The Prosody of Overt Case Marking in Coptic

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1 Introduction

Coptic (Egyptian > Afroasiatic) has a set of morphologically defined environments in which use of an accusative case marker is optional.

- Case marker: n-/mm= (n-/mm¹)
  - mm= is used before personal pronouns
  - n- is used before all other NPs

The Stern-Jernstedt Rule provides the following environments in which invariant case marking occurs in the following morphological environments, described by the Stern-Jernstedt Rule:

- Direct objects of the verb wo:š (ουσ) ‘want, love, like’ are never overtly marked.
- “Zero-article phrases” – i.e. nouns that appear without a specifier – are never overtly marked.
- Direct objects of verbs in the durative tense/aspect (with the above exceptions) are always overtly marked.

In addition, direct objects of verbs borrowed from Greek are always overtly marked.

Both marked and unmarked direct objects are grammatical in all other morphological environments.

2 Objectives

Current grammars do not indicate what might condition the (non-)use of direct object marking in contexts where both are grammatical; the usual assumption is that the distribution is a result of stylistic variation (e.g. Layton 2000).

Thus, the present research aims to:

- Describe the distribution of overt case marking within the ‘optional’ environments.
- Provide an account for its distribution.

3 Data

- 5 texts (different authors)
- 179 tokens: (di)transitive VPs in ‘optional’ environments

<table>
<thead>
<tr>
<th>marked</th>
<th>unmarked</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>100</td>
<td>179</td>
</tr>
<tr>
<td>(44.13%)</td>
<td>(55.87%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: marked/unmarked direct objects

<table>
<thead>
<tr>
<th>n=197</th>
<th>marked</th>
<th>unmarked</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>personal pronouns</td>
<td>5.03%</td>
<td>45.81%</td>
<td>50.84%</td>
</tr>
<tr>
<td>other NPs</td>
<td>39.10%</td>
<td>10.06%</td>
<td>49.16%</td>
</tr>
<tr>
<td>total</td>
<td>44.13%</td>
<td>55.87%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Table 2: Breakdown by type of direct object

The data are more or less equally split between marked and unmarked direct objects and between personal pronouns and other NPs. But the trends within each group are heavily skewed.

- **Personal pronouns** are overwhelmingly unmarked.
- **Other NPs** are overwhelmingly marked.

The trend for ‘other NPs’ is not as strong as the trend for personal pronouns, though both are strong enough to require a principled explanation.

Differential object marking alone will not account for these distributions: personal pronouns are the most typologically marked set of direct objects and thus we would expect them to be more frequently marked with an overt accusative morpheme that indicates their direct object role – just the opposite of what we have in Coptic.2

4 Prosodic analysis

The location of stress is determined by the construction of a single bimoraic trochee, aligned with the right edge of the word (Kramer 2005).

Minimal set of prosodic constraints for direct object marking:

- ALLFrRIGHT: the right edge of the foot is aligned with the right word boundary
- IDENTV: don’t change the vowel
- MAX-m: don’t delete moras

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1 I would like to thank Janet Johnson for her continuous assistance in compiling the Coptic data and Jason Merchant for several discussions on differential object marking.

2 It is typical for the literature on Coptic to reference examples in Coptic, often without morpheme boundaries or glosses. I’ve followed the standard glossing practices for linguistics and included the Coptic forms as a convenience for those who are not accustomed to reading Coptic in IPA.

3 I looked at the same breakdown of data for each individual author, the best-represented tenses, and the four most frequent verbs. Each of these subsets reflect the same trend shown in Table 2.
Unmarked direct objects bind with a reduced form of the verb stem to form a single prosodic word. The second person plural pronoun –̓tyut!n (–TYUTN) patterns with the ‘other NPs’ (with a few lexically listed exceptions) because it is polymoraic. This confirms that the reduced forms are indeed phonologically motivated; they are not just context-specific allomorphs.

4.1 Personal pronouns

A personal pronoun with an overt case marker (mmo=; MMO°) forms a clitic, which intervenes between the (parsed) verb and the word boundary. Parsing the unmarked object with the verb shortens the vowel, but does not reduce it.3

(1) 'hide it' A LLFTR I DENTV MAX-μ

<table>
<thead>
<tr>
<th></th>
<th>2ΩΠΤ MMONC</th>
<th>opot-1#</th>
<th>hidden-3MASC</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDENTV</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAX-μ</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Φ = most common form; both are grammatical

4.2 Other NPs

Other NPs, when unmarked, draw the foot off of the verb, which (by invoking a higher-ranked constraint against unstressed/unparsed full vowels, not shown) forces reduction of the unparsed vowel.

(2) 'hide the small one' A LLFTR I DENTV MAX-μ

<table>
<thead>
<tr>
<th></th>
<th>2ΩΠΤ NTOUHM</th>
<th>opot- p- (#sım)#</th>
<th>hide-ACC-DEF.ART-small</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDENTV</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAX-μ</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Φ = most common form; both are grammatical

Marked NPs satisfy all constraints by keeping the verb and the direct object as two prosodic words.

5 Semantic analysis

The prosodic analysis only accounts for 85% of the data.

Optional case marking is differential object marking, though the distribution above would suggest that its semantic significance has been replaced by prosodic considerations.

Stronger evidence for the persistence of the semantic aspect of differential object marking lies in one particular clause of the Stern-Jerstedt Rule, outlined in Section 1:

- “Zero-article phrases” are never marked for accusative case.

Zero-article phrases express non-specific indefinite nouns, which are the most likely NPs to go unmarked for accusative case.

<table>
<thead>
<tr>
<th></th>
<th>'eat bread'</th>
<th>'eat some bread'</th>
</tr>
</thead>
<tbody>
<tr>
<td>unmarked</td>
<td>OYENOEIK</td>
<td>OYEMOYOEIK</td>
</tr>
<tr>
<td></td>
<td>wam-</td>
<td>eat-</td>
</tr>
<tr>
<td></td>
<td>oik-</td>
<td>INDEF.ART-bread</td>
</tr>
<tr>
<td>marked</td>
<td>*OYEM NOEIK</td>
<td>*OYEN NOYOEIK</td>
</tr>
<tr>
<td></td>
<td>*wo:m n-</td>
<td>*wo:m n-</td>
</tr>
<tr>
<td></td>
<td>oik-</td>
<td>w-</td>
</tr>
<tr>
<td></td>
<td>eat-</td>
<td>ACC-bread</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACC-INDEF.ART-bread</td>
</tr>
</tbody>
</table>

The prosodic constraints alone predict that zero-article phrases might be overtly marked at least as often as NPs with specifiers, since the unmarked configuration is prosodically dispreferred (see tableau in 6).

Syntactic/semantic constraints must be inviolable for the non-specific indefinite NPs. The prosodic constraints discussed above, interwoven with the constraints that create differential object marking (Aissen 2003:448), can be used to account for the most frequent forms. 5

(3) A LLFTRIGHT right foot aligns with right word boundary

*OJ/PRO & *Ocase pronouns must be marked for case

*OJ/SPEC & *Ocase specific NPs must be marked for case

*STRUC-CASE do not mark for case

MAX-μ IDENTV *Oj/NSpec & *Ocase don’t delete moras

In each tableau, only the *Oj constraints that are relevant to the example are shown. In (4) and (5), both forms are grammatical outputs (Φ marks the most frequent forms). In (5), violation of *STRUC is fatal, leaving only one grammatical output.

4 Coptic grammars express this as ouem-ø-oeik to emphasize the absence of a specifier.

5 Aissen’s hierarchy also includes personal names and definite NPs. My dataset contained no personal names as direct objects, and there was not enough data to determine whether definite (specific) NPs behaved differently than indefinite (specific) NPs, so I have used SPECIFIC here as a cover term for both.

3 The vowel analysis used here is that of Loprieno (1995); other analyses (such as Kramer 2005) assume a quality contrast instead of a length contrast. How changing this assumption affects the analysis presented here has not yet been determined.
The less frequently occurring forms can be modeled by reranking the constraints, perhaps on semantic grounds. It is likely that analogy with forms that cannot alternate also contributes to the maintenance of the prosodically ill-formed constructions.\(^6\)

### 6 Conclusions

Although Coptic is a differential object marking system, the distribution of ‘optional’ accusative case morphology does not conform to the predictions made for such systems (Table 2).

Instead, the distribution of overt case marking is prosodically driven, optimizing alignment of the foot with the right word boundary while preserving vowel quality.

### 7 Further research

- Expand the dataset to look for variation within the ‘other NPs’ (definite vs. indefinite).
- Provide an expanded prosodic account (especially concerning the organization of the vowel system).
- Constraint reranking versus constraint reweighting to derive the less frequent forms.
- Definiteness/specificity of subject versus object in case marking distribution.
- Stylistic influence of invariable forms on the realization of optional case marking.
- Diachronic changes in overt case marking distribution.

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\(^6\) Only native Egyptian verbs have systematic rules of reduction. Greek verb stems do not reduce and thus obligatorily mark all direct objects. These and other invariant forms were mentioned in Section 1.