Deriving Partial Anti-Agreement*

Nico Baier (nbbaier@berkeley.edu) – LSA Annual Meeting, January 8th, 2016

1 Introduction

- In many languages, the normal pattern of ϕ-agreement with an argument in a specific position (usually a subject) is disrupted when that argument is involved in an Ā-dependency.
- A canonical example of this effect comes from Tarifit Berber (Ouhalla 1993):[1]

(1) t-zra tamghart Mohand
3SG.F-see woman Mohand
'The woman saw Mohand?'

(2) a. man tamghart$_i$ ay yzrin $\__i$ Mohand
which woman C_{foc} see.PART Mohand
'Which woman saw Mohand?'

b. * man tamghart$_i$ ay t-zra $\__i$ Mohand
which woman C_{foc} 3SG.F-see Mohand
'Which woman saw Mohand?'

- Since Ouhalla (1993), this phenomenon the has been dubbed the 'anti-agreement effect' (I'll just call it anti-agreement).
- Anti-agreement is found in a wide variety of languages, but there is little consensus about the theoretical principles that rule out agreement in (2a).
  - ▷ I'll have little to say about the principles that determine which argument(s) is affected by anti-agreement in a given language.
- Rather, I'll be concerned with the *patterns of feature neutralization* exhibited by anti-agreement cross-linguistically.
- I'll show that there are only three such patterns attested and that these patterns emerge from the interaction of two principles:
  - ▷ Agreement features in anti-agreement contexts are always a proper subset of normal agreement features.
  - ▷ There is an implicational hierarchy requiring that PERSON agreement be neutralized before GENDER agreement and before NUMBER agreement.
- I sketch a novel analysis of anti-agreement as agreement with a *ϕ-deficient resumptive pronoun* (Adger and Ramchand 2005, Adger 2011).
  - ▷ I show that the structural analysis of pronouns in Adger (2011) immediately derives the limited number of feature neutralization patterns.

*I thank Line Mikkelsen, Peter Jenks, David Pesetsky, Norvin Richards, Kenyon Branan, and Carrie Spadine for their feedback and discussion while working on this analysis. Any mistakes are my own!

[1] Abbreviations used in this handout are: 1 = 1st person; 2 = 2nd person; 3 = 3rd person; AAE = anti-agreement; c1 = class 1 (Bantu); c3 = class 3 (Bantu); c7 = class 7 (Bantu); DEM = demonstrative; DEM = determiner; DV = default vowel (Seereer); EXT = extraction (Seereer); FOC = focus; F = feminine; M = masculine; PART = participle; PL = plural; PST = past; REL = relative; SG = singular.

2 Full vs. Partial Anti-Agreement

- Anti-agreement involves the neutralization of (at least some of) the ϕ-feature contrasts expressed by agreement in declarative contexts.

(3) **Feature Neutralization**:
A feature X has been *neutralized* when X is expressed by a morphological paradigm in some baseline context α but is not expressed in another context β.

	SG	PL
1	A	B
2	C	D
3	E	F

Table 1: 2 Features

	SG	PL
1	E	F
2	E	F
3	E	F

Table 2: 1 Features

	SG	PL
1	E	E
2	E	E
3	E	E

Table 3: No features

▷ The paradigm in table 1 expresses two features: PERSON and NUMBER.
▷ The paradigm in table 2 neutralizes **one** feature: PERSON.
▷ The paradigm in table 3 neutralizes **two** features: PERSON and NUMBER.

- It has been previously observed in the literature that anti-agreement always neutralizes PERSON agreement, while NUMBER and GENDER agreement may be retained in some languages (Henderson 2009, 2013; Diercks 2010; Ouhalla 2005).

- For example, anti-agreement in Tarifit Berber neutralizes PERSON/GENDER/NUMBER agreement, (4a), whereas in Tashlhit Berber, NUMBER is retained, (4b):

(4) **Tarifit vs. Tashlhit**
a. shek$_i$ ay iuggur-[n] $\_i$
you.SG.M C_{FOC} leave-PART
'You are the one who left.' (Tarifit; Ouhalla 2005:675)
b. irgazn$_i$ nna ffegh-[n-*(in)] $\_i$
men C_{REL} left-PART-PL
'the men who left.' (Tashlhit; Chafiq 1990:123)

- Feature neutralization under anti-agreement is constrained in two ways, shown in (5) and (6):

(5) **The Feature Subset Generalization**:
The ϕ-features expressed in an anti-agreement context are always a proper subset of the ϕ-features expressed in a full agreement context.

(6) **Feature Neutralization Hierarchy**:
There is an implicational hierarchy governing how features are neutralized under anti-agreement:
a. PERSON $\gg$ GENDER $\gg$ NUMBER

- The interaction of these principles yields the three patterns given in table 4:

	Agreement Features			Anti-Agreement Features		
	PERSON	GENDER	NUMBER	PERSON	GENDER	NUMBER
Pattern 1	✓	(✓)	✓			
Pattern 2	✓	(✓)	✓			✓
Pattern 3	✓	✓	✓		✓	✓

Table 4: Feature Neutralization Patterns

- These patterns are the only ones present in a cross-linguistic survey of 30 languages exhibiting anti-agreement (see Baier 2014 for details). This generalization has not previously been noted in the literature.
  - ▷ I refer to pattern 1 as *full anti-agreement*.
  - ▷ I refer to patterns 2 and 3 as *partial anti-agreement*.
- Any sufficient theory of anti-agreement must be able to explain why the Feature Subset Generalization, (5), and the Feature Neutralization Hierarchy, (6), hold cross-linguistically.

2.1 Pattern 1: Full Anti-Agreement

- The majority of languages in my survey exhibit *full anti-agreement*: all agreement features are neutralized in anti-agreement contexts.
- For example, in Gawwada (Cushitic; Ethiopia), subject focus forces the verb to appear in a default 3SG masculine form and blocks the appearance of a preverbal subject clitic:

(7) **Gawwada: Subject focus requires default agreement** (Tosco 2007)

a. (áto) aʕ=ʕúg-tí
2SG.PRO 2=drink-PFV.2SG
'You drank.'

b. áto$_{FOC}$ ʕúg-í
2SG.PRO drink-PFV.3SG.M
'You$_{FOC}$ drank.'

- Likewise, in the northern Italian dialect Fiorentino, subject extraction requires default subject inflection:

(8) **Fiorentino: No agreement with *wh*-subjects** (Brandi and Cordin 1989)

a. Quante ragazze **gl'** **ha** parlato con te
how.many girls **3SG** have.**3SG** spoken with you
'How many girls have spoken to you?' ✓ Default agreement

b. * Quante ragazze **l'** **hanno** parlato con te
how.many girls **3PL** have.**3PL** spoken with you
'How many girls have spoken to you?' ✗ Full agreement

2.2 Patterns 2 and 3: Partial Anti-Agreement

- As we saw in table 4 above, there are two patterns of *partial anti-agreement*.
  - ▷ In pattern 2, PERSON and GENDER agreement (if present) are neutralized; NUMBER remains.

▷ In pattern 3, only PERSON agreement is neutralized; GENDER and NUMBER remain.

- In Seereer (Atlantic; Senegal), anti-agreement leaves NUMBER agreement intact, while neutralizing PERSON distinctions (Baier, field notes 2014):

(9) **Seereer: Declarative agreement**

a. (mi) jaw-a-am ñaamel ke
1SG.PRO cook-DV-1SG food DET
I cooked the food'

b. (in) nu-**njaw**-a ñaamel ke
1PL.PRO 1PL-cook.PL-DV food DET
We cooked the food'

(10) **Seereer: Subject focus triggers anti-agreement**

a. **mi**$_{\text{FOC}}$ jaw-u ñaamel ke
1SG.PRO cook-EXT food DET
It's me who cooked the food'

b. **in**$_{\text{FOC}}$ **njaw**-u / *jaw-u ñaamel ke
1PL.PRO cook.PL-EXT / cook-EXT food DET
It's us who cooked the food'

▷ Full agreement involves a PERSON/NUMBER prefix and consonant mutation of the initial consonant of the verb stem when there is a plural subject, as in (9b).

▷ When the subject is focused, the agreement prefix disappears, but NUMBER mutation remains, as in (10b).

- This pattern is also attested in the following languages:

▷ Berber: Tashlhit and Tamazight (Ouhalla 2005)

▷ Arawakan: Matsigenka, Caquinte, and Nanti (Lev Michael and Zachary O'Hagan, p.c.)

▷ Dogon: Ben Tey (Heath 2013)

▷ Yimas (Phillips 1993)

- Pattern 3 partial anti-agreement is attested in at least one Berber language and Bantu languages with anti-agreement.

- In Tahaggart Berber, the participle is inflected for GENDER and NUMBER of the extracted subject. For example, the Tahaggart participle of 'steal' has three forms:

(11) **Tahaggart participial inflection** (Reesink 1979:277)

a. *y-ukər-ən* SG.M-steal-PART

b. *t-ukər-ət* SG.F-steal-PART.F

c. *ukər-n-in* steal-PART-PL

- Henderson (2009, 2013) and Diercks (2009, 2010) have argued that anti-agreement in Bantu suppresses the feature PERSON, while leaving other ϕ-features, GENDER and NUMBER, intact.

- In Lubukusu, extraction of a class 1 subject requires replacement of the normal subject marker *a-* with the morpheme *o-* (here realized as [w]):

(12) **Lubukusu: Cl1 triggers alternative agreement prefix** (Diercks 2010)

a. o-mwa-ana a-a-tim-a
c1-c1-child c1SBJ-PST-run-FV
'The child ran.'

b. naanu o-w-a-tim-a
c1who c1REL-AAE-PST-run-FV
'The child ran.'

(13) **Lubukusu: Person distinctions leveled** (Diercks 2010)

a. Nise o-w-onak-e kumulyango kuno
1sg c1REL-AAE-damage-PST c3-c3-door c3-DEM
It is I who damaged the door'

b. Niwe o-w-onak-e kumulyango kuno
2sg 1C-AAE-damage-PST c3-c3-door c3-DEM
It is you(SG) who damaged the door'

(14) **Lubukusu: Cl7 subjects don't change** (Diercks 2010)

a. si-si-indu sy-a-kwa
c7-c7-thing c7SBJ-PST-fall
'The thing fell.'

b. si-si-indu si-sy-a-kwa
c7-c7-thing c7REL-7SBJ-PST-fall
'the thing which fell'

- Diercks (2010) argues that anti-agreement in Lubukusu prevents agreement for PERSON, while leaving GENDER and NUMBER agreement intact.

  ▷ This neutralizes the difference between class 1 subjects and participants, while leaving other classes intact.

- If this analysis of Bantu anti-agreement is on the right track, then this is an example of pattern 3 feature neutralization: only PERSON is affected.

3 Sketching an Analysis

- Recall that there are two principles that constrain ϕ-feature neutralization in anti-agreement contexts.

(15) **The Feature Subset Generalization**:
The ϕ-features expressed in an anti-agreement context are always a proper subset of the ϕ-features expressed in a full agreement context.

(16) **Feature Neutralization Hierarchy**:
Person $\gg$ Gender $\gg$ Number

- In this section, I will sketch an analysis that derives these two principles from the mechanism underlying anti-agreement.

3.1 Adger and Ramchand (2005)

- My analysis builds off work by Adger and Ramchand (2005) (henceforth A&R), who develop a theory of Ā-dependencies in which they may be formed by movement or by base generation.
  - ▷ In the later case, a resumptive pronoun occupies the base position of the dependency.
- Contra traditional wisdom, A&R argue that locality effects are not the crucial diagnostic as to whether an Ā-dependency is derived by movement
- A&R develop a theory in which base generated dependencies are mediated by the operation Agree (Chomsky 2000, 2001).
  - ▷ They argue that Merge and Agree are subject to the same locality conditions.
  - ▷ Therefore, there should be no difference in the locality effects exhibited by the movement-based and resumptive-based Ā-strategies.
- Instead, they argue that *identity effects* are the key indicator of movement.
  - ▷ Such effects arise in a movement derived dependency; movement leaves an *exact copy* of the displaced constituent in the apparent gap (Corver and Nunes 2007; Nunes 1995).
  - ▷ Obligatory differences between the apparent gap position and the displaced constituent indicate that the gap cannot be occupied by an exact copy.
  - ▷ In these cases, A&R argue, the base position is occupied by a resumptive pronoun.
- The core intuition of my account of anti-agreement builds off this line of thought:

Core Intuition

Anti-agreement is an *anti-identity* effect. Anti-agreement occurs when the base position of an Ā-dependency is occupied by a resumptive pronoun lacking some or all ϕ-features.

3.2 Adger's (2011) Bare Resumptive Pronouns

- Adger (2011) discusses a class of resumptive pronouns that lack at least the ϕ-feature PERSON, and that may also lack GENDER and NUMBER.
  - ▷ Adger dubs these items *bare resumptive pronouns*.
  - ▷ He shows that they may be null or overt.
- Adger shows that bare resumptive pronouns are subject to island constraints that resumptive pronouns with a full ϕ-feature specification are not.
- For example, in São Tomense Creole, a plural relativized noun is resumed by a singular pronoun; a plural pronoun is impossible (Hagemeijer 2000):

(17) Inen faka se ku n va mpon ku-[e] / *ku-[inen]
3PL knife DEM C_{REL} 1SG cut bread with-3SG / with-3PL
'these knives that I cut the bread with'

  - ▷ The pattern is reversed when the resumptive pronoun is found within an adjunct island, (18):

(18) Inen migu se ku bo che di fesa [$_{CP}$ se fla ku-**inen** / *ku-**e**]
3PL friends DEM C_{REL} 2SG leave of party without talk with-3PL / with-3SG
*'The friends that you left the party without talking to are here.'

- While bare resumptives are always invariant with regard to PERSON, in some languages they vary for NUMBER. One such language is Nupe (Kandybowicz 2007).

  ▷ Ā-extraction from subject position in Nupe requires a resumptive pronoun that matches its antecedent in NUMBER but not PERSON:

(19) **Nupe: 1sg/2sg subject resumed by 3sg** (Kandybowicz 2007:134)
a. **Mi** Musa gàn [$_{CP}$ gànán **u:/*mi:** pa eci] o.
1SG Musa say C 3SG/*1SG pound yam FOC
'Musa said that I pounded the yam.'
b. **Wo**: Musa gàn [$_{CP}$ gànán **u:/*wo:** pa eci] o.
2SG Musa say C 3SG/2SG pound yam FOC
'Musa said that YOU pounded the yam.'

(20) **Nupe: 1pl/2pl subject resumed by 3pl** (Kandybowicz 2007:134)
a. **Yi:** Musa gàn [$_{CP}$ gànán **a:/*yi:/*u:** pa eci] o.
1PL Musa say C 3PL/*1PL/*3SG pound yam FOC
'Musa said that WE pounded the yam.'
b. **Ye**: Musa gàn [$_{CP}$ gànán **a:/*ye:/*u:** pa eci] o.
2SG Musa say C 3PL/*2PL/*3SG pound yam FOC
'Musa said that YOU pounded the yam.'

  ▷ Nupe bare resumptive pronouns are island sensitive, like those in São Tomense:

(21) **Nupe: Bare resumptive cannot occur inside an island** (Kandybowicz 2007:132)
a. * **Zě** Musa kpe [$_{CP}$ ké **u:** si] o
who Musa know what 3SG buy FOC
'Who does Musa know what bought?'

- Adger argues that bare resumptive pronouns are the same as the resumptive pronouns discussed in Adger and Ramchand (2005).
- There is a key similarity between bare resumptives and anti-agreement:

Bare Resumptives and Anti-Agreement

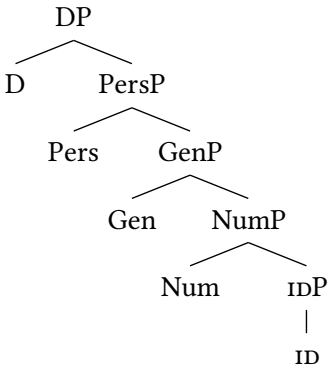
The implicational relationship between PERSON and NUMBER is the same for bare resumptives and anti-agreement: NUMBER cannot be neutralized to the exclusion of PERSON.

- I now build on this similarity, showing that the structure that Adger (2011) adopts for pronouns (and bare resumptives) derives the two constraints on feature neutralization under anti-agreement.

3.3 Deriving the Patterns

- Adger (2011) assumes that pronouns are not simply D-heads, but decompose into several projections (cf. Déchaine and Wiltschko 2002, Moskal 2015).
- Specifically, he proposes that a referential pronoun has the structure in (25):

(22) **Referential Pronoun**:



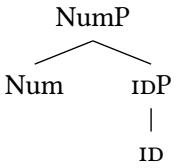
  - ▷ The core of a pronoun is a variable introduced by a syntactic feature ID (cf. Adger and Ramchand 2005).
  - ▷ This feature merges with ϕ-feature introducing projections: NumP introduces NUMBER; GenP introduces GENDER; and PersP introduces PERSON.
  - ▷ Finally, a DP is merged with PersP.

- Adger contends that D can select only PersP in pronouns and that the island sensitivity of bare resumptives results from the lack of a DP layer.[2]
  - ▷ Thus, any pronoun lacking PERSON will be sensitive to islands (i.e. a bare resumptive).
  - ▷ Note: This relationship is unidirectional; Adger's theory predicts that it is possible to have a island sensitive resumptive pronoun with a full ϕ-feature specification.

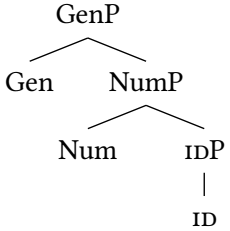
- I propose that anti-agreement results from agreement with a (bare) resumptive pronoun lacking at least PERSON. The three feature neutralization patterns are derived through agreement with various 'sizes' of pronoun:

(23) **Pattern 1 (full anti-agreement)**:

(24) **Pattern 2 (partial anti-agreement)**:



(25) **Pattern 3 (partial anti-agreement)**:



[2] Adger argues that the PERSON-feature introduced by the PersP layer is responsible for mapping the ID-feature to a set of individuals and the D is only capable of composing with individuals. See Adger (2011) for details and discussion.

- The arrangement of the three ϕ-feature introducing projections derives both constraints on ϕ-feature neutralization.
- The Feature Neutralization Hierarchy (see 16, above) is derived the containment relationships between PersP, GenP, and NumP.
  - ▷ PersP cannot be merged without merging GenP and NumP.
  - ▷ GenP cannot be merged without merging NumP.
  - ▷ Thus, GENDER can never be retained when NUMBER is deleted. The same goes for PERSON.
- The Feature Subset Generalization (see 15, above) is derived by the fact that, in a given language, a bare resumptive pronoun can include only ϕ-features that full referential pronouns also include.
  - ▷ That is, a bare resumptive can never 'add' a feature not already present in a referential pronoun.
  - ▷ This is because bare resumptives under Adger's theory are simply pronouns lacking a D-layer.
- Supporting evidence that anti-agreement results from agreement with a island sensitive resumptive pronoun comes from the fact that in Tarifit Berber, anti-agreement displays island sensitivity:

(26) **Tarifit Berber: no anti-agreement in island** (Shlonsky 2014:75)

a. **Man tafruxt**$_i$ ay t-ttu-t [$_{CP}$ mani t-zdegh _i] ?
which girl C_{FOC} 2PL-forgot-2PL where sc 3sg.f-live
'Which girl have you forgotten where she lives?'

- ▷ In (26), the apparent subject gap is found inside an adjunct island.
- ▷ Under my analysis, this gap must be a null resumptive pronoun containing a D-layer, and therefore a full specification of ϕ-features.

- The island sensitivity of anti-agreement is confirmed for languages in my sample where I have sufficient data.
- Note that this account makes no prediction about which arguments will be affected by anti-agreement in a given language.
  - ▷ Previous literature on anti-agreement has treated the effect as a subject-object extraction asymmetry.
  - ▷ This does not immediately follow from my analysis. This is therefore an area for further study.

4 Conclusion

- In this talk, I've shown that there are limited number of ϕ-feature neutralization patterns in anti-agreement contexts attested cross-linguistically, repeated here in table 5:

	Agreement Features			Anti-Agreement Features		
	PERSON	GENDER	NUMBER	PERSON	GENDER	NUMBER
Pattern 1	✓	(✓)	✓			
Pattern 2	✓	(✓)	✓			✓
Pattern 3	✓	✓	✓		✓	✓

Table 5: Feature Neutralization Patterns

- I've observed that these three patterns emerge from the interaction of two principles:

(27) **The Feature Subset Generalization**:
The ϕ-features expressed in an anti-agreement context are always a proper subset of the ϕ-features expressed in a full agreement context.

(28) **Feature Neutralization Hierarchy**:
Person $\gg$ Gender $\gg$ Number

- I've argued that (27) and (28) follow directly from a theory of anti-agreement in which the effect results from agreement with a ϕ-deficient resumptive pronoun of the type argued for by Adger and Ramchand (2005) and Adger (2011).

- In addition, my proposal adds to the growing literature showing that implicational generalizations/relationships can be derived through hierarchical relationships between syntactic terminals (cf. Bobaljik 2012, Caha 2009, Moskal 2015, a.o.)

References

Adger, David. 2011. Bare Resumptives. In *Resumptive Pronouns at the Interfaces*, ed. Alain Rouveret, 343–366. John Benjamins Publishing Company.

Adger, David, and Gillian Ramchand. 2005. Merge and move: *Wh*-dependencies revisited. *Linguistic Inquiry* 36:161–193.

Baier, Nico. 2014. A survey of anti-agreement effects. Ms.

Bobaljik, Jonathan. 2012. *Universals in Comparative Morphology: Suppletion, Superlatives, and the Structure of Words*. MIT Press.

Brandi, Luciana, and Patrizia Cordin. 1989. Two italian dialects and the null-subject parameter. *Natural Language and Linguistic Theory* .

Caha, Pavel. 2009. The Nanosyntax of Case. Doctoral Dissertation, University of Tromsø.

Chafiq, Mohamed. 1990. *44 lessons in the tamazight language*. Arab-Africa Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka, 89–156. MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in linguistics*, ed. Michael Kenstowicz, 1–52. Cambridge, Massachusetts: MIT Press.

Corver, Norbert, and Jairo Nunes. 2007. *The copy theory of movement*. John Benjamins.

Déchaine, Rose-Marie, and Martina Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33:409–442.

Diercks, Michael. 2009. Subject extraction and (so-called) anti-agreement effects in lubukusu: A criterial freezing approach. In *CLS 45*.

Diercks, Michael. 2010. Agreement with Subjects in Lubukusu. Doctoral Dissertation, Georgetown University.

Hagemeijer, Tjerk. 2000. Serial Verb Constructions in São Tomense. Master's thesis, University of Lisbon.

Heath, Jeffrey. 2013. A Grammar of the Dogon of Beni. Ms.

Henderson, Brent. 2009. Anti-agreement and [person] in bantu. In *Selected Proceedings of the 38th Annual Conference on African linguistics*, ed. Masangu Matondo, Fiona McLaughlin, and Eric Potsdam, 173–181.

Henderson, Brent. 2013. Agreement and person in anti-agreement. *Natural Language and Linguistic Theory* 31:453–481.

Kandybowicz, Jason. 2007. *The grammar of repetition: Nupe grammar at the syntax-phonology interface*. John Benjamins.

Moskal, Beata. 2015. Limits on Allomorphy: A Case Study in Nominal Suppletion. *Linguistic Inquiry* 46:363–376.

Nunes, Jairo. 1995. The copy theory of movement and linearization of chains in the Minimalist Program. Doctoral Dissertation, University of Maryland.

Ouhalla, Jamal. 1993. Subject-extraction, negation and the anti-agreement effect. *Natural Language and Linguistic Theory* 11:477–518.

Ouhalla, Jamal. 2005. Agreement features, agreement and antiagreement. *Natural Language and Linguistic Theory* 23:655–686.

Phillips, Colin. 1993. Conditions on Agreement in Yimas. In *Papers on Case and Agreement I*, ed. Jonathan Bobaljik and Colin Phillips, volume 18 of *MITWPL*, 173–213.

Reesink, Pieter. 1979. Problèmes de Détermination en indo-européen, principalement dans le germanique de l'ouest et dans une langue chamito-sémitique. Ms.

Shlonsky, Ur. 2014. Subject positions, Subject Extraction, EPP, and the Subject Criterion. In *Locality*, ed. Enoch Oladé Aboh, Maria Teresa Guasti, and Ian Roberts. Oxford University Press.

Tosco, Mauro. 2007. Gawwada Morphology. In *Morphologies of Asia and Africa*, ed. Alan S. Kaye, volume 2. Eisenbrauns.