

Anti-agreement with Bound Variables

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1. Introduction

In many languages, regular φ -agreement with a DP becomes disrupted when that DP is involved in an \bar{A} -dependency (e.g. *wh*-movement, relativization). Since Ouhalla (1993), this phenomenon has been known as *anti-agreement*. For example, in Berber (Afro-Asiatic), shown in (1), verbs agree with their subjects for person, number, and gender; however, in \bar{A} -extraction contexts the verb appears instead as an invariant participle form. In Abaza (Northwest Caucasian), regular φ -agreement is replaced by a specialized form of agreement indexing \bar{A} -extracted arguments, (2).¹

- (1) *Berber*
- a. **t-zra** **tamghart** Mohand
 3SG.F-see.PFV woman Mohand
 ‘The woman saw Mohand’ (Ouhalla, 1993)
- b. **man tamghart_i** ay **yzrin/*t-zra** —_i Mohand
 which woman C see.AA/3SG.F-see.PFV Mohand
 ‘Which woman saw Mohand?’ (Ouhalla, 1993)
- (2) *Abaza*
- a. **pro_i** **pro_k** **ʃ^wə_k-l_i-bat**
 3SG.F 2PL ABS.2PL-ERG.3SG.F-see
 ‘She saw you.PL.’ (O’Herin 2002)
- b. **dəzda_i** s-axč^la **zə_i-yəc^l**
 who POSS.1SG-money ERG.AA-steal
 ‘Who stole my money?’ (O’Herin, 2002)

In this paper, we investigate *anti-agreement with bound variables* (henceforth ‘bound anti-agreement’), an anti-agreement phenomenon that has, to our knowledge, received little attention in previous literature. As illustrated in (3), bound anti-agreement surfaces when an \bar{A} -extracted argument triggers anti-agreement not only on its locally φ -agreeing head, but also on a lower head that φ -agrees with a pronoun bound by the extracted argument. In (3), again from Abaza, the null possessor is interpreted as co-variant with—i.e. bound by—the extracted *wh*-subject. Crucially, both subject agreement and possessive agreement surface with the anti-agreement form *z-*.

- (3) *Bound anti-agreement in Abaza*
- [DP **pro_i** **z_i-qk^wmarga**] ayfa ac’axk^l **dəzda_i** yə-qa-**z_i**-chwaxəz
 POSS.AA-toy table under who ABS.3SG-PV-ERG.AA-hide
 ‘Who_i hid his_i toy under the table?’

While we focus mainly on Abaza in this paper, bound anti-agreement is also found in Abo (Bantu;

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¹ This effect has also been referred to as *wh-agreement* (Chung & Georgopoulos, 1988). See Section 2 for more discussion.

see Burns 2011) and Ibibio (Niger-Congo; see Torrence & Duncan 2017).² Crucially, since the bound variable does not itself undergo movement, bound anti-agreement presents a challenge for analyses of anti-agreement that derive the effect through constraints on \bar{A} -movement. We argue instead that bound anti-agreement lends strong support to Baier’s (2016) *featural theory of anti-agreement*, in which anti-agreement is the result of a φ -probe agreeing with an \bar{A} -operator that bears what we will call a [WH] feature. When the φ -probe agrees with a goal bearing a WH-feature, the resulting feature bundle on the probe includes both φ -features and a WH-feature. When these features co-occur in the same feature bundle, total or partial impoverishment of φ -features may take place postsyntactically—yielding anti-agreement.

We moreover analyze bound anti-agreement in a parallel fashion to *fake indexicals*, thus unifying these two seemingly separate phenomena. Bound anti-agreement supports an analysis of fake indexicals in which a variable is ‘born’ underspecified, but acquires its features from its antecedent in the course of the derivation (e.g. Kratzer, 2009). The features of the variable may be realized on the variable itself (as with fake indexicals) or as agreement with the variable (as seen in cases of bound anti-agreement). Bound anti-agreement arises when the [φ ,WH] feature bundle is transmitted to the variable from its binder, followed by impoverishment.

This paper is organized as follows. In Section 2, we present Baier’s (2016) featural theory of anti-agreement. In Section 3, we provide novel evidence for this theory from bound anti-agreement in Abaza. In Section 4 we argue that bound anti-agreement should be analyzed on par with fake indexicals and show how our system accounts for a wide range of Abaza data. Section 5 extends our system to capture anti-agreement on complementizers in Ibibio, which we propose also involves bound anti-agreement.

2. A featural approach to anti-agreement

Reduced φ -agreement with \bar{A} -operators is often discussed in terms of two different phenomena. As already discussed, *anti-agreement* is standardly characterized as a default or invariant agreement form, and is described as the consequence of a ‘disruption’ of regular φ -agreement in the syntax. Since it appears in \bar{A} -extraction contexts, it is often analyzed as resulting from a restriction on \bar{A} -movement of certain arguments (Ouhalla, 1993; Richards, 1997; Schneider-Zioga, 2007; Diercks, 2010; Henderson, 2013:a.o.). Additionally, there is *wh-agreement*—characterized as special agreement exponents for \bar{A} -operators that co-exist in a given language with φ -agreement forms. In contrast to anti-agreement, wh-agreement is analyzed as a regular agreement process, in that the special exponent is the form that a probe takes when it has agreed with an \bar{A} -operator (Chung 1994; Chung 1998; Chung & Georgopoulos 1988; Georgopoulos 1991; Watanabe 1996, a.o.).

Following Baier (2016), we argue for a unification of anti-agreement and wh-agreement: both phenomena arise from a single configuration in (4), wherein a φ -probe finds a DP with both φ - and WH-features.³ Reduced agreement in this configuration arises because of postsyntactic impoverishment (Bonet, 1991; Noyer, 1992, 1997; Halle & Marantz, 1993) of the φ -features in the morphology, (5).

(4) *Configuration for anti-agreement*

$$\begin{array}{c} [\dots P_{[u\varphi]} [\dots DP_{[\varphi, WH]} \dots]] \\ \quad \quad \quad \sqcup \quad \quad \sqcup \\ \quad \quad \varphi+WH \quad \quad \quad \end{array}$$

(5) *φ -feature impoverishment*

$$[\varphi] \rightarrow \emptyset / [_, WH]$$

The difference between ‘anti-agreement’ and ‘wh-agreement,’ then, simply reduces to variation in the morphology. Recall the Berber and Abaza examples from (1) and (2). In a language like Berber, impoverishment results in the appearance of default agreement; in a language like Abaza, it allows for the insertion of a morpheme expressing the remaining WH-feature. This analysis therefore centers the explanation of anti-agreement in the *featural makeup* 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

² Ibibio will be discussed in Section 5.

³ Baier (2016) implements this idea with the version of Agree developed by Deal (2015). Deal argues that φ -probes copy back more features than they search for. See Baier (2016) for details.

2007; Diercks 2010; Henderson 2013, a.o.) or Agree (Georgi, 2014). In what follows, we will refer to both default agreement and wh-agreement as ‘anti-agreement.’

3. Anti-agreement with bound variables

A core prediction of the featural account of anti-agreement is it should in principle be possible for an element to trigger anti-agreement even when it has not undergone \bar{A} -movement itself, as long as it bears a WH-feature. We argue that bound anti-agreement in Abaza confirms this prediction. For simplicity, we will mainly focus on monoclausal possessor agreement in this paper, though more complex data will also be given in Section 4.

Abaza has both argument-verb agreement (cross-referencing subjects and objects) and possessor agreement, (6). Possessor agreement surfaces on the possessee.

(6) *Possessor agreement*

- a. **aphas_i** l-qas’a
 woman POSS.1SG-man
 ‘the woman’s husband’ (O’Herin 2002:50)
- b. (**wara_i**) w_i-nap’ə
 2SG.M POSS.2SG.M-man
 ‘your hand’ (O’Herin 2002:50)

First, we show that possessor agreement can participate in the anti-agreement system. When a possessor serves as the head of a relative clause, the agreement prefix that cross-references that possessor must be realized as the anti-agreement prefix *z-*, (7a). Following O’Herin (2002), we assume that relativization in Abaza involves null operator movement to Spec-CP; when that relative operator serves as a possessor, it pied-pipes the DP containing it to Spec-CP. Possessor anti-agreement arises from agreement between the null operator and the possessive probe within the DP. Following the featural account of anti-agreement outlined above, the possessor ϕ -probe copies both $[\phi]$ and $[WH]$ and impoverishment occurs, yielding possessor anti-agreement. The derivation is provided in (7b).

(7) *Structure of Abaza possessor relativization*

- a. [CP [DP **Op_i** **z**-tdzə]_k *pro* —_k yə_k-w-x^waŋz]
 [[POSS.AA-house] 2SG.M ABS.AA-ERG.2SG.M-buy.PST
 a-qac’a_i
 DEF-man
 ‘the man whose house you bought’ (O’Herin 2002:260)
- b. $\begin{array}{c} \downarrow \phi+WH \quad \neg \\ [CP [DP Op_{[\phi, WH]} \uparrow AGR_{[u\phi]}-N]_i C [\dots _i \dots V]] \end{array}$

Now that we have shown that it is in principle possible to trigger possessor anti-agreement, we turn to cases of *bound* possessor anti-agreement. Strikingly, possessor anti-agreement may surface even when the possessor is not itself an extraction-triggering operator. Specifically, when a possessor acts as a variable that is *bound* by a higher \bar{A} -operator, *both* the operator and the bound possessor obligatorily co-occur with anti-agreement. This is shown in the wh-movement and relativization examples below.

(8) *Bound anti-agreement*

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

In (8a), a wh-question, the (null) possessor of ‘toy’ is bound by the wh-subject and surfaces with anti-agreement, *z-*, on the possessee. Similarly, in (8b), a relative clause, the possessor of ‘son’ is bound by a

relative operator and is also cross-referenced with possessor anti-agreement.

In these examples, anti-agreement is triggered by an element that is *neither an operator nor \bar{A} -extracted*. Rather, the triggering element is an in situ bound variable whose *antecedent* has the relevant anti-agreement-triggering properties. This pattern is problematic for any account that derives anti-agreement through constraints on \bar{A} -movement. Conversely, the featural theory defended here provides a way of explaining how these variables trigger anti-agreement. We propose that, just like its antecedent, the in situ bound variable bears $[\phi, WH]$, thus resulting in anti-agreement on the possessive probe. With this idea in place, the remainder of the paper discusses how bound variables come to bear such features.

4. Deriving bound anti-agreement

4.1. Unification with fake indexicals

We argue that bound anti-agreement displays strong parallels with *fake indexicals*, motivating a unified analysis of these two phenomena despite surface appearances. Following previous work on fake indexicals (e.g. Kratzer 2009), we propose that, 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—the variable is ‘born’ featureless and 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). For example, the sentence in (9) has two interpretations, given below. In the bound variable reading given in (9b), the possessive pronoun is interpreted as covariant with the antecedent. In this reading, the pronoun is interpreted as a bound variable rather than as a true pronoun.

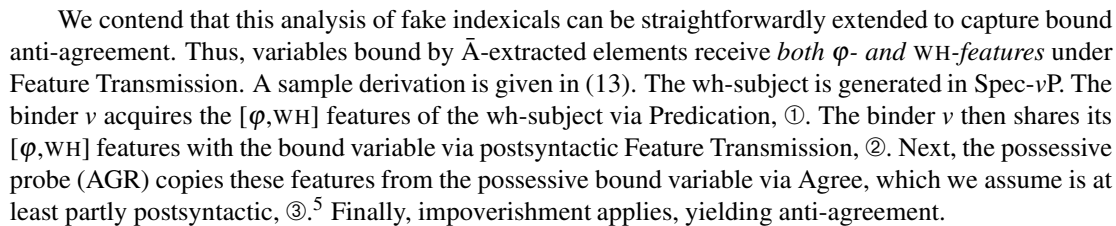
- (9) Only you did your homework.
- a. *Referential paraphrase:*
Nobody else did *your* homework.
 - b. *Bound variable paraphrase:*
Nobody else did *their* homework.
→ You are the only x such that x did x ’s homework.

One puzzle of fake indexicals concerns how these elements come to be spelled out as pronouns. Kratzer (2009) argues that bound variables are *minimal* pronouns that enter the syntactic structure without features and acquire the ϕ -features of their antecedents postsyntactically (in contrast, true pronouns enter the structure with features). Specifically, a bound variable receives its features from an intermediate λ -introducing head (e.g. ν , C; henceforth ‘binder’).⁴ This process involves two subparts. During Predication, the binder receives the features of the argument in its specifier, (10); later, in the postsyntactic component, these features are passed from the binder to a minimal pronoun in its c-command domain in a process called Feature Transmission Under Binding, (11).

- (10) *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.
- (11) *Feature Transmission Under Binding* (Kratzer, 2009)
The ϕ -feature set of a bound DP unifies with the ϕ -feature set of its binder.

⁴ According to Kratzer (2009), evidence for the presence of an 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 intermediate binder. 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). We leave a deeper investigation of this idea for future research.

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



- Now that we have established our analysis of bound anti-agreement, we consider below a wider range of Abaza data and their implications for the morphosyntactic properties of variable binding.

First, as shown in (14), the absence of anti-agreement with a possessive pronoun (i.e. when 3rd person possessive agreement surfaces) blocks the bound variable reading in Abaza; only the referential reading is available in this construction (O’Herin, 2002). From this, we conclude that *Feature Transmission must be an obligatory operation*. A bound pronoun may not remain featureless (and perhaps be spelled out as 3SG by default), but must receive all the features of its binder.⁶

- ⁵ Because Feature Transmission is a postsyntactic operation, but must precede feature valuation of the possessive probe, our analysis presupposes that Agree must be partly postsyntactic. This supports views of agreement where Agree is bifurcated into two steps (Arregi & Nevins, 2012; Benmamoun et al., 2009; Bhatt & Walkow, 2013; Smith, 2015): the syntactic dependency between the probe and goal is established in the syntactic component, while the goal's features are copied onto the probe in the postsyntactic component. In our approach, the interaction of Agree and Feature Transmission is such that Feature Transmission takes place between these two Agree sub-processes.

⁶ Recall that fake indexical constructions are ambiguous between bound and referential readings in English. In contrast, this ambiguity does not seem to be possible in Abaza, since the presence of bound 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]. Therefore, any pronoun that bears [WH] must have acquired it from a higher binder via Feature Transmission.

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

Finally, Abaza displays *bound anti-agreement with controlled PRO* when the controller is an \bar{A} -operator; this is shown in (16). This fact is completely expected under our analysis, if both ν and C are binders and PRO is a minimal pronoun bound by embedded C, as proposed by Chierchia (1989) and Kratzer (2009).

To summarize, we have argued that bound anti-agreement should be analyzed as the *wh-counterpart* to fake indexicals—both involve Feature Transmission from a λ -introducing binder to a featureless bound variable pronoun. These phenomena differ only in the types of features being transmitted and where these features are exponded: in Abaza, the relevant features are $[\phi, \text{WH}]$ and are most easily seen on agreement probes. More generally, this conclusion is only compatible with a featural analysis of anti-agreement, as in Baier (2016). We therefore take the parallels between bound anti-agreement and fake indexicals to instantiate further support for this line of approach.

Finally, we extend our analysis to cover the existence of *anti-agreement on subject-oriented complementizers*—a phenomenon that we propose is fully predicted under our system. Subject-oriented complementizers have been argued to involve an *indirect Agree relation*, the idea being that complementizer agreement with a higher subject is mediated by a null anaphor in Spec-CP of the embedded clause (Diercks, 2013; Torrence & Duncan, 2017). This is schematized below; note that the embedded anaphor (represented here as ‘OP’, following Diercks) is taken to be subject-oriented and thus bound by the higher subject.

(Diercks, 2013)

We illustrate this idea with Ibibio (Niger-Congo), which exhibits subject-oriented complementizer agreement on a subset of its complementizers, (18).

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

- (18) *Ibibio*
M-mà ò-kòp (m-bó) ké Kòkó á-mà á-dép òwèt
1SG-PST 1SG-hear 1SG-C C Koko 3SG-PST 3SG-buy book
‘I heard that Koko bought a book.’ (Torrence & Duncan, 2017)

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

- (19) *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*. This is shown in (20) below.

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

This pattern looks identical to the cases of bound anti-agreement in Abaza, except that the relevant anti-agreement-bearing head is now an embedded finite C. We propose that indirect complementizer agreement in Ibibio involves Feature Transmission of $[\phi, WH]$ from the matrix binder to the null anaphor in Spec-CP. Like in Abaza, agreement between the anaphor and its local agreeing probe yields bound anti-agreement.

More generally, this discussion of Ibibio shows that Kratzer’s (2009) Feature Transmission Under Binding is compatible with a wide range of binding phenomena beyond fake indexicals.

6. Conclusion

In this paper, we investigated anti-agreement with bound variables, a sub-type of anti-agreement that we believe sheds light on the nature of anti-agreement as a whole as well as the morphosyntax of binding. 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 analysis of anti-agreement, as proposed by Baier (2016). This is because anti-agreement may cross-reference elements like bound variables that do not themselves undergo \bar{A} -movement.

Following Baier, we take anti-agreement to be simply agreement with a goal that bears the feature bundle $[\phi, WH]$, followed by postsyntactic impoverishment. Bound anti-agreement constitutes novel empirical support for this approach, not only based on the absence of movement in such cases, but also given parallels with fake indexical phenomena cross-linguistically and extensions to subject-oriented complementizer agreement. We argued that, like fake indexicals, bound anti-agreement is a postsyntactic phenomenon, the result of Feature Transmission from a higher λ -introducing head.

Finally, our analysis contributes to a broader understanding of fake indexicals. While the fake indexical literature has largely focused on the form of overt pronouns, our analysis provides further evidence for Feature Transmission to minimal pronouns by examining the form of *bound agreement*.

References

- Arregi, Karlos & Andrew Nevins (2012). *Morphotactics*, vol. 86 of *Studies in Natural Language and Linguistic Theory*. Springer.
- Baier, Nico (2016). Unifying Anti-Agreement and Wh-Agreement. Ms.
- Baker, Mark & Willie Udo Willie (2010). Agreement in Ibibio: From every head, to every head. *Syntax* 13, 99–132.
- Baker, Mark C. (2008). On the Nature of the Antiagreement Effect: Evidence from Wh-in-situ in Ibibio. *Linguistic Inquiry* 39:4, 615–632.
- Benmamoun, Elabbas, Archana Bhatia & Maria Polinsky (2009). Closest conjunct agreement in head final languages. *Linguistic Variation Yearbook* 9, 67–88.
- Bhatt, Rajesh & Martin Walkow (2013). Locating agreement in grammar: an argument from agreement in conjunctions. *Natural Language and Linguistic Theory* 951–1013.
- Bonet, Eulalia (1991). *Morphology after syntax: Pronominal clitics in Romance*. Ph.D. thesis, Massachusetts Institute of Technology, Cambridge, Massachusetts.
- Burns, Roslyn (2011). Subject Agreement and Syntactic Interface in Abo. Ms., UC Berkeley.
- Chierchia, Gennaro (1989). Anaphors and attitudes *de se*. Bartsch, Renate, Johan van Benthem & Peter van Emde Boas (eds.), *Language in context*, Foris, Dordrecht, 1–32.
- Chung, Sandra (1994). Wh-agreement and “referentiality” in Chamorro. *Linguistic Inquiry* 25:1, 1–44.
- Chung, Sandra (1998). *The Design of Agreement: Evidence from Chamorro*. Chicago University Press.
- Chung, Sandra & Carol Georgopoulos (1988). Agreement with gaps in Chamorro and Palauan. Barlow, Michael & Charles A. Ferguson (eds.), *Agreement in Natural Languages: Approaches, Theories, and Descriptions*, Cent. Study Lang. Inf., 251–67.
- Deal, Amy Rose (2015). Interaction and satisfaction in ϕ -agreement. *NELS 45 Proceedings*.
- Diercks, Michael (2010). *Agreement with Subjects in Lubukusu*. Ph.D. thesis, Georgetown University.
- Diercks, Michael (2013). Indirect Agree in Lubukusu Complementizer Agreement. *Natural Language and Linguistic Theory* 31:2, 357–407.
- Georgi, Doreen (2014). *Opaque Interactions of Merge and Agree: On the Nature and Order of Elementary Operations*. Ph.D. thesis, Universität Leipzig.
- Georgopoulos, Carol (1991). Canonical government and the Specifier Parameter: an ECP account of weak crossover. *Natural Language and Linguistic Theory* 9:1, 1–46.
- Halle, Morris & Alec Marantz (1993). Distributed Morphology and the pieces of inflection. Hale, Kenneth & Samuel Jay Keyser (eds.), *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, MIT Press, Cambridge, MA, 111–176.
- Henderson, Brent (2013). Agreement and person in anti-agreement. *Natural Language and Linguistic Theory* 31, 453–481.
- Kratzer, Angelika (2009). Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40, 187–237.
- Noyer, Rolf (1992). *Features, positions and affixes in autonomous morphological structure*. Ph.D. thesis, Massachusetts Institute of Technology, Cambridge, Massachusetts.
- Noyer, Rolf (1997). *Features, positions and affixes in autonomous morphological structure*. Garland Publishing.
- O’Herin, Brian (2002). *Case and Agreement in Abaza*. SIL International.
- Ouhalla, Jamal (1993). Subject-extraction, negation and the anti-agreement effect. *Natural Language and Linguistic Theory* 11:3, 477–518.
- Richards, Norvin (1997). *What moves where when in which language?* Ph.D. thesis, Massachusetts Institute of Technology.
- Rullmann, Hotze (2003). Bound-variable pronouns and the semantics of number. Agbayani, Brian, Paivi Koskinen & Vida Samiian (eds.), *Proceedings of the Western Conference on Linguistics 2002*, California State University, Department of Linguistics, Fresno, 243–254.
- Schneider-Zioga, Patricia (2007). Anti-agreement, anti-locality and minimality. *Natural Language and Linguistic Theory* 25:2, 403–446.
- Smith, Peter William (2015). *Feature Mismatches: Consequences for Syntax, Morphology and Semantics*. Ph.D. thesis, University of Connecticut.
- Torrence, Harold & Philip Duncan (2017). Verbal complementizers and the indirect agree relation in ibibio.
- Watanabe, Akira (1996). *Case Absorption and WH-Agreement*. Kluwer Academic Publishers.
- Wurmbrand, Susi (2015). Fake indexicals, feature sharing, and the importance of gendered relatives. MIT Colloquium talk.