation that fake indexical readings in relative clauses (in which the relative pronoun is by default 3rd person) are only available if the features of the embedded verb match with the bound variable, as in cases of syncretism. This generalization is borne out in both standard and non-standard varieties of German, as well as in Dutch. In contrast, Wurmbrand (2015) argues that the minimal pronoun receives its features directly from the antecedent through Upward Agree, thus eliminating the need for an intermediary. The data presented in this talk are in principle compatible with both approaches; however, we believe that Wurmbrand's system faces certain challenges in accounting for optional feature transmission, as exhibited in Abo (Burns 2011).

- The subject *dəzda* 'who' is generated in Spec-vP. The binder ν acquires the $[\phi, WH]$ -features of 'who' via Predication, ①.
- The binder ν then shares its $[\phi, WH]$ -features with the bound variable via Feature Transmission, ②.
- The possessive probe (AGR) copies these features from the possessive bound variable via Agree, ③.
- Impoverishment applies, yielding anti-agreement.

4.2 Extensions of our system

- Below, we consider a wider range of Abaza data and their implications for the morphosyntactic properties of variable binding.

1. In the absence of bound anti-agreement (i.e. with 3rd person possessive agreement), **only the referential reading is available** (O'Herin 2002); the bound variable reading is blocked, (19).

- From this, we conclude that **Feature Transmission is an obligatory operation**: A minimal pronoun may not be defaultly spelled out as 3rd person, but must receive all the features of its binder.⁶

- (19) [DP **pro** <sub>k / _{i} y_k / _{i} -qk^wmarga] ayfa ac'axk^j **dəzda** _{i} yə-qa-z-chwaxəz
3SG.M-toy table under who 3SG-PV-ERG.AA-hide
'Who _{i} hid his _{k} toy under the table?'</sub>

2. Bound anti-agreement is only possible in the c-command domain of the binder, suggesting that **Feature Transmission is sensitive to c-command**.

- In (20), anti-agreement is triggered by the bound possessive pronoun in the relative clause (*z-pa* 'his son'), though *not* by the bound possessive pronoun in the matrix clause (*y-phas* 'his wife').

- While the head of the relative clause c-commands the matrix possessive pronoun, this is irrelevant to the availability of anti-agreement.⁷

- (20) *Bound anti-agreement in relative clauses*

[CP **Op** _{i} z_i -pa bzəy də- z_i -bawa] a-qac'a _{i} y_i /^{*} z_i -phas
POSS.AA-son good 3SG-ERG.AA-see.PRS DEF-man 3SG.M/*ERG.AA-wife
d-ʕa-y-dəd
3SG-PFV-3SG.M-get.DYN
'The man _{i} who _{i} loves his _{i} son picked up his _{i} wife.'

3. Finally, Abaza displays **bound anti-agreement with controlled PRO**, when the controller is a wh-element, (21).

- This is expected if both ν and C are binders and PRO is bound by embedded C, as proposed by Chierchia (1989) and Kratzer (2009).

⁶Recall that fake indexical constructions are ambiguous between bound and referential readings, though this ambiguity does not seem to be possible in Abaza, as the presence of anti-agreement only allows a bound variable reading. We suggest that this difference stems from the inability of pronouns to be inherently specified for [WH]. A pronoun that bears [WH] must therefore have acquired it from a higher binder via Feature Transmission.

⁷While we chose to represent the structure of Abaza relative clauses as head-external, our analysis is compatible with a head-internal analysis as well.

(21) *Bound anti-agreement in control clauses*

dəzda_i -_i [[PRO_i y-canəs] -_i z_i-taqəz^wa] yə-z_i-bawz
 who ABS.AA-go.INF ERG.AA-want.INF 3SG.I-ERG.AA-seem.PST
 ‘Who seemed to want to go?’

• **Interim summary:**

- Bound anti-agreement is analyzed as the **wh-counterpart** to fake indexicals—both involve Feature Transmission from a λ -introducing binder to a featureless variable pronoun.
- These phenomena only differ in the types of features being transmitted and where these features are expounded.
- Crucially, Feature Transmission under binding is only compatible with a **featural analysis of anti-agreement**.

5 **Extension: Anti-agreement on complementizers**

- Finally, we extend our analysis to cover **anti-agreement on subject-oriented complementizers**—a phenomenon that is expected under our system.
- Subject-oriented complementizers involve an **indirect Agree relation**: Complementizer agreement (C-agreement) with a higher subject is mediated by an embedded anaphor/operator in Spec-CP (Diercks 2013; Torrence and Duncan 2017).

(22) *Indirect C-agreement* (Diercks 2013)
 [DP_i ... [CP OP_i AGR-C]]
 BINDING AGREE

- An illustration with Ibibio, which exhibits C-agreement on a subset of its complementizers:

(23) *Ibibio*
 M-mà ñ-kòp (m-bó) ké Kòkó á-mà á-dép ñwèt
 1SG-PST 1SG-hear 1SG-C C Koko 3SG-PST 3SG-buy book
 ‘I heard that Koko bought a book.’ (Torrence and Duncan 2017)

- Ibibio also exhibits an anti-agreement effect (Baker 2008; Baker and Willie 2010). Wh-subjects require the subject agreement prefix *t-* instead of the normal 3rd person singular prefix *a-*:

(24) *Ibibio*
 a. ànié í-ki-dia ekpaŋ?
 who AA-PST-eat porridge
 ‘Who ate porridge?’ (Baker 2008:616)
 b. *ànié á-ki-dia ekpaŋ?
 who 3SG-PST-eat porridge
 Intended: ‘Who ate porridge?’ (Baker 2008:616)

- Strikingly, when an agreeing complementizer agrees with a matrix wh-subject, **the complementizer must bear the anti-agreement prefix**:

(25) *Ibibio*

a. ànié í-kéré í-bó ké m-mà ñ-nwón ùkòt̩s̩̀n
 who AA-think AA-C C 1SG-PST 1SG-drink palm.wine
 ‘Who thinks that I drank palm wine?’ (Torrence and Duncan 2017)
 b. *ànié í-kéré á-bó ké m-mà ñ-nwón ùkòt̩s̩̀n
 who AA-think 3SG-C C 1SG-PST 1SG-drink palm.wine
 Intended: ‘Who thinks that I drank palm wine?’ (Torrence and Duncan 2017)

- This pattern follows straightforwardly from our account: indirect C-agreement is recast as involving Feature Transmission of [ϕ ,WH] from the matrix binder to the null anaphor.

(26) *Indirect anti-agreement on C*
 [DP_i[ϕ ,WH] ... [CP OP_i[ϕ ,WH] AGR-C]]
 TRANSMISSION AGREE

- Feature Transmission under binding is thus compatible with a wide range of binding phenomena.

6 **Conclusion**

- This talk investigated **anti-agreement with bound variables**, a sub-type of anti-agreement that sheds light on the nature of anti-agreement as a whole.
- While anti-agreement is often argued to reflect constraints on subject \bar{A} -extraction (Ouhalla 1993; Richards 1997; Schneider-Zioga 2007; Diercks 2010; Henderson 2013, a.o.), the existence of bound anti-agreement is predicted *only* under a featural approach (Baier 2016).

→ Anti-agreement may cross-reference bound variables, which crucially *do not* undergo \bar{A} -movement.

- Following Baier (2016), anti-agreement is simply agreement with a goal bearing both [ϕ ,WH], followed by postsyntactic impoverishment.
- Bound anti-agreement constitutes novel empirical support for this featural approach to anti-agreement, based on (i) the absence of movement in such cases, (ii) the parallels with fake indexical phenomena cross-linguistically, and (iii) extensions to subject-oriented complementizer agreement.
- Finally, the fake indexical literature has largely focused on the form of overt pronouns. The analysis here provides further evidence for Feature Transmission to minimal pronouns by examining the form of *bound agreement*.

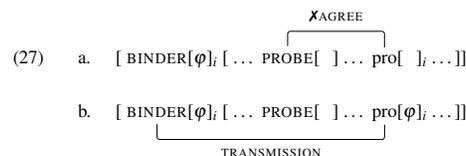
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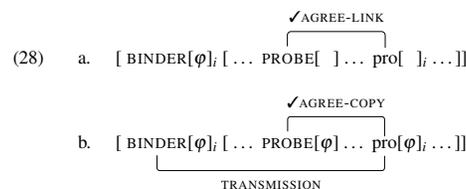
Appendix: Consequences for Agree

- The analysis we have argued for here has consequences for the architecture of Agree.
- Because Feature Transmission is a postsyntactic operation, our analysis presupposes that Agree is (at least) partially postsyntactic as well.
 - **Agree » Feature Transmission**
Bound pronouns should not be able to value probes in their local domain.
 - At the time of Agree, the bound pronoun will have no features to value the probe, (27a).

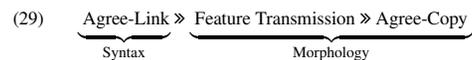


- This supports views of agreement where Agree is bifurcated into two steps (Arregi and Nevins 2012; Benmamoun et al. 2009; Bhatt and Walkow 2013; Smith 2015):

- **Agree-Link**
A dependency is established between the probe and goal in the syntactic component, (28a).
- **Agree-Copy**
The goal’s features are copied onto the probe in the postsyntactic component, (28b).



- In our approach, the interaction of Agree and Feature Transmission is such that Feature Transmission must take place between *between* these two Agree sub-processes, as shown in (29).



- Our approach further implies that both [ϕ] and [WH] are able to be copied between syntactic objects via both Feature Transmission and Agree-Copy.