Morphological evidence for a movement analysis of adverbial clauses

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1 Introduction

(1) Theoretical questions:
   a. Does the derivation of adverbial clauses involve movement? If so,
   b. What moves?
   c. What is the site of extraction for the moved element?
   d. What is the landing site for the moved element?
   e. How should we classify adverbial clauses to account for variation
      in answers to these questions?

(2) Empirical domain:
   a. Wh-agreement in Akɔɔse [bss] (A.15), a Bantu language from south- 
      west Cameroon (Hedinger 1985, 2008)
   b. In Akɔɔse, wh-agreement takes place in adverbial clauses as well
      as the canonical wh-movement contexts (Chomsky 1977).
   c. Crucially, Akɔɔse wh-agreement encodes whether extracted ele-
      ments originate above or below v.

(3) Aims:
   a. Provide morphological evidence that central temporal and central
      conditional clauses involve movement, but peripheral adverbial
      clauses do not (answering (1a,e))
   b. Show that the moved element in central temporal clauses origi-
      nates in the VP layer, while the relevant operator in central condi-
      tional clauses is extracted from above v (answering (1c,e))

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own.

(4) Classification of adverbial clauses (Haegeman 2007: 285–286)

<table>
<thead>
<tr>
<th></th>
<th>Central</th>
<th>Peripheral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modify event or state of affairs in main clause</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Provide discourse background for main clause</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Anchored directly to speaker or speech time</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>May contain epistemic modality expressions</td>
<td>✗</td>
<td>✓</td>
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</tbody>
</table>

(5) Central adverbial clauses
   a. Peter heard the news **when** he arrived at the office.
   b. Jayne fell asleep **while** she rode the bus home.
   c. If you find that paper helpful, let me know.

(6) Peripheral adverbial clauses
   a. The solution seems straightforward, **although** I never would have
      thought of it.
   b. **While** some might question his methods, his claims cannot be ig-
      nored.
   c. If Clara’s caustic remark was provoked, it still was unprofessional.

2 Internal syntax of adverbial clauses

(7) Several authors have provided syntactic, semantic, and even etymo-
    logical arguments for a derivation of adverbial clauses that involves
    movement (Geis 1970; Larson 1987, 1990; Dubinsky & Williams 1995;
    Demirdache & Uribe-Etxebarria 2004; Bhatt & Pancheva 2006; Haeg-
    eman 2007, 2009a,b, 2010a,b).

2.1 Are conditional clauses derived via movement?

(8) Ambiguity in temporal clauses (Geis 1970; Larson 1987, 1990)
The professor wrote a recommendation letter for Mark [after he said
he needed it].
   a. High: The professor wrote the letter after being asked.
      \[[pp after \[CP \[OP \[IP he said [CP \[IP he needed it]] t_i]]] t_i]]
   b. Low: The professor wrote the letter after the deadline.
      \[[pp after \[CP \[OP \[IP he said [CP \[IP he needed it]]]]]]]
(9) **However**, the low construal reading is unavailable for conditional clauses, casting doubt on a movement derivation for conditionals (Geis 1970; Iatridou 1991; Citko 2000).

(10) **No ambiguity in conditional clauses**
    I’ll buy this car [if you think it’s a good deal].
    
    a. High: My buying this car is conditional upon your evaluation.
    b. *Low: My buying this car is conditional upon its value.

(11) Other evidence suggests, however, that movement is involved even for conditionals (Bhatt & Pancheva 2006; Arsenijević 2009; Tomaszewicz 2009; Haegeman 2007, 2009a, b).

2.2 **Argument fronting in English** (Haegeman 2003, 2007, 2009a, b, 2010a, b)

(12) **Argument fronting allowed in main clauses**
    [TopP This book [IP you should read this book next summer]]

(13) **Argument fronting disallowed in central temporal clauses**
    * [CP When [TopP this movie [IP she saw this movie]]], she hated it.

(14) **Argument fronting disallowed in central conditional clauses**
    * [CP If [TopP that paper [IP you find that paper helpful]]], let me know.

(15) **Argument fronting allowed in peripheral adverbial clauses**
    [CP While [TopP his methods [IP some might question his methods]]], his claims cannot be ignored.

(16) Haegeman (2007 and following) treats the failure of argument fronting in central adverbial clauses as an intervention effect. Peripheral adverbial clauses do not involve movement, so there is no intervention effect.

3 **Akɔɔse wh-agreement**


(18) Akɔɔse marks its verbs with respect to whether an element has been extracted to the left periphery. Crucially, extracted subjects trigger different verbal morphology from extracted non-subjects.¹

3.1 **Wh-questions**

(19) **No extraction**
    Mw-ān ē- pim -ɛɛ́ -Ø-mbaaŋé.²
    1-child 1.NEG-throw.out-PFV 10-cocoyam
    ‘The child didn’t throw out the cocoyams.’ (Hedinger 2008: 105 (295))

(20) **Wh-subject**
    Ø-Nzɛ́ 1-who ē- pim -e Ø-mbaaŋé?
    1-who 1.NEG-throw.out-PFV 10-cocoyam
    ‘Who didn’t throw out the cocoyams?’ (Hedinger 2008: 105 (295))

(21) **Wh-non-subject**
    Chě mw-ān ē- pim -ɛɛ́?
    what 1-child 1.NSE.NEG-throw.out-PFV
    ‘What didn’t the child throw out?’ (Hedinger 2008: 106 (297))

¹This is somewhat of a simplification. In fact, the three-way distinction between non-subject, subject, and no extraction is sometimes neutralized to a two-way distinction where either the subject or non-subject extraction forms are syncretic with the no extraction forms. In no circumstance are the subject and non-subject extraction forms collapsed, however. The neutralization depends primarily on polarity (all affirmative forms conflate no extraction and subject extraction), and to a certain degree on tense (the future negative forms are the only ones where non-subject extraction patterns with no extraction) and the subject’s ϕ-features (when the subject agreement marker has underlying high tone, extraction contrasts are neutralized in tense/aspect combinations where non-subject extraction only raises the prefix’s tone to high). Thus, only negative non-future verbs with non-high subject agreement markers show the full three-way contrast. See Hedinger (1985; 2008: 100–150) for further details. In this paper, we will only use examples in which the verb is unambiguous with respect to its extraction morphology.

²The transcription system used for Akɔɔse follows Hedinger (2008: 3–10). The symbols that depart from IPA usage are given here with their IPA equivalents: ch [tʃ], g [ɡ], j [ðʒ], mb [m, m], nd [nd], ng [ŋ], ny [ɲ], nz [ŋ, nzung], y [j]. Low tones are unmarked except in contour tones.

³I have occasionally adjusted Hedinger’s glosses and translations for clarity and consistency, following the Leipzig Glossing Rules wherever possible. Abbreviations used include
3.2 Relative clauses

(22) **Subject relative**

\[ mw-\text{ǎn} \ \text{aw-ě} \ \text{ě-} \ \text{pim} \ -e \ \text{Ø-mbaangé} \]

\[ 1\text{-child} \ 1\text{-REL} \ 1\text{-NEG-throw.out-SE.PFV} \]

\[ 10\text{-cocooyam} \]

‘the child who didn’t throw out the cocooyams’

(Hedinger 2008: 105 (295))

(23) **Non-subject relative**

\[ \text{Ø-mbaangé} \ \text{éch-e} \ \text{mw-\text{ǎn} \ \text{ě-} \ \text{nse} \ \text{pim} \ -ɛɛ́ \ -pfv} \]

\[ 10\text{-cocooyam} \ 10\text{-REL} \ 1\text{-child} \ 1\text{-NSE.NEG-throw.out-PFV} \]

‘the cocooyams that the child didn’t throw out’

(Hedinger 2008: 106 (297))

3.3 Cleft questions

(24) **Clefted non-subject**

\[ \text{Saá} \ \text{áw-í} \ \text{e’-wónggé} \ \text{mé-} \ \text{m-} \ \text{bé = e?} \]

\[ \text{NEG.cop} \ \text{LOC-3SG.poss} \ 14\text{-marriage} \ 1\text{SG.NSE-PST-be} = Q \]

‘Wasn’t it to him I was married?’ (lit. ‘Isn’t it in his marriage I was?’) (Hedinger 2008: 198 (492))

3.4 Topicalization\(^4\)

(25) **Topicalized subject**

\[ \text{Mw-\text{ǎn} \ ì-} \ \text{pim} \ -e \ \text{Ø-mbaangé.} \]

\[ 1\text{-child} \ 1\text{-TOP} \ 1\text{-NEG-throw.out-SE.PFV} \]

‘It is the child who didn’t throw out the cocooyams.’

(Hedinger 2008: 105 (295))

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\(^4\)Hedinger (2008: §7.3) describes a construction that he calls topicalization, comprised of an extracted element followed by an agreeing topic marker or a reduced non-agreeing clitic. In his English translations of the sentences, he uses it-clefts, which typically introduce focus, not topic, material. It is unclear whether the glosses or the translation are more reliable, so both have been left intact.

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3.5 Extracted temporal adjuncts

(27) Importantly for our discussion of adverbial clauses, verbs in clauses with extracted temporal adjuncts display **non-subject** morphology.

(28) **Wh-adjunct**

\[ \text{Ø-Pondé} \ \text{e-héé} \ \text{á-} \ \text{pédé} \ \text{hén?} \]

\[ 9\text{-time} \ 9\text{-which} \ 1\text{.NSE.arrive-PFV here} \]

‘When did she get here?’ (Hedinger 2008: 197 (486))

(29) **Relative adjunct**

\[ \text{m-bwẹ́} = \text{éé} \ \text{á-} \ \text{pēn-é} \ \text{ím-é} \ \text{m-} \ \text{wē} \ \text{Ø-kúl-ɛ} \]

‘the day he took the money to Tortoise’ (Hedinger 2008: 59 (156))

(30) **Topicalized adjunct**

\[ \text{Bɔɔb} \ \text{d-ɑ́} \ \text{nyábáá-} \ \text{dyéé.} \]

\[ \text{now 5-TOP 2PL..3PL..FUT.NSE-eat.PFV.NSE} \]

‘Now you and they will eat.’ (Hedinger 2008: 201 (508))

3.6 Syntactic analysis

(31) There are widely divergent analyses of **wh-agreement** (Zaenen 1983; Clements 1984; Watanabe 1996; Chung 1998; Reintges et al. 2006; Lahne 2008).

(32) We can attribute the distribution of subject versus non-subject agreement to whether the extracted element needs to pass through the edge of vP, as in (33), or not, as in (34).
4 Wh-agreement in adverbial clauses

Wh-agreement in adverbial clauses is not unique to Akɔɔse (see McCloskey 2001: 71, 82–87 for Irish), but Akɔɔse’s sensitivity to the height of extraction sheds light on where the moved elements originate.
4.2 Conditional clauses

(43) Central conditional clauses in Akɔɔse have verbs with subject extraction morphology.

(44) Nzé ‘if’ with subject extraction marking
Ø-Ppé e-kút -e’, nzé ɛ- yɔg-e bwàm.
9-papaya 9-crack.APPL-IPFV if 9.NEG-ripe-SE.PFV well
‘Papaya cracks if it is not fully ripe.’ (Hedinger 2008: 237 (657))

(45) Nzé ‘if’ with subject extraction marking
Nzé bè- híd -é èch-ɛ è- mbándé á 0-mbíd,
if 2.NEG-follow-SE.PFV 10-that 10-law LOC 9-back
é- yɔk -é a- bú nèn mw-án á- kud 0-mbèb.
10-always-PFV INF-be COMP 1-child INF-get 9-bad
‘If they don’t follow the laws, bad will always happen to the child.’
(Hedinger 2008: 237 (656))

(46) Extraction site hypotheses:

a. In the VP layer (Bhatt & Pancheva 2006, at least implicitly)


c. In the CP layer, in SpecFinP (Haegeman 2010a: 636)

(47) The subject (high) extraction marking in Akɔɔse central conditional clauses suggests that the locus of extraction for the relevant operator is not VP-internal, just like subjects. This supports hypotheses (46b–c).

4.3 Peripheral adverbial clauses

(48) Peripheral adverbial clauses in Akɔɔse have verbs with no extraction morphology.

(49) Kénɛ́ɛ ‘although, even though’ with no extraction marking
Á á-chag má m-bañ, kénɛ́ɛ
3SG.QUOT 1-call.HORT.PFV 1 3-nickname although
Ø-ngàw ɛ- hrl-ɛɛ ɛ- mbañ a- chag.
9-leopard.PERS 1.NEG-can-PFV 3-that 3-nickname INF-call
‘He said that he should call him names, even though Leopard wasn’t able to do it.’
(Hedinger 2008: 235 (644))

(50) The absence of extraction marking in these clauses supports Haegeman’s (2007; 2010a) claim that movement is not involved in the derivation of peripheral adverbial clauses.

5 Conclusion

(51) Wh-agreement provides compelling morphological evidence for a movement-based derivation of adverbial clauses.

(52) Due to its sensitivity to height of extraction, Akɔɔse wh-agreement lends insight into the question of where the moved elements originate.

(53) Theoretical questions:

a. Does the derivation of adverbial clauses involve movement?
   • Yes (central)
   • No (peripheral)

c. What is the site of extraction for the moved element?
   • Below v (temporal)
   • Above v (conditional)

e. How should we classify types of adverbial clauses to account for variation in answers to these questions?
   • Central vs. peripheral
   • Temporal vs. conditional

References


