Measuring linguistic relations between the Gbe language varieties:

A synchronic typological approach to the analysis of grammatical features

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Introduction

- Gbe language varieties of West Africa
  - Description of a synchronic analysis of grammatical features
  - Comparison with findings of Capo’s (1991) diachronic analysis
- Sociolinguistics study
  - Explore literacy and literature extensibility
- Geographical location
Language classification

- Niger-Congo, Atlantic-Congo, Volta-Congo, Kwa, Gbe (Stewart 1989, p.c. in Williamson and Blench 2000:29)
- Language classification
  - Capo’s (1991) reconstruction of Proto-Gbe and internal classification of Gbe (see also Capo 1986)
- **Sociolinguistic study** (SIL Togo-Benin)
  - Gbe word and phrase list elicitation
    - 100-item word list
    - 35-item phrase list
    - 49 Gbe varieties (based on Capo’s 1986)
- **Objectives of linguistic analysis** (Kluge 2000, 2005)
  - Compute degrees of linguistic similarity
  - Identify clusters
  - Establish research priorities

⇒ Synchronic approach for data analysis
Gbe phrase list analysis

  - Grammatical similarity and intelligibility
- Analysis approach
  - Complement lexical analysis
  - Compute degrees of grammatical similarity
  - Obtain rough estimate
    - Grouping of investigated language varieties
    - Areas of unlikely intelligibility
  - Intelligibility and grammatical structure
    (see also Wiesemann 1986)
    - Person (or noun) reference system
    - Verbal reference system

- Person (or noun) reference system
  - Demonstratives
  - Interrogative constructions
  - Singular-plural distinctions
  - Reflexives
  - Case distinctions (including word order)

Example: Phrases eliciting interrogative constructions

Phrase #17: *Qui est tombé?* [‘Who has fallen?’]
Phrase #20: *Est-ce qu’il est tombé?* [‘Has he fallen?’]

- Verbal reference system
  - Past, progressive, and future forms
  - Imperative, conditional, and negative forms
  - Transitive-intransitive dichotomy

Example: Phrases eliciting past, progressive and future forms

Phrase #1: Il a mangé poisson (hier). (sic)
[‘He ate fish (yesterday).’]

Phrase #3: Il est en train de manger poisson (maintenant). (sic)
[‘He is eating fish (now).’]

Phrase #4: Il mangerá poisson (plus tard). (sic)
[‘He will eat fish (later).’]
- **Step 1 – Similarity decisions**
  (Wiesemann 1989, p.c. in Kluge 2000)
- **Qualitative analysis**
  - Identification of strategies to express relevant grammatical features
  - Similarity judgments
- **Analysis scope**
  - 16 grammatical features in 29 phrases
  - Multiple elicitations of pertinent grammatical features
Step 1 – Similarity decisions
(Wiesemann 1989, p.c. in Kluge 2000)

Example
  - Possessive construction

Phrase # 35: Les yeux de l’homme. ['The man’s eyes.‘]

Elicited phrases:

  Agu:  ñcu fé ñkú wó
  Ajra:  xwuxwá nukun
  Gbesi:  nukú súnu ló tó
  Se:    ñsuglo ñkun sín ye
Step 1 – Similarity decisions

(Wiesemann 1989, p.c. in Kluge 2000)

Example

Possessive construction

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Elicited forms</th>
<th>Gbe varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existence of possessive marker:</td>
<td>operator no operator</td>
<td>Agu, Gbesi, Se Ajra</td>
</tr>
</tbody>
</table>
- **Step 2 – Computation of similarity matrix**
  - **Organizing data in WordSurv** *(Wimbish 1989)*
    - Agu = B
    - Ajra = F
    - Gbesi = O
    - Se = Z

<table>
<thead>
<tr>
<th>Phrases #29-35: Possessive construction</th>
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<tbody>
<tr>
<td><strong>Grouping</strong></td>
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</table>
Step 2 – Computation of similarity matrix
- Step 3 – Multidimensional scaling (MDS)
  - Objective
    - Investigate relative relationships and clustering
    - Obtain pictorial representation of relationships
- Step 3 – Multidimensional scaling (MDS)
  - Computation of three MDS plots
    - Complete set of 49 Gbe varieties
    - Western Gbe varieties
    - Eastern Gbe varieties
Step 3 – Multidimensional scaling (MDS)

- Analysis procedures
  - Two-dimensional analysis (SPSS Inc. 1998)
  - Dimensional and neighborhood interpretation
    (see Kruskal and Wish 1978)
Step 4 – Comparison with Capo’s (1991) diachronic analysis

Objective

- Explore whether different approaches complement or contradict each other
Clustering of Gbe language varieties

- Overview

![Clustered map of Gbe language varieties](image)
Overview
- Western Gbe
- Western Gbe
Western Gbe
- Central Gbe
- Central Gbe
- Central Gbe
- Sociolinguistic study (Tompkins and Kluge 2002)
• Eastern Gbe
- Eastern Gbe
Eastern Gbe
Discussion
Discussion

- Capo (1991) vs. MDS findings
Discussion
- Capo (1991) vs. MDS findings
Discussion

Capo (1991) vs. MDS findings
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Capo (1991) vs. MDS findings
## Discussion

- **Capo (1991) vs. MDS findings**

<table>
<thead>
<tr>
<th>Western Gbe</th>
<th>Central Gbe (Aja)</th>
<th>Eastern Gbe</th>
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<tr>
<td><strong>Ewe</strong></td>
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<td>MDS</td>
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<td>Awlan</td>
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<td>Hwe-Aplahoué</td>
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<td><strong>Northw. Gbe</strong></td>
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<td>Agoi/Glij</td>
<td>Agoi, Glij</td>
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<td>Anexo</td>
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**Fon**
- Agbome
- Kpase
- Gun
- Maxi
- Weme

**Phlaphera**
- Seto
- Xwia
- E.
- W.
- Daxe
- Saxwe
- Saxwe-west
- Xwia
- Xwia-west
Discussion

- Capo (1991) vs. MDS findings
### Discussion

- **Capo (1991) vs. MDS findings**

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Discussion

Capo (1991) vs. MDS findings
Discussion

What are the underlying reasons for the identified disparities?

- Problems with phrase list design
- Flawed elicitation procedures
- Drawbacks of the applied analysis tools
- Incompatible lexical and grammatical structures
- Problems with the findings of Capo’s (1986) study

Further linguistic and sociolinguistic research
Discussion

- What are the underlying reasons for the identified disparities?
- What weight should be given to the different approaches?
- What conclusions can be drawn regarding the ways of investigating and classifying language varieties in a linguistic continuum?
Discussion

- What are the underlying reasons for the identified disparities?
- What weight should be given to the different approaches? (Kluge 2006, 2007)
- What conclusions can be drawn regarding the ways of investigating and classifying language varieties in a linguistic continuum? (Kluge 2006, 2007)
Conclusion
- Conclusion
  - Case study
    - Applying a quantitative approach to the analysis of grammatical features
    - Studies investigating linguistic similarity in language continua
  - Comparable studies required
    - Apply techniques
    - Verify validity
References


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