

**Feeding agreement:
Anti-locality in Crow applicatives of unaccusatives**

NELS 51 * UQÀM * November 7, 2020

Edwin Ko, UC Berkeley (eddersko@berkeley.edu)

1 Introduction

- Anti-locality effects, which bans “too close” movement, have been reported for \bar{A} -movement, particularly subject-extraction asymmetries across a variety of languages (Erlewine 2014, 2016, 2020, Bošković 2016, Brillman and Hirsch 2016, Douglas 2017, Amaechi and Georgi 2019, Issah and Smith 2020).
- There is some indication that anti-locality effects can also be observed for A-movement (Deal 2019).
- In Crow, so-called A-set markers (**bolded**) reference subject-like arguments (e.g. agents) and B-set (underlined) mark object-like arguments (e.g. themes).

(1) **Unaccusative**

bii-wíisshi-k
1B-tell.lie-DECL
'I lied'

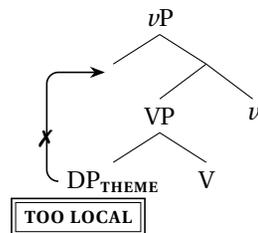
(2) **Applicative of unaccusative**

dii-wíissa-a-wa-ku-k
2B-tell.lie-JUNCT-1A-APPL-DECL
'I lied for you'

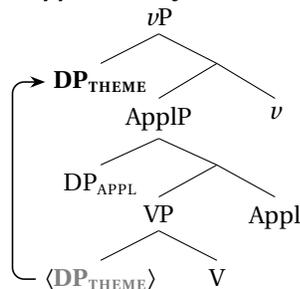
- **Puzzle:** In applicatives of unaccusatives, which argument is the subject?

Proposal: In Crow applicatives of unaccusatives, the underlying theme moves over the applied object into Spec, ν P thereby feeding A-set agreement. Movement occurs in (4) but not (3) due to an ANTI-LOCALITY constraint.

(3) **Unaccusative**



(4) **Applicative of unaccusative**



2 Overview of Crow syntax

2.1 Language background

- The Crow (Apsáalooke) language is part of the Siouan language family (e.g. Lakota) and it is spoken in south-central Montana, USA on the Crow Indian Reservation.
- Unless otherwise indicated, the Crow data that appears in this handout come from my own fieldwork, conducted on the Crow Reservation, as well as from remote elicitation sessions from 2018 to 2020.

2.2 Active-stative agreement in Crow

- Crow is a highly polysynthetic, head-final language with an SOV word order and an active-stative (or Split-S) morphosyntactic alignment.
- In unergatives (or active intransitives), the A-set marker indexes the subject:¹

(5) **baa**-chiwakii-k
1A-pray-DECL
'I prayed'

- In unaccusatives (or stative intransitives), B-set markers are instead used to mark subjects:²

(6) bii-ámmichi-k
1B-fall-DECL
'I fell'

- In transitives, A- and B-set markers are used to reference subjects and objects, respectively:³

(7) dii-waa-láxpíi-k
2B-1A-hug-DECL
'I hugged you'

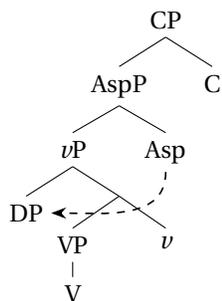
¹Based on the noun incorporation diagnostic, I assume active verbs and stative verbs are unergatives and unaccusatives, respectively. Noun incorporation is attested only for objects of transitive verbs and subjects of stative intransitives. Active intransitives do not allow incorporation of their subjects; attempts to elicit such constructions have been unsuccessful.

²The split between active and stative verbs is generally based on the verb's meaning: active verbs tend to denote events with agentive subjects while stative verbs are commonly states with non-agentive subjects (Ko 2019).

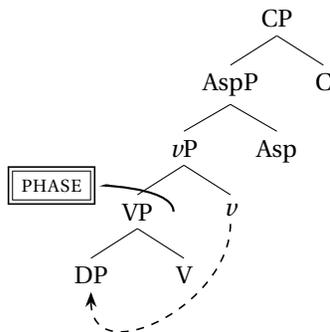
³In Crow, obstruents undergo intervocalic laxing.

- Note that overt A- and B-set agreement markers are restricted to local person; third person agreement markers are phonologically null.
- A-set agreement in unergatives, as in (8), is the result of an Agree relation with Asp, whereas B-set agreement in unaccusatives, as in (9), is intimately linked to agreement with *v*.
- Following Legate (2003) and Deal (2009), I assume that unaccusative *v* is a phase head and agreement between VP-internal DP and Asp is prohibited.

(8) *A-set in unergatives*



(9) *B-set in unaccusatives*



• **Two generalizations on Crow agreement:**⁴

- A-set agreement is controlled by the highest DP argument within the c-command domain of Asp.
- B-set agreement is controlled by the highest DP argument within the c-command domain of *v*.

2.3 The structure of Crow applicatives

- In this talk, I focus on the benefactive applicative *-ku*.⁵
- Both unergatives and unaccusatives may combine with the applicative *-ku*, as in (10a) and (10b).^{6,7}

⁴In (indirect) causative constructions with a transitive verb, the causer receives A-set marking whereas all other arguments are marked using B-set markers.

⁵Other applicatives in Crow include the instrumental *ii-* which behaves differently from the benefactive applicative.

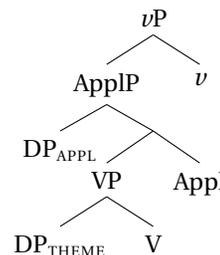
⁶Despite the somewhat agentive meaning associated with *biisshi-* 'tell a lie', this verb behaves like any other unaccusative verb in terms of its morphosyntax.

⁷In Crow, the so-called juncture (JUNCT) morpheme *-a*, which is cognate with the continuative/contemporaneous morpheme in other Siouan languages, is a historical relic that is semantically vacuous and co-occurs with aspectual auxiliaries and the (benefactive) applicative.

- (10) a. **Applicative of unergative**
dii-wah-chiwaká-a-wa-ku-k
 2B-1A-pray-JUNCT-1A-APPL-DECL
 'I prayed for you'
- b. **Applicative of unaccusative**
dii-wiissa-a-wa-ku-k
 2B-tell.lie-JUNCT-1A-APPL-DECL
 'I lied for you'

- For both types of applicative constructions, A-set marking is used to reference the subject, whereas B-set markers refer to the applied object.
- I follow the typology of Pylkkänen (2002, 2008) and assume that *-ku* is a high applicative, in which ApplP sits between above VP but below *vP*, as in (11).

(11) *The structure of applicatives of unaccusatives*



- **Core assumption:** I adopt the position that distinct theta roles are configurationally determined (UTAH; Baker 1988, 1997).

3 Diagnosing applicatives of unaccusatives

- **Main observation:** Themes of applicatives of unaccusatives are in a syntactically higher position than applied objects.

3.1 Diagnostic #1: Word order

- The meaning of applicative constructions involving intransitive verbs is sensitive to the order of the nominal DP elements.
- When both arguments in an applicative construction with an unergative verb are overt, the agent must precede the applied object, as in (12).

- ◇ This is the expected result given that external arguments are introduced in a position higher than the applied object (cf. 11).

- (12) a. Logan Taylor *chiwaká-a-ku-k*
 Logan Taylor pray-JUNCT-APPL-DECL
 'Logan prayed for Taylor'
 NOT 'Taylor prayed for Logan'
- b. Taylor Logan *chiwaká-a-ku-k*
 Taylor Logan pray-JUNCT-APPL-DECL
 'Taylor prayed for Logan'
 NOT 'Logan prayed for Taylor'

- Similarly, in applicatives of unaccusatives, the theme must also precede the applied object, as in (13).

- (13) a. Logan Taylor *bíiss-a-ku-k*
 Logan Taylor tell.lie-JUNCT-APPL-DECL
 'Logan lied for Taylor'
 NOT 'Taylor lied for Logan'
- b. Taylor Logan *bíiss-a-ku-k*
 Taylor Logan tell.lie-JUNCT-APPL-DECL
 'Taylor lied for Logan'
 NOT 'Logan lied for Taylor'

- This diagnostic suggests that in applicatives of unaccusatives **the theme is the structurally highest argument**.

3.2 Diagnostic #2: *sapée/sapéen* 'who'

- In Crow, the word *sapée(n)* 'who', which is used to refer to humans, has a nominative-accusative-like distribution.⁸⁹
- The form *sapéen* is used for subjects of all verbs, such as unergatives (14a), unaccusatives (14b), and transitives (14c).¹⁰

⁸⁹The set of *wh*-words in Crow is perhaps better referred to as *s*-words because, as the term suggests, these words all begin with an 's', e.g. *sáape* 'what', *sapée* 'who', *sáapa* 'why', *shóota* 'how', *sáawi* 'how many', *shóo* 'when, where', etc.

⁹⁰The Hidatsa cognate of *-n* (as in *sapéen*) appears to have a wider distribution of use as a topic/focus marker (Boyle 2007) or an ergative marker (Park 2012).

¹⁰The question mark symbol <?> represents a glottal stop [ʔ] (see Graczyk 2007 for a discussion of the orthography of Crow employed here).

- (14) a. **sapéen** *xalússhi-?*
 who.SBJ run-INTERR
 'Who ran?' (Unergative)
- b. **sapéen** *bíissshi-?*
 who.SBJ tell.lie-INTERR
 'Who lied?' (Unaccusative)
- c. **sapéen** Logan *dichí-?*
 who.SBJ Logan hit-INTERR
 'Who hit Logan?' (Transitive)

- To refer to objects of transitive clauses, however, the form *sapée* must be used, as in (15).

- (15) Logan **sapée** *dichí-?*
 Logan who.OBJ hit-INTERR
 'Who did Logan hit?'

- **Two generalizations about *sapéen* and *sapée***:¹¹

- sapéen* must be used to reference the highest DP argument.
- sapée* must be used to reference the lowest DP argument.

- In applicatives of unaccusatives, only *sapéen* can be used to refer to the theme DP argument, as in (16a); if *sapée* instead appears, the construction is considered ill-formed, as in (16b).

- (16) a. **sapéen** Taylor-sh *bíiss-a-ku-?*
 who.SBJ Taylor-DEF tell.lie-JUNCT-APPL-INTERR
 'Who lied for Taylor?'
- b. ***sapée** Taylor-sh *bíiss-a-ku-?*
 who.OBJ Taylor-DEF tell.lie-JUNCT-APPL-INTERR
 Intended: Who lied for Taylor?

- On the other hand, applied arguments must be realized as *sapée*, **not** *sapéen*:

- (17) a. Logan **sapée** *bíiss-a-ku-?*
 Logan who.OBJ tell.lie-JUNCT-APPL-INTERR
 'Who did Logan lie for?'

¹¹In (indirect) causative constructions involving a transitive verb, the *sapéen* must be used for the causer while *sapée* is used for the theme. However, either *sapéen* or *sapée* may be used for the agent.

- b. *Logan **sapéen** bíiss-a-ku-?
 Logan who.SBJ tell.lie-JUNCT-APPL-INTERR
 Intended: ‘Who did Logan lie for?’

• **Results of the *sapéel/sapéen* diagnostic:**

- (a) the highest argument is the theme
 (b) the lowest argument is the applied object

3.3 Diagnostic #3: Incorporation of *baa* ‘indefinite object’

- The Crow morpheme *baa-* is homophonous with first-person A-set, has been referred to as an incorporated indefinite object in the literature by Wallace (1993) and Graczyk (2007).¹²
- In (18a), the transitive contains an overt DP object *xóoxaashe* ‘corn’, which is the structurally lowest DP argument. To render the object generic, a common strategy is to recruit the use of *baa-*, as in (18b).

- (18) a. *xóoxaashe* *baluushí-k*
 corn 1.eat-DECL
 ‘I’m eating corn’
 b. ***baa-****waluushí-k*
 INDEF.OBJ-1.eat-DECL
 ‘I’m eating (something)’

- In applicatives of transitives with *baa-*, only the theme argument – the structurally lowest argument – may be interpreted as non-specific, as in (19a), but not the applied argument, as (19b) shows.

- (19) a. Logan *baa-óossh-b-aa-wa-ku-k*
 Logan INDEF.OBJ-cooked-1A-DIR-CAUS-1A-APPL-DECL
 ‘I’m cooking (something) for Logan’
 b. **xóoxaashe* *baa-óossh-b-aa-wa-ku-k*
 corn INDEF.OBJ-cooked-1A-CAUS-1A-APPL-DECL
 Intended: I’m cooking corn for people

¹²According to Marsault (2019:53), across all Siouan languages, the prefix *baa-* has been described in a variety of ways: “valence-decreasing” (Boyle 2009), “detransitivizing” (Hartman 2015:1270), “absolute” (Carter et al. 2006:928), “indefinite object marker” (Ullrich 2008:735), and “unspecified argument” (Kasak 2019:231).

- **Generalization of *baa-*:** In structures with more than one argument, *baa-* references the lowest DP argument.¹³
- In applicatives of unergatives and unaccusatives with *baa-*, as in (20a) and (20b), the non-specific argument is the applied object.

- (20) a. ***Applicative of unergative***
baa-waa-waláxx-ba-ku-k
 AP-1A-sing-1A-APPL-DECL
 ‘I sing for people (e.g. a crowd)’
 b. ***Applicative of unaccusative***
baa-wíiss-a-wa-ku-k
 AP-tell.lie-JUNCT-1A-APPL-DECL
 ‘I lie for people’

- Applicatives of unaccusatives involving *baa-* suggest that **the lowest argument is the applied object** – theme DP arguments in these constructions can never be interpreted as indefinite via *baa-*.

3.4 Summary

- The three tests suggest that in applicatives of unaccusatives, the theme DP is structurally highest argument and the applied DP is the structurally lowest DP. The results of these tests are given in Table 1.

DIAGNOSTIC	OBSERVATION
Word order <i>sapé(e)n</i> ‘who’ Incorporated <i>baa</i>	theme DPs must precede applied DPs <i>sapéen</i> = theme DPs, <i>sapé(e)</i> = applied DPs <i>baa</i> may only refer to applied DPs

Table 1: Summary of diagnostics for applicatives of unaccusatives

- Adopting UTAH, I interpret these results as suggesting that the theme DP undergoes A-movement into a structurally higher position – namely, Spec*v*P.

¹³Graczyk (2007:48) also describes *baa-* as an “indefinite nominalizer.” When *baa-* attaches to an unaccusative verb, it derives a noun (e.g. *baa- + chíkua* > *baachíkua* ‘sugar’).

4 Feeding agreement: An anti-locality-based account

- Consider again the simple unaccusative and the applicative of unaccusative, which are given in (21a) and (21b).
 - B-set agreement marks the theme in an unaccusative, but A-set marks the theme in an applicative of unaccusative.

(21) a. **Unaccusative**

bii-wiisshi-k
1B-tell.lie-DECL
'I lied'

b. **Applicative of unaccusative**

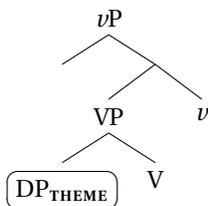
dii-wiissa-a-wa-ku-k
2B-tell.lie-JUNCT-1A-APPL-DECL
'I lied for you'

• **Proposal for the agreement asymmetry:**

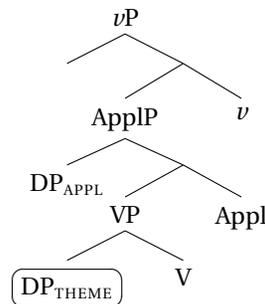
- In simple unaccusative constructions, the theme arguments remain in-situ and receive B-set marking via a probe on ν .
- In applicatives of unaccusatives, the theme arguments move to Spec, ν P and receive A-set marking via a probe on Asp.

• The structural configurations of (21a) and (21b) before movement are given in (22a) and (22b), respectively. In both constructions, the theme DP arguments are generated in the same position – Spec,VP.

(22) a. **Unaccusative**



b. **Applicative of unaccusative**



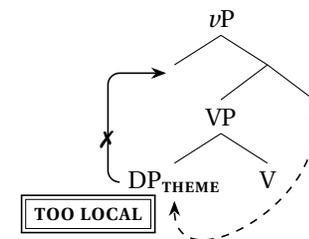
- To account for these A-movement asymmetries, I adopt the Deal's (2019:408) revised version of Erlewine's (2016:445) original formulation of Spec-to-Spec anti-locality, given in (23).

(23) **Generalized Spec-to-Spec anti-locality:** Movement of a phrase from the Specifier of XP must cross a maximal projection other than XP.

(24) **Definition of crossing:** Movement from position α to position β crosses γ if and only if γ dominates α but does not dominate β .

- The derivation for unaccusatives, as illustrated in (25), is as follows:

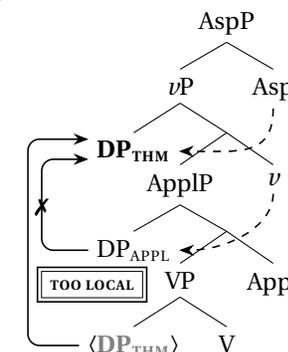
- The theme DP is unable to move to Spec, ν P due to an anti-locality constraint in Crow.
- ν agrees with the theme and results in B-set marking.



- In unaccusatives, theme arguments are unable to move to Spec, ν P and ultimately receives B-set marking to reference the subject.

- The derivation for applicatives of unaccusatives (26) is as follows:

- The applied object cannot move to Spec, ν P; movement out of ApplP is too local.
- Instead, the theme DP moves to Spec, ν P crossing over ApplP.
- Asp agrees with the theme DP and ν agrees with the applied object, which results in A- and B-set marking, respectively.



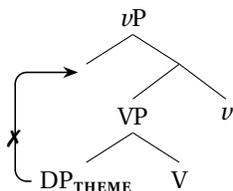
- In applicatives of unaccusatives, the theme raises over the applied object and receives A-set marking.¹⁴

¹⁴As Baier (2017), Deal (2019), and Erlewine (2020) note, a solution based on anti-locality is inherently 'fragile' as a change in the number of intervening projections can determine whether movement can or cannot take place. That said, I am not aware of any projections between ApplP and ν P in Crow, although a logical next step would be to investigate the class of so-called aspectual auxiliaries in Crow (see Travis 2010).

5 Alternative proposals

- Restrictions on applicative arguments to undergo A-movement:
 - ◊ **Inherent Case:** The applied object receives inherent Case and is ineligible for movement (McGinnis 1995, 1998a, 1998b, Cuervo 2003, McFadden 2004, 2006, Woolford 2006, a.o.).
 - ◊ **Applicative arguments as PPs:** Applied arguments are PPs which prohibits them from undergoing A-movement (Baker 2014:367).
- However, these two accounts are unable to account for the inability of theme arguments to undergo movement in simple unaccusatives:

(27)



- Thus, an anti-locality account provides an explanation for why themes move to Spec ν P in applicatives of unaccusatives, but not in simple unaccusatives.

6 Conclusion

- **Core observations of applicatives of unaccusatives:**
 - (i) A-set, and not B-set marking, is used to cross-reference the theme
 - (ii) the theme is structurally higher than the applicative argument
- **Proposal:** The theme moves over the applied object to Spec, ν P; the applied object does not undergo movement due to a ban on “too close” movement.
 - ◊ Movement of the theme into Spec, ν P feeds A-set agreement.
- **Implications:** Although discussions on the anti-locality constraint have focused on \bar{A} -movement, Crow represents another case in which **A-movement also exhibits anti-locality effects.**
 - ◊ Obtaining a fuller picture of the lower bounds of A/ \bar{A} -movement across different languages.
 - ◊ Reducing the gap between A/ \bar{A} -movement (see van Urk 2015).

Acknowledgments

First of all, I would like to thank all my friends in Crow country, especially Felice Big Day, Cyle Old Elk, Jack Real Bird, Alma Real Bird, Riley Singer, and Charles Yarlott Jr., for their patience and hospitality, and for sharing their beautiful language and culture with me. Thanks also to Amy Rose Deal, Line Mikkelsen, and Tyler Lemon for their insightful comments on various stages of this work. As always, all errors are my own.

References

- Abels, K. (2003). *Successive cyclicity, anti-locality, and adposition stranding*. PhD thesis, University of Connecticut, Storrs, CT.
- Amaechi, M. and Georgi, D. (2019). Quirks of subject (non-) extraction in Igbo. *Glossa: a journal of general linguistics*, 4(1).
- Baier, N. (2017). Antilocality and antiagreement. *Linguistic Inquiry*, 48(2):367–377.
- Baker, M. C. (1988). Incorporation: A theory of grammatical function changing.
- Baker, M. C. (1997). Thematic roles and syntactic structure. In *Elements of grammar*, pages 73–137. Springer.
- Baker, M. C. (2014). On dependent ergative case (in Shipibo) and its derivation by phase. *Linguistic Inquiry*, 45(3):341–379.
- Bošković, Ž. (2016). On the timing of labeling: Deducing comp-trace effects, the subject condition, the adjunct condition, and tucking in from labeling. *The Linguistic Review*, 33(1):17–66.
- Boyle, J. P. (2007). *Hidatsa morpho-syntax and clause structure*. Ph.D. dissertation, The University of Chicago.
- Boyle, J. P. (2009). The [*wa-] prefix in the Siouan languages. Paper presented at the Comparative Siouan Syntax Workshop in Lincoln, NE.
- Brillman, R. and Hirsch, A. (2016). An anti-locality account of English subject/non-subject asymmetries. In *Proceedings from the 50th Annual Meeting of the Chicago Linguistic Society*. Chicago, IL.
- Cuervo, M. C. (2003). *Datives at large*. PhD thesis, MIT, Cambridge, MA.

- Deal, A. R. (2009). The origin and content of expletives: Evidence from “selection”. *Syntax*, 12(4):285–323.
- Deal, A. R. (2019). Raising to ergative: Remarks on applicatives of unaccusatives. *Linguistic Inquiry*, 50(2):388–415.
- Douglas, J. (2017). Unifying the that-trace and anti-that-trace effects. *Glossa: A Journal of General Linguistics*, 2(1).
- Erlewine, M. Y. (2014). Anti-locality and Kaqchikel agent focus. In *West Coast Conference on Formal Linguistics (WCCFL)*, volume 31, pages 150–159.
- Erlewine, M. Y. (2016). Anti-locality and optimality in Kaqchikel agent focus. *Natural Language & Linguistic Theory*, 34(2):429–479.
- Erlewine, M. Y. (2020). Anti-locality and subject extraction. *Glossa: a journal of general linguistics*, 5(1).
- Graczyk, R. (2007). *A grammar of Crow*. University of Nebraska Press.
- Grohmann, K. K. (2003). *Prolific domains: On the anti-locality of movement dependencies*, volume 66. John Benjamins Publishing.
- Grohmann, K. K. (2011). Anti-locality: Too-close relations in grammar. *The Oxford handbook of linguistic minimalism*, 260:290.
- Hartmann, I. (2015). 30 Valency Classes in Hooc̣ak (Ho-Chunk). *Valency Classes in the World's Languages*, 2:1245–1291.
- Issah, S. A. and Smith, P. W. (2020). Subject and non-subject ex-situ focus in dagbani. *Glossa: a journal of general linguistics*, 5(1).
- Kasak, R. (2019). *Affix ordering and templatic morphology in Mandan*. Ph.D. dissertation, Yale University.
- Ko, E. (2019). Unaccusativity in crow. In *Proceedings of the 40th Siouan and Caddoan Languages Conference*, page 83.
- Legate, J. A. (2003). Some interface properties of the phase. *Linguistic inquiry*, 34(3):506–515.
- Marsault, J. (2019). Functions of the prefix wa in Umoⁿhoⁿ. In *Proceedings of the 40th Siouan and Caddoan Languages Conference*, page 53.
- McFadden, T. (2004). The position of morphological case in the derivation. *PhD diss., University of Pennsylvania*.
- McFadden, T. (2006). German inherent datives and argument structure. *Datives and other cases: Between argument structure and event structure*, 75:49–77.
- McGinnis, M. (1995). Projection and position: Evidence from Georgian. In João Costa, R. G. and van der Vijver, R., editors, *Proceedings of ConSole IV*, pages 203–220. HIL, Leiden.
- McGinnis, M. (1998a). Case and locality in L-syntax: Evidence from Georgian. In Tamanji and Kusumoto, K., editors, *Proceedings of NELS 28*. University of Massachusetts, Amherst: GLSA Publications.
- McGinnis, M. (1998b). Locality and inert case. In Tamanji and Kusumoto, K., editors, *Proceedings of NELS 28*. University of Massachusetts, Amherst: GLSA Publications.
- Park, I. (2012). *A grammar of Hidatsa*. Ph.D. dissertation, Indiana University.
- Polinsky, M. (2017). Antipassive. In Jessica Coon, D. M. and Travis, L., editors, *The Oxford handbook of ergativity*. Oxford University Press.
- Pylkkanen, L. (2002). *Introducing Arguments*. PhD thesis, MIT, Cambridge, MA.
- Pylkkänen, L. (2008). *Introducing Arguments*, volume 49. MIT press.
- Richard Carter, Wesley Jones, R. R. J. K. and Rood, D. (2006). Comparative Siouan Dictionary. Unpublished database.
- Travis, L. d. (2010). *Inner aspect*. Springer.
- Ullrich, J. F. (2008). *New Lakota dictionary: Lakótiyapi-English, English-Lakótiyapi & incorporating the Dakota dialects of Yankton-Yanktonai & Santee-Sisseton*. Lakota Language Consortium Inc.
- Van Urk, C. (2015). *A uniform syntax for phrasal movement: A case study of Dinka Bor*. PhD thesis, MIT, Cambridge, MA.
- Wallace, K. K. (1993). *Verb incorporation and agreement in Crow*. Ph.D. dissertation, University of California, Los Angeles.
- Woolford, E. (2006). Lexical case, inherent case, and argument structure. *Linguistic inquiry*, 37(1):111–130.