1 Morphological reflexes of syntactic movement

In many languages, A-bar movement in the syntax is reflected in alternations in the morphology. In Bantu languages, these alternations come in three types.

1.1 Type 1: Replacement (anti-agreement)
(Boeckx 2003; Cheng 2006; Diercks 2009; Henderson 2009a,b; Richards 2001; Schneider-Zioga 2007)

- Extraction of an argument blocks canonical subject/verb agreement.
- In place of the canonical verbal subject agreement marker appears an agreement marker that is comparatively lacking in features.

(1) Anti-agreement under subject relativisation

a. No extraction: canonical subject agreement appears

<table>
<thead>
<tr>
<th>Bemba</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>umulumendo a-ka-belenga ibuku</td>
<td>‘the boy who will read the book.’</td>
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b. Subject extraction: anti-agreement appears

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c. Subject extraction: canonical subject agreement blocked

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1.2 Type 2: Deletion

In most Bantu languages, anti-agreement only occurs with local extraction of a class 1 subject.

(2) Deletion of floating extra-low tone under subject wh-movement

a. No extraction: floating extra-low tone affects post-verbal tonology

<table>
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<tr>
<th>Kikuyu</th>
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<td>Kamaú ɛ́ːꜜr-írɛ́</td>
<td>‘Kamaú told Kariuki that Kariuki cut the tree.’</td>
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b. Subject wh-question: floating extra-low tone disappears

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<td>Nó-o Kámaú ɛ́ːꜜr-írɛ́</td>
<td>‘Who did Kamaú tell Kariuki cut the tree?’</td>
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1.3 Type 3: Addition (wh-agreement)

(2) Deletion of floating extra-low tone under subject wh-movement

a. No extraction: floating extra-low tone affects post-verbal tonology

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1.4 Presence or absence of a feature?

Within generative syntactic theory, a traditional view of movement is that it is triggered by the presence of some feature of the probe (a strong feature, an EPP feature, etc.). Under that view, extraction morphology may be analyzed as the realization of this movement-triggering feature (e.g., Sabel 2000; Reintjes et al. 2006).
On the basis of extraction morphology patterns of types 1 and 2, Lahne (2008) presents an alternative account whereby the movement-triggering feature is obligatorily deleted from the probe once it has done its job. Extraction morphology then reflects the absence of some feature of the probe.

Today I will give examples of type 3 extraction morphology from the Bantu languages Duala, Kinande, and Akɔɔse and demonstrate that these cannot easily be analyzed in terms of Lahne’s (2008) probe impoverishment view.

2 Probe impoverishment and Lahne’s Generalization

Chamorro extraction morphology levels distinctions made in the canonical morphology, as shown in (4).

(4) Chamorro (partial) transitive realis paradigm for fa’gasi ‘washed’

<table>
<thead>
<tr>
<th>1sg</th>
<th>2sg</th>
<th>3sg</th>
<th>Num</th>
<th>Adj</th>
<th>Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>hu-fa’gasi</td>
<td>un-fa’gasi</td>
<td>ha-fa’gasi</td>
<td>&lt;um&gt; a’gasi</td>
<td>+um</td>
<td>ha-fa’gasi</td>
</tr>
</tbody>
</table>

Two properties:

1. Morphological syncretism: The form -um- that appears on a transitive realis verb under subject extraction is also used as an infinitive marker, nominal actor marker, and actor focus marker. In addition, its appearance as a subject extraction marker is not dependent on person or number, as shown above.

2. Canonical morphology suppressed: The form -um- appears in place of canonical agreement with the person and number features of the subject.

(5) Lahne’s Generalization

When a language shows different exponents in movement and non-movement contexts, then the marker appearing in the context of movement is less specific than the marker appearing in non-movement contexts (= retreat to the general case, emergence of the unmarked).

Probe Impoverishment: Lahne (2008) posits that the edge feature property [● •] may be added to any existing feature on the current head when there is an element needed later on that is not on the edge of the phase. The edge feature property is not a feature itself but rather converts an existing feature into a structure-building feature. She assumes that once the [● •] has triggered (internal or external) Merge, it is deleted, thereby impoverishing the probe.

(6) a. Ha-fa’gasi si Juan i kareta [Chamorro]

3SG-washed UNM Juan DEF car
‘Juan washed the car.’

(Lahne 2008: 47 (70a))

b. Hayi f <um> a’gasi _ i kareta [Chamorro]

who <AG> washed DEF car
‘Who washed the car?’

(Lahne 2008: 47 (70b))

(7) Before probe impoverishment

(from Lahne 2008: 69 (105))

I’

vP

IP

(8) Edge property insertion

[from] > [●num●] / transitive realis verb

(Lahne 2008: 69 (108))

(9) After probe impoverishment

(from Lahne 2008: 69 (107))

(10) Vocabulary insertion rules

(Lahne 2008: 64 (96), 66 (99))

/hu-/ ↔ [+1 -2 +sg] / _ [catV]
/un-/ ↔ [-1 +2 +sg] / _ [catV]
/ha-/ ↔ [-1 -2 +sg -irr] / _ [catV]
/-um-/ ↔ [VOICE: +ag]

(11) Subset Principle

(Lahne 2008: 25; see Halle 1997)

A vocabulary item V is inserted into a functional morpheme M iff (a) and (b) hold:

a. The morpho-syntactic features of V are a subset of the morpho-syntactic features of M.

b. V is the most specific vocabulary item that satisfies (a).
Morphological consequence of probe impoverishment: The probe (I) no longer has number features, so /ha-/ cannot be inserted. The only vocabulary item whose features are a subset of the probe’s is /-um-/; so it is inserted.

3 Counterexamples to Lahne’s Generalization

3.1 Duala

In Duala ([dua], A22, Cameroon), non-subject extraction (focalization, wh-ex situ) is marked by a post-verbal particle no (Epée 1975, 1976a,b; Biloa 1993; Sabel 2000):

(12) Duala wh-agreement
   a. No focus movement
      Kuo a-bodi nu moto kalati kiele [Duala]
      ‘Kuo gave that man a book yesterday.’ (Epée 1976b: 194 (1a))
   b. Focused indirect object
      nu moto nde Kuo a-bodi no — kalati kiele [Duala]
      that man FOC Kuo 1-give WH book yesterday
      ‘It’s that man that Kuo gave a book to yesterday.’ (Epée 1976b: 194 (1c))
   c. Focused direct object
      kalati nde Kuo a-bodi no nu moto ___ kiele [Duala]
      book FOC Kuo 1-give WH that man ___
      ‘It’s a book that Kuo gave that man yesterday.’ (Epée 1976b: 194 (1d))
   d. Focused temporal adjunct
      kiele nde Kuo a-bodi no nu moto kalati ___ [Duala]
      yesterday FOC Kuo 1-give WH that man book
      ‘It was yesterday that Kuo gave that man a book.’ (Epée 1976b: 194 (1e))

This pattern is not a case of the emergence of the unmarked:

1. Morphological syncretism? No. No is not found in any other context within the language, to my knowledge.

2. Canonical morphology suppressed? No. No does not block the insertion of any canonically appearing vocabulary item; it is simply additional morphology (cf. (12a) vs. (12b–12d)).

The marker no is not the result of deleting a feature but is more likely the realization of the movement-triggering feature, as suggested by Sabel (2000).

3.2 Kinande

In Kinande ([nnb], JD42, DRC) extraction (focalization, wh-ex situ) is marked by an element in the C domain that agrees in ϕ-features with the extracted element (Schneider-Zioga 2007, 2009):

(13) Long-distance object extraction
   [ekihi] 7. what kyo Kambale asi [nga kyo Yosefu [Kinande]
   akalengekanaya [nga kyo Mary akahuka __ ]]
   1.thinks if 7.WH 1.Marya 1.cooks
   ‘What did Kambale know that Yosef thinks that Mary is cooking (for dinner)?’ (Schneider-Zioga 2009: 47 (3))

This pattern is not a case of the emergence of the unmarked:

1. Morphological syncretism? Possibly. The form of the agreeing complementizer is similar to demonstratives and relative pronouns.

2. Canonical morphology suppressed? No. The agreeing complementizer does not block the insertion of another complementizer vocabulary item (as Irish a’ does), demonstrated by the co-occurrence of kyo and nga ‘if’ in each clause in (13).

Kinande also has anti-agreement (type 1) (Schneider-Zioga 2007); multiple types of extraction morphology may co-occur in the same language.

3.3 Akɔɔse

In Akɔɔse ([bss], A15c, Cameroon) non-subject extraction (focalization, relativization, wh-ex situ, temporal adverbials) is marked by a floating high tone prefix on the verb (H̥-) (Hedinger 1985, 2008; Zentz 2011, 2012). Subject extraction is marked in the negative by the lack of the irrealis suffix.

(14) Akɔɔse wh-agreement
   a. No extraction
      Mw-ǎn े-pim-ɛɛ́ Ó-mbaangé. [Akɔɔse]
      1-child 1.NEG-throw,out-PRF.IRR 10-cocoyam
      ‘The child didn’t throw out the cocoyams.’ (Hedinger 2008: 105 (295))
   b. Wh-object
      Chè mw-ǎn े-pim-ɛɛ́ ___? [Akɔɔse]
      what 1-child NSS.1.NEG-throw,out-PRF.IRR
      ‘What didn’t the child throw out?’ (Hedinger 2008: 106 (297))

The marker no is not the result of deleting a feature but is more likely the realization of the movement-triggering feature, as suggested by Sabel (2000).
The appearance of the floating high tone prefix under non-subject extraction is not a case of the emergence of the unmarked:

1. **Morphological syncretism?** No. The contexts where H̥- occurs can all be analyzed as involving A-bar movement.

2. **Canonical morphology suppressed?** No. H̥- does not block the insertion of any canonically appearing vocabulary item; it is simply *additional* morphology (cf. (14a) vs. (14b)).

The -ʔɛ́ alternation is difficult to analyze as a case of the emergence of the unmarked:

1. **Morphological syncretism?** Yes. The suffix -ʔɛ́ is found in all negative contexts in addition to affirmative non-subject extraction. The challenge (for either the traditional or probe impoverishment view) is to determine what feature is shared by these contexts; one possibility is [irrealis] (Zentz 2012).

2. **Canonical morphology suppressed?** No. Also, if -ʔɛ́ is an irrealis marker that must occur in negative clauses, it is itself unexpectedly deleted in negative subject extraction.

4 Conclusion

- Data from Bantu wh-agreement demonstrate that Lahne’s Generalization does not hold universally.
- While extraction morphology of types 1 and 2 may be analyzed in terms of the deletion of features in the syntax (probe impoverishment), the type 3 morphology illustrated here resists such an analysis.
- Type 3 morphology instead provides support for a more traditional view that this morphology is the realization of the movement-triggering feature.

References


