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Reassessing gender in Ogbe-Oloma

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Abstract: We re-assess the gender system of Ogbe-Oloma, an Edoid village variety of Nigeria. System exponents are prefixes that define form class and reflect grammatical number. We find that eight agreement classes undergird fourteen genders, while seventeen nominal form classes frame twenty-five number inflections. Prefix mapping from inflection to gender is non-isomorphic. Mapping is however constrained by syllable shape, CV- versus V-, and alliterative sound quality of prefix consonant, not vowel. In addition, several number inflections trigger agreement in multiple genders leading to one gender that exclusively refers to nouns with human reference.

Keywords: agreement; Edoid; gender; nominal form class; Ogbe-Oloma

1 Introduction

Gender systems in the Edoid languages of Nigeria are seriously underdescribed, especially for its northern speech varieties. For some that have been described (Omoruyi 1986; Schaefer and Egbokhare 2017), only a small number of nominal stems exhibit prefixes that contrast grammatical number inflection, hereafter referred to as deriflection. Others show both prefix deriflection and gender (Ashofor 1984; Masagbor 1989). For this paper we re-revisit relevant data from Oloma, as initially presented in Elugbe and Schubert (1976).

Oloma is one name from the past for an Edoid speech variety spoken in south-central Nigeria (Koelle 1854). It was located geographically by Elugbe and Schubert (1976) below the hilltop settlement of Somorika. Today this aligns with the village Ogbe. It rests in an inselberg-enclosed valley north of Somorika and a few kilometers from the Ebira-speaking village of Igara and its neighboring Edoid villages of Enwan and Akuku. To the east of Ogbe is the village of Ozirami and to its southwest is Okpe, both Edoid. Although there are at least 30–40 Edoid languages (Elugbe 1989), they have played little role in discussion of gender and deriflection in their West Benue Congo affiliation and Niger-Congo more broadly. In part, this

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may be because major West Benue Congo languages, Yoruba and Igbo, display
nominal lexemes with little derision (McWhorter 2016).

The nominal prefix system for Proto Edoid was reconstructed by Elugbe (1973,
1989). He focused primarily on what are here called nominal form (NF) classes,
which pair to express singular/plural. Subsequently, Elugbe (1983) argued for a
genetic relation between Proto-Edoid and Proto-Bantu under Proto-Benue-Congo.
He reconstructed prefix classes that expressed grammatical number (identified
simply as “noun classes”), which occurred as paired and non-paired (or single
class) forms. However, he made no attempt to reconstruct agreement (AGR) classes
and a gender system. In large measure this was because descriptive information
was essentially unavailable across Northwest Edoid, including any potential
agreement patterns. The overall impression fostered was that agreement class and
gender were peripheral to Edoid (Williamson and Blench 2000).

2 Descriptive background

2.1 The morphosyntax of noun forms

Agreement (or concord) and nominal form classes in Ogbe-Oloma were initially
identified in Elugbe and Schubert (1976). All data that we discuss emanate from
their study. Although we employ their data sets, we provide our interpretation of
how agreement class and nominal form class interact. In part, we are influenced by
our own fieldwork among northern Edoid peoples (Schaefer and Egbokhare 2017,
2019).

Agreement class and nominal form class are marked in Ogbe-Oloma by pre-
fixes. In contrast to the diachronic situation for Proto-Edoid, prefix vowel and stem
vowel in contemporary Ogbe-Oloma do not harmonize, as is also the case for most
of northern Edoid. Elugbe and Schubert posit seven vowel phonemes [i-, u-, e-, ϵ-, o-,
ɔ-, a-]. Of these, all are exponents of nominal form class. For agreement, only
three vowels are active: [ɔ-, a-, ϵ-]. Throughout this paper, prefix vowels divorced
from lexemes are represented by IPA symbols. Within lexemes vowel qualities are
represented by orthographic shape, in particular IPA [ɔ] as orthographic o and IPA
[ɛ] as e. As for vowel tone, acute accent marks high and grave accent signals low.

Regarding consonant segments in prefix shapes, there are two: lenis velar
plosive [gh] and lateral liquid [l]. A systematic phonetic overview of consonant
properties appears in Elugbe and Schubert (1976) and Elugbe (1989). Place and
manner of articulation are identified, as is state of the glottis, which is heavily fortis
versus lenis. Consonants here are represented by standard orthographic symbols
used within Edoid and elsewhere. The exceptions are plosives and nasals with a
lenis character (represented by orthographic h) and fricatives with breathy voice: labial [v], alveolar [z], and palatal [∫].

In class prefixes, vowel and consonant sounds participate in one of two syllable shapes. They are either CV- or V-. The CV- shape predominates overall since it characterizes ten prefix form classes: ʰl-, ʰlɛ-, ʰle-, ʰlu- in addition to ʰgha-, ʰghɛ-, ʰghɛ-, ʰghi-, and ʰghu-. The V- shape holds for seven prefix form classes: ʰa-, ʰɔ-, ʰo-, ʰɛ-, ʰe-, ʰi-, and ʰu-. These prefix shapes convey both noun classification and number.

For Ogbe-Oloma, Elugbe, and Schubert identify twenty-five “noun classes.” We find that there are seventeen nominal form classes and eight agreement classes. In following sections, we outline how the gender system expresses nominal form class, agreement class, and their interaction. It is important to note that Elugbe and Schubert did not distinguish inflection from derivation in their sample. Their focus was stem occurrence with prefixes across a sample of nominals and their phrasal dependents.

2.1.1 The morphosyntax of nominal forms

Nouns in Ogbe-Oloma consist of a stem and a prefix that identifies nominal form (NF) class. Prefixes are presented in Table 1.

These prefix shapes, of which there are seventeen, attach to stems and contrast grammatical number values (singular/plural). Thirteen prefixes refer to singular and four to plural. Of these, four prefixes (i.e. GHE-, GHI-, E-, A-) designate singular and plural. Lexemes formed by these prefixes and relevant stems appear in Table 2. In these prefixes and all other examples collected by Elugbe and Schubert, tone is exclusively high.

Nominal form classes include stems that are transnumeral or mass, as in the instance of liquids and abstractions. For instance, stem ʰmè ‘water, liquid’ shows prefix singular ʰá-mè and plural ʰlō-mè, just as stem ʰvbìlì ‘palm oil’ manifests singular ʰé-vbìlì and plural ʰlú-vbìlì. Similar behavior is exhibited by abstract nouns for ‘laughter’ ʰghò-gbià/é-gbià and ‘fear’ ʰó-cè/cè-cè. Although we have no additional evidence from Ogbe-Oloma that these nouns exhibit classic mass noun behavior,

<table>
<thead>
<tr>
<th>Prefix type</th>
<th>/ɔ/</th>
<th>/o/</th>
<th>/ɛ/</th>
<th>/e/</th>
<th>/i/</th>
<th>/u/</th>
<th>/a/</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-</td>
<td>ʰɔ-</td>
<td>ʰo-</td>
<td>ʰɛ-</td>
<td>ʰe-</td>
<td>ʰi-</td>
<td>ʰu-</td>
<td>ʰa-</td>
</tr>
<tr>
<td>LV-</td>
<td>ʰlɔ-</td>
<td>ʰle-</td>
<td>ʰle-</td>
<td>ʰlu-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHV-</td>
<td>ʰghɔ-</td>
<td>ʰghɛ-</td>
<td>ʰghe-</td>
<td>ʰghi-</td>
<td>ʰghu-</td>
<td>ʰgha-</td>
<td></td>
</tr>
</tbody>
</table>
e.g. failure to combine with numerals, their cognate nouns in other Edoid languages reject numerals (Schaefer and Egbokhare 2007, 2017).

To examine the combinatorial system that underlies NF prefixes we rely on a graphic display of line associations. It forefronts NF prefixes against a backdrop of class and number values for the simplest or canonical combinatorial system, where each singular prefix would align with one and only one plural prefix and vice versa, i.e. biunique isomorphism. Systems not so designed are non-isomorphic.

As a representation of grammatical number values, line association displays have emerged in studies of several African languages (Corbett 1991; Güldemann 2000; Güldemann and Fiedler 2019; Hansford 1990; Heine 1982). Three types of association have been identified: parallel (i.e. isomorphic 1-1 mapping between singular value and plural value); convergent for one or other value (i.e. a singular associating with more than one plural or a plural with more than one singular); or crossed (convergent from both singular and plural perspectives). In Figure 1, we associate singular/plural values for nominal form class by connecting lines. Our

### Table 2: Nominal form classes with number behavior and lexical example.

<table>
<thead>
<tr>
<th>NF</th>
<th>Number</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø-</td>
<td>SG</td>
<td>ô-ffi ‘rat’</td>
</tr>
<tr>
<td>U-</td>
<td>SG</td>
<td>ū-nù ‘mouth’</td>
</tr>
<tr>
<td>ō-</td>
<td>SG</td>
<td>ō-ki ‘fence’</td>
</tr>
<tr>
<td>A-</td>
<td>SG</td>
<td>ā-bū ‘doctor’</td>
</tr>
<tr>
<td></td>
<td>PL</td>
<td>ā-bū ‘arms’</td>
</tr>
<tr>
<td>E-</td>
<td>SG</td>
<td>ē-nī ‘elephant’</td>
</tr>
<tr>
<td></td>
<td>PL</td>
<td>ē-bi ‘darkness’</td>
</tr>
<tr>
<td>Ê-</td>
<td>PL</td>
<td>ē-šà ‘trees’</td>
</tr>
<tr>
<td>I-</td>
<td>PL</td>
<td>i-kphò ‘rivers’</td>
</tr>
<tr>
<td>L-</td>
<td>PL</td>
<td>lō-ře ‘houses’</td>
</tr>
<tr>
<td>LU-</td>
<td>PL</td>
<td>lū-zhà ‘fires’</td>
</tr>
<tr>
<td>LE-</td>
<td>SG</td>
<td>lē-nī ‘name’</td>
</tr>
<tr>
<td>LE-</td>
<td>SG</td>
<td>lē-nyàmhi ‘frog’</td>
</tr>
<tr>
<td>GΗ-</td>
<td>SG</td>
<td>ghō-kọ ‘canoe’</td>
</tr>
<tr>
<td>GΗU-</td>
<td>SG</td>
<td>ghū-zhè ‘bow’</td>
</tr>
<tr>
<td>GΗA-</td>
<td>SG</td>
<td>ghā-zhīlè ‘mortar’</td>
</tr>
<tr>
<td>GΗE-</td>
<td>SG</td>
<td>ghē-kpì ‘scorpion’</td>
</tr>
<tr>
<td>GΗE-</td>
<td>SG</td>
<td>ghē-gbà ‘stone’</td>
</tr>
<tr>
<td></td>
<td>PL</td>
<td>ghē-gbìà ‘laughters’</td>
</tr>
<tr>
<td>GΗI-</td>
<td>SG</td>
<td>ghī-kpì ‘python’</td>
</tr>
<tr>
<td></td>
<td>PL</td>
<td>ghī-dí ‘oil palm trees’</td>
</tr>
</tbody>
</table>
assessment of line associations reveals NF pairs, i.e. deriflections, that are entirely non-isomorphic. Their graphic display shows a complex array of relations that are predominately crossed.

As represented in Figure 1, there are 25 relational pairs representing nominal form classes. Five are convergent, twenty are crossed, and none are parallel. Convergent relations are Ɔ/-Ɛ-, O/-I-, U/-I-, Ɔ/-Ɛ-, and GHE/-Ɛ-, with Ɛ/-Ɛ- being convergent from the singular perspective but parallel from the plural. Crossed relations are GHE/-LU-, GHO/-Ł-, GHO/-GHE-, GHA/-Ł-, GHU/-LU-, GHU/-GHI-, GHI/-LU-, LE/-LU-, LE/-ŁI-, as well as GHE/-I-, GHO/-A-, GHO/-Ɛ-, GHA/-Ε-, GHA/-Ł-, GHU/-ŁI-, GHI/-I-, ŁE/-A-, ŁΕ/-Ε-, in addition to A/-ŁŒ- and E/-I-, A/-Ε-.

As shown in Figure 1, the number of prefix shapes for singular/plural is uneven (13/8). Any given singular prefix aligns with a plural prefix less often than does a plural prefix with a singular one. A prefix shape represents singular less often than a prefix shape represents plural. Such a finding of asymmetry for inflectional categories is not particularly new. It is consistent in spirit with Universal 37 of Greenberg (1963: 112): A language never has more gender categories in non-

Figure 1: Nominal form class pairs (deriflections) that express number.
singular numbers than in the singular. In Ogbe-Oloma it is not gender but nominal form class pairs that reveal an uneven distribution of inflectional resources relative to number. A finding of asymmetry is also consistent with Plank and Schellinger’s (1997: 59) generalization concerning all markedness relations within inflection: marked terms (i.e. plural) unfold less than unmarked terms.

Setting line association type aside, prefix syllable shape across number values in Figure 1 is asymmetric. Singular values are predominantly CV- (72%), with far fewer allocated to V- (28%). In the plural, CV- is lower (36%), whereas V- trends higher (64%). Vowel distribution is constrained as well. For singular, front versus back vowel occurrence is nearly even. For plural, front versus back vowels do not distribute evenly. Most are front.

### 2.1.2 Agreement (AGR) classes

Ogbe-Oloma exhibits a restricted set of agreement classes. In Table 3 their prefix exponents are specified according to syllable shape, which is either CV- or V-.

While segmental resources in Table 3 are limited, vowels and consonants exhibit a high degree of symmetry. Vowels are back half-open [ɔ], front half-open [ɛ], and open [a], while consonants are lateral approximant [l] and lenis velar plosive [gh]. Only the la- combination is absent from this otherwise symmetrical paradigm.

Agreement prefixes define eight agreement classes. In Table 4 they are identified as to their number behavior and illustrated with a lexical example for the proximal demonstrative.

As demonstrated in Elugbe and Schubert, prefixes that specify agreement class are assigned to dependent elements. They are found on adnominal and verbal targets. Within a noun phrase, agreement prefixes of similar shape occur on demonstrative, numeral, adjectival, and possessor elements, although no data happened to be available for relative clauses or for pronominal reference. Clause subjects are indexed for agreement on verbs.

### Table 3: Agreement class prefixes according to syllable shape.

<table>
<thead>
<tr>
<th>Prefix type</th>
<th>/ɔ/</th>
<th>/ɛ/</th>
<th>/a/</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-</td>
<td>ɔ-</td>
<td>ɛ-</td>
<td>a-</td>
</tr>
<tr>
<td>LV-</td>
<td>bɛ-</td>
<td>le-</td>
<td></td>
</tr>
<tr>
<td>GHV-</td>
<td>ghɔ-</td>
<td>ghe-</td>
<td>gha-</td>
</tr>
</tbody>
</table>
We exemplify the grammatical expression of agreement in phrases and clauses with the examples in (1)–(2). They are clustered to demonstrate how a target prefix that codes values for gender and number participates in a phrase with a nominal form class controller prefix. Each cluster is anchored by a noun stem to which a prefix is attached. The thematic vowel or consonant-vowel of nominal form class prefix appears in Caps followed by an Arabic number that identifies agreement class, which is also indexed on a dependent or multiple dependents. Relative to the Niger-Congo canon, full alliteration between controller and agreement mark does not occur. However, full alliteration is evident across targets of the same agreement class, e.g. lé-mè lé-nhì (2d).

Table 4: Agreement classes of Ogbe-Oloma.

<table>
<thead>
<tr>
<th>AGR</th>
<th>Morph</th>
<th>Number</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ɔ-</td>
<td>SG</td>
<td>ó-nò ‘this’</td>
</tr>
<tr>
<td></td>
<td>ɔ-</td>
<td>PL</td>
<td>ẹ-nò ‘these’</td>
</tr>
<tr>
<td>2</td>
<td>ɛ-</td>
<td>PL</td>
<td>ẹ-nò ‘these’</td>
</tr>
<tr>
<td>3</td>
<td>a-</td>
<td>SG</td>
<td>ā-nò ‘this’</td>
</tr>
<tr>
<td></td>
<td>a-</td>
<td>PL</td>
<td>ā-nò ‘these’</td>
</tr>
<tr>
<td>4</td>
<td>lɔ-</td>
<td>SG</td>
<td>lá-nò ‘this’</td>
</tr>
<tr>
<td></td>
<td>lɔ-</td>
<td>PL</td>
<td>lá-nò ‘these’</td>
</tr>
<tr>
<td>5</td>
<td>le-</td>
<td>PL</td>
<td>le-nò ‘these’</td>
</tr>
<tr>
<td>6</td>
<td>ghɔ-</td>
<td>SG</td>
<td>ghò-nò ‘this’</td>
</tr>
<tr>
<td>7</td>
<td>ghɛ-</td>
<td>PL</td>
<td>ghɛ-nò ‘these’</td>
</tr>
<tr>
<td>8</td>
<td>gha-</td>
<td>SG</td>
<td>ghà-nò ‘this’</td>
</tr>
</tbody>
</table>

(1) a. ọ- gbhọ́ á-nò i-gbhọ́ ẹ-nò
O.3-wizard 3-DEM 1.2-wizard 2-DEM
‘this wizard’ ‘these wizards’

b. ọ- gbhọ́ á-dé ú-zè i-gbhọ́ ẹ-dè i-zè
O.3-wizard 3-buy U.1-axe 1.2-wizard 2-buy 1.2-axe
‘A wizard bought an axe.’ ‘Wizards bought axes.’

(2) a. ghá-wá ghọ̀-nhì lọ-wá lé-nhì
GHA.6-dog 6-DEM L3.5-dog 5-DEM
‘that dog’ ‘those dogs’

b. ghá-wá ghọ̀-mè lọ-wà lé-mè
GHA.6-dog 6-1SG.POSS L3.5-dog 5-1PL.POSS
‘my dog’ ‘my dogs’
2.1.3 Nominal form classes versus agreement classes

Throughout the preceding two sections we examined nominal form class and agreement class separately. When compared, we find that inventory sizes for these two classes do not align. In this next section we assess correspondences between nominal form class and agreement class. Nominal form classes total seventeen; agreement classes sum to eight. In Figure 2, we map NF classes to AGR classes. We do

![Figure 2: Nominal form classes mapped onto agreement classes.](image)
so against two background conditions prevalent in discussion of Niger-Congo
systems (Güldemann and Fiedler this volume).

Figure 2 displays twenty-seven line associations between NF and AGR. Given
their distinct inventories, there is no possibility for a one-to-one relation between
NF class and AGR class. Biunique isomorphism does not constrain the mapping of NF
class to AGR. The system underlying this display is essentially crossed, since as-
sociation lines converge at prefix points under both NF and AGR.

A second constraint on mapping relations pertains to syllabic character. As
Figure 2 demonstrates, there is a relatively strong retention of syllabic character in
assigning NF to AGR. If NF is V-, AGR is V-. If NF is CV-, AGR is CV-. Only one line association
violates this principle: NF L- aligns not only with AGR form ɛ but also with AGR ɛ. But,
there appears to be more than syllabicity that constrains the mapping of NF to AGR.

Another factor is alliteration, which in its full version refers to controller and
target prefixes that show sameness of sound quality. In Ogbe-Oloma, partial
alliteration of prefix form is evident, with only consonants being active. Allitera-
tion is restricted to consonant segments, approximant L or lenis velar plosive GH. If
NF is L, AGR is L. If NF is GH, AGR is GH. In Figure 2 this principle is never violated.

Combined, these statements reveal that vowel quality, despite its presence in all NF
and AGR prefixes, does not constrain mapping of NF to AGR. For consonants, the
matter is otherwise. Indeed, segment type and syllabic type correlate in the
mapping of noun form class to agreement class. As a consequence, Ogbe-Oloma
demonstrates a mapping of class prefixes from NF to AGR that is alliterative for C of
CV-prefixes. Overall it reveals form relations that are partially alliterative but
divorced from isomorphic one-to-one values.

2.2 Gender system

The gender system in Ogbe-Oloma has both formal and functional dimensions.
Each will be addressed separately. Formally, gender consists of a relation between
two agreement classes. Often it also involves a relation to deriflection. We take up
both of these formal considerations.

First, we characterize the mapping relation between deriflection and gender.
The simplest and most straightforward system of relations, as noted earlier, would
be for each deriflection to trigger one gender. While this isomorphic condition may
hold for some Ogbe-Oloma deriflections, it does not hold for the entire gender
system. Since there are 25 deriflections and 14 genders, correspondence from
deriflection to gender must be constrained. There appear to be two principal op-
tions. A single deriflection may trigger agreement in two or more genders, or two or
more deriflections may each trigger agreement in one and the same gender. Table 5
lays out the relation between deriflections and genders, the latter being designated by Roman Numerals.

There are three deriflections that trigger gender in an isomorphic fashion: deriflection $\text{GHA}/\text{A}$ maps onto gender $6/3$ ($\text{gha}/\text{a}$); $\text{GHA}/\text{LU}$ onto gender $6/4$ ($\text{gha}/\text{l}$); and $\text{LE}/\text{E}$ onto gender $4/1$ ($\text{l}/\text{e}$).

A less restricted mapping relation obtains for a limited number of deriflections. There are four deriflections that each trigger agreement in two genders. These are $\text{A}/\text{E}$, $\text{O}/\text{I}$, $\text{U}/\text{I}$, $\text{A}/\text{E}$. Each triggers agreement with gender $3/2$ ($\text{a}/\text{e}$) and gender

---

**Table 5: Gender and associated deriflections.**

<table>
<thead>
<tr>
<th>Gender</th>
<th><strong>AGR class</strong></th>
<th><strong>AGR prefix</strong></th>
<th>Deriflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>3/2</td>
<td>$\text{a}/\text{e}$</td>
<td>$\text{A}/\text{E}$, $\text{O}/\text{I}$, $\text{U}/\text{I}$</td>
</tr>
<tr>
<td>II</td>
<td>3/5</td>
<td>$\text{a}/\text{le}$</td>
<td>$\text{A}/\text{LU}$</td>
</tr>
<tr>
<td>III</td>
<td>8/2</td>
<td>$\text{gha}/\text{e}$</td>
<td>$\text{GHA}/\text{E}$, $\text{GHE}/\text{I}$</td>
</tr>
<tr>
<td>IV</td>
<td>8/5</td>
<td>$\text{gha}/\text{le}$</td>
<td>$\text{GHA}/\text{LU}$</td>
</tr>
<tr>
<td>V</td>
<td>1/2</td>
<td>$\text{g}/\text{e}$</td>
<td>$\text{O}/\text{I}$, $\text{A}/\text{E}$, $\text{E}/\text{I}$</td>
</tr>
<tr>
<td>VI</td>
<td>6/7</td>
<td>$\text{gho}/\text{gha}$</td>
<td>$\text{GHO}/\text{GHE}$, $\text{GHU}/\text{GHI}$</td>
</tr>
<tr>
<td>VII</td>
<td>6/2</td>
<td>$\text{gho}/\text{e}$</td>
<td>$\text{GHO}/\text{E}$, $\text{GHI}/\text{I}$, $\text{GHE}/\text{E}$</td>
</tr>
<tr>
<td>VIII</td>
<td>6/5</td>
<td>$\text{gho}/\text{le}$</td>
<td>$\text{GHU}/\text{LU}$, $\text{GHI}/\text{LU}$</td>
</tr>
<tr>
<td>IX</td>
<td>4/2</td>
<td>$\text{l}/\text{e}$</td>
<td>$\text{LE}/\text{I}$, $\text{LE}/\text{A}$, $\text{LE}/\text{E}$</td>
</tr>
<tr>
<td>X</td>
<td>4/5</td>
<td>$\text{l}/\text{le}$</td>
<td>$\text{LE}/\text{I}$</td>
</tr>
<tr>
<td>XI</td>
<td>6/3</td>
<td>$\text{gho}/\text{a}$</td>
<td>$\text{GHO}/\text{A}$</td>
</tr>
<tr>
<td>XII</td>
<td>4/3</td>
<td>$\text{l}/\text{a}$</td>
<td>$\text{LE}/\text{A}$</td>
</tr>
<tr>
<td>XIII</td>
<td>6/4</td>
<td>$\text{gho}/\text{b}$</td>
<td>$\text{GHO}/\text{LU}$</td>
</tr>
<tr>
<td>XIV</td>
<td>4/1</td>
<td>$\text{l}/\text{b}$</td>
<td>$\text{LE}/\text{E}$</td>
</tr>
</tbody>
</table>
1/2 (ɔ/-ɛ-). Relative to gender 1/2 (ɔ/-ɛ-) and the deriflections that trigger it, only pair E-/I- triggers agreement in one gender. There are two other deriflections that trigger agreement with two genders. LE-/I- triggers agreement with genders 4/2 (lɔ/-ɛ-) and 4/5 (lɔ/-ɛ-). LE-/A- triggers agreement with genders 4/2 (lɔ/-ɛ-) and 4/3 (lɔ/-a-). Relative to gender 4/2 (lɔ/-ɛ-), it is only deriflection LE-/ɛ- that does not trigger agreement in two genders. No deriflection in Ogbe-Oloma triggers agreement with more than two genders.

More restricted relations operate for remaining deriflections. In Table 5, we see multiple deriflections, from two up to four, which trigger agreement in one gender only. The deriflections A-/Lɔ- and E-/LU- trigger agreement with gender 3/5 (a/-lɛ-); GHA-/ɛ- and GHE-/I- with gender 8/2 (gha/-ɛ-); GHA-/Lɔ- and GHE-/LU- with gender 8/5 (gha/-lɛ-); GHA-/GHE- and GHU-/GHI- with gender 6/7/(ghɔ/-ghɛ-); and GHU-/LU- and GHI-/LU- with gender 6/5 (ghɔ/-lɛ-). Additionally, there is one instance where four deriflections trigger agreement with one gender. Each of the pairs GHO-/ ɛ-, GHU-/I-, GHI-/I-, and GHE-/ɛ- trigger agreement with gender 6/2 (ghɔ/-ɛ-).

To examine the closed inflectional system that underlies gender classes in Ogbe-Oloma we again rely on a graphic display. Figure 3 presents line associations for agreement classes and their singular/plural values. Association values reveal no parallel or biunique isomorphic one-to-one relation between any singular-to-plural pair. Line associations are entirely non-isomorphic.

In more detail, Figure 3 presents 14 line associations for relations between agreement classes. Four are convergent, ten are crossed, and none are parallel. Convergent relations are 6/4 (ghɔ/lɔ), 6/7 (ghɔ/ghɛ), 4/1 (lɔ/ɔ), and 1/2 (ɔ/ɛ). Crossed relations are 8/5 (gha/lɛ), 6/5 (ghɔ/lɛ), 8/2 (gha/ɛ), 6/2 (gho/ɛ), 6/3 (ghɔ/a), 4/5 (lɔ/lɛ), 4/2 (lɔ/ɛ), 4/3 (lɔ/a), in addition to 3/2 (a/ɛ) and 3/5 (a/lɛ). Figure 3 reveals additional points of asymmetry. Overall, the majority of relations show a strong propensity for the singular prefix to be consonant initial (79%) rather than vowel initial (21%), whereas the plural prefix tends toward vowel initial (64%) rather than

---

**AGr** | **SG** | **PL**
--- | --- | ---
3 | a | a
2 | e | 
5 | lɛ |
8 | gh,a | ghɛ
1 | ω |
6 | ghɔ |
7 | lɔ | lɔ

**Figure 3:** Gender class pairs according to number.
consonant initial (36%). Gender classes thus relate primarily as crossed relations where the singular marker tends toward CV- and the plural toward V-.

The number of prefix shapes across singular/plural in Figure 3 is nearly even (5/6). A prefix shape can represent the singular almost as often as a prefix can represent the plural. Such a finding for an inflectional category seems somewhat surprising in view of Greenberg’s (1963: 112) Universal 37: A language never has more gender categories in non-singular numbers than in the singular. Indeed, it is gender in this instance that reveals a distribution of inflectional resources for number that slightly favors the marked rather than the unmarked form. Moreover, Plank and Schellinger’s (1997: 59) generalization regarding markedness relations for inflectional expressions, as presented in Section 2.1.1, seems not to hold.

At this juncture, we recap briefly the functional character of the gender system in Ogbe-Oloma. In Table 6, genders are identified by their Roman numeral. Functional semantic information about each gender is indicated by basic ontological categories we identify as human, animate, natural kind, artifact, body part, locus, liquid, time, state, and abstract. What stands out immediately in Table 6 is the ontological make up for gender classes. Clearly multi-category profiles predominate; there are nine of these. Uni-category genders come to five.

Table 6 reveals a non-uniform semantic underpinning of gender. There are a few stark semantic contrasts among gender sets, but contrast based exclusively on a single ontological category does not predominate. Genders are characterized by a mix of ontological categories. This is true of all genders except I and XIV as well as

<table>
<thead>
<tr>
<th>Gender</th>
<th>AGR</th>
<th>Ontological categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>3/2</td>
<td>human</td>
</tr>
<tr>
<td>II</td>
<td>3/5</td>
<td>liquid, locus</td>
</tr>
<tr>
<td>III</td>
<td>8/2</td>
<td>animate, artifact, body part, locus</td>
</tr>
<tr>
<td>IV</td>
<td>8/5</td>
<td>animate, artifact, natural kind, body part, locus</td>
</tr>
<tr>
<td>V</td>
<td>1/2</td>
<td>animate, artifact, natural kind, body part, locus, state</td>
</tr>
<tr>
<td>VI</td>
<td>6/7</td>
<td>artifact, natural kind, state</td>
</tr>
<tr>
<td>VII</td>
<td>6/2</td>
<td>animate, artifact, natural kind, body part</td>
</tr>
<tr>
<td>VIII</td>
<td>6/5</td>
<td>animate, natural kind</td>
</tr>
<tr>
<td>IX</td>
<td>4/2</td>
<td>animate, artifact, natural kind, body part, abstract</td>
</tr>
<tr>
<td>X</td>
<td>4/5</td>
<td>body part</td>
</tr>
<tr>
<td>XI</td>
<td>6/3</td>
<td>body part</td>
</tr>
<tr>
<td>XII</td>
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</tr>
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<td>XIII</td>
<td>6/4</td>
<td>artifact, state</td>
</tr>
<tr>
<td>XIV</td>
<td>4/1</td>
<td>state</td>
</tr>
</tbody>
</table>
the triumvirate X, XI, XII. Most reflect some combination of ontological categories that can be characterized as animate and inanimate, where inanimate subsumes natural kind, artifact, locus, and body part at least. For these, it seems prudent to assume a network of socio-cultural associations of a complex sort that semantically undergird each gender. Relatively few genders show an uni-category ontology. The triumvirate X, XI, and XII are limited to body-part terms. However, the entire set of body parts is not confined to these three genders. Body-part terms, in fact, are spread across five additional genders, namely III, IV, V, VII, IX. Another uni-category gender is XIV. It is constrained to state. But like body parts, states are found in several genders, including V, VI, and XIII. A gender that is nearly uni-categorical is II, which is the only one to which liquids are assigned.

It is Gender I that is confined exclusively to human referents. No other gender permits referents characterized as human. It seems noteworthy that animate does not have a similar status. Animate is not exclusive to one gender; rather, it frequently combines with inanimate categories like natural kind. Also noteworthy is that Gender I is never coded by CV-, while most other genders and their mix of ontological categories tend not to be encoded by V-. More often, a gender with a multi-category profile, where any of animate, body part, inanimate, locus, or state can be found, employs at least one CV- syllable shape. In other words, multi-category profiles of a gender disprefer a V- syllable shape, while the uni-category profile for human strongly prefers V-.

3 Discussion

The preceding reassessment of data first identified and outlined by Elugbe and Schubert (1976) constitutes our initial interpretation of the Ogbe-Oloma gender system. In this Edoid language, individual prefixes express nominal form class and agreement class, while paired prefixes articulate deriflection and gender. Certain formal and functional resources appear privileged and others not. One of the striking features of the Ogbe-Oloma gender system concerns four deriflections that trigger agreement with one gender whose prefixes are exclusively V- shaped and whose lexical members refer exclusively to the category human.

Such a limitation is not particularly surprising for noun classification by number prefix in Edoid. Two other Central Edoid languages whose nominal classification has been described reveal a privileged use of the category human or its kin subtypes. Bini, the mother tongue of Benin City and environs, manifests number inflection with a small, highly restricted set of nominal stems, all of which refer to humans (Omoruyi 1986). But it has no gender. In Emai spoken north of Benin City, number inflection is evident as well. Although it, too, exhibits no
gender, Emai has eleven inflectional prefix pairs (Schaefer and Egbokhare 2017). A majority of them organize according to kinship types that anchor consanguine versus affine relations (Schaefer and Egbokhare 2018, 2019).

Throughout, we assessed system prefixes against a canonical ideal that stipulated a biunique isomorphic condition between number values of prefix pairs and/or an alliterative nature across nominal head and agreement phrase. Relations between prefix singular/plural values were mapped graphically as lines of association. Although this canonical ideal makes little allowance for asymmetry of expression, asymmetry characterized the Ogbe-Oloma gender system. In graphic representations that mapped deriflections to genders, the skewed ratio of deriflection to gender precluded prefix isomorphism but favored consonant-based alliterative patterns. Semantically, each gender predominately consisted of referents from multiple ontological categories, in particular animate and inanimate. A few genders appeared limited to one ontological category (e.g. body part or state), but these same categories distributed across other genders. This was not so for the ontological category human, which was confined to a single gender. Representations also revealed preferences for singular and plural vowel exponents that were asymmetric, back versus front vowels, respectively. They also manifested a like preference for CV- shapes in the singular but V- shapes in the plural.

It is not uncommon for Niger-Congo languages in West Africa to exhibit gender systems that are complex (Di Garbo 2016; Güldemann and Fiedler this volume; Heine 1982). In certain respects Ogbe-Oloma is typical. Gender is non-sexed-based rather than sex-based. It manifests cumulative exponence since prefixes specify gender and grammatical number. Overall, assignment relations between prefixes and stems appear driven by formal rather than semantic considerations. Prefix marks for these relations seem rigid and fixed rather than flexible and free, especially since noun stems do not assign to multiple form class prefixes to achieve distinct lexical meanings. Also, gender-number indices distribute across adnominals within noun phrases and across subject-verb relations. No clear evidence exists for gender indexing on third person pronouns or the definite determiner. Clearly additional research should be aimed at investigating broader aspects of gender in Ogbe-Oloma as well as in Edoid, particularly among its northern vernaculars.

Despite these relatively firm conclusions, a feature of concern with regard to Ogbe-Oloma gender is its trigger mechanism for agreement. The data identified by Elugbe and Schubert include several nouns that were set aside because they failed to show prefixes that alternated according to grammatical number. Included among these uninfl ected nouns were égbì ‘body,’ ìthà ‘father,’ lèhùmhù ‘war,’ lèybì ‘kola,’ ghòlé ‘road,’ ghèmò ‘ash,’ and ghákò ‘day.’ Given the absence of prefix alternation, it seems Elugbe and Schubert made the assumption that these as well
as other uninflected nouns did not trigger agreement. There is no evidence that they pursued the possibility that their set-aside nouns might each show dependents marked for agreement.

We believe these uninflected nouns are worth additional attention here, if only for a brief moment. Two possibilities can be imagined for nouns that do not exhibit overt singular/plural marking. Either their occurrence in a noun phrase does not attract adnominal dependents; this seems highly unlikely. Or uninflected nouns attract adnominal dependents and by some means trigger agreement. Of the seven nouns listed by Elugbe and Schubert, cognates in non-Northwest Edoid languages can be identified. Four have cognates that are count nouns, two that are mass nouns, and one that has no cognate. In its southern neighbor Emai for instance, cognates for íthà, lèhùmhù, lèvbi, and ghóle are count nouns, since they take numeral modifiers. For the entire group of set-aside nouns, we consider how they might signal agreement in a phrase and how they might fit into the gender system.

We briefly lay out the following options whose agreement predictions could be tested in Ogbe-Oloma. One strong possibility is that uninflected nouns with an initial consonant might adhere to an alliterative path. Three of the four count nouns manifest a C-initial prefix. Each could trigger a like agreement mark. The remaining count noun is V-initial íthà ‘father.’ For it, an alliterative strategy cannot be deployed in the absence of a C-initial structure. This noun could, however, utilize semantic assignment, since it references a human entity. One would then predict that each of the four count nouns that were set-aside would indicate agreement with gender prefixes lɛ, lɛ, ghɔ, and a, the latter marking human singular.

As for the mass nouns ígbì ‘body’ and ghémò ‘ash,’ an alliterative path seems likely for the latter, which is C-initial. For ígbì, semantic assignment would not be viable as a condition determining agreement. Its initial V- could still act as trigger however. There are only two genders where each value for singular and plural is V: a/e and ɔ/e. Since a/e is restricted to human nouns, this gender can be rejected. The other option seems more satisfying, since gender ɔ/e is already assigned to nouns for body parts. That leaves the non-cognate noun ghákò. Given its initial CV-syllable, our prediction is that agreement targets for this form would display an alliterative value consistent with consonant GH and be so framed. Of course some other principle or principles might operate in selecting agreement marks for these nouns, particularly the count ones. But if one could determine how these uninflected nouns behave under agreement, one would be in a stronger position to accord the features alliteration, syllabicity and human their proper weight in the Ogbe-Oloma gender system and perhaps in other Northwest Edoid languages.
Abbreviations

Abbreviations follow the Leipzig glossing rules, except for the following:

NF   nominal form

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