CLITICIZATION CYCLES: ADNOMINAL GENDER-NUMBER AFFIXES IN NIGER-CONGO

Tom Güldemann[1,2] and Ines Fiedler[1]
(Humboldt-Universität zu Berlin[1], Max Planck Institute
for Evolutionary Anthropology Leipzig[2])

1 INTRODUCTION

ICHL 2022 – WS: Cliticisation in the evolution of bound morphology

1 Introduction

- diversity of adnominal gender-number aka "class" marking across Niger-Congo
> involves at least five marking patterns (rather than just Bantu-type prefixes):

(1) a.   no class affixes (but, e.g., possible number words)
        àwàn (yō)   'king(s)'   Kam (ADAMAWA)   Lesage (2021)

      b.   class prefixes only
             ù-lokú / bè-lokú   'woman/women'   Lelemi (Ghana-T-M)   Höftmann (1971)

      c.   class suffixes only
             nɛ́r-à / nɛ́rɔ́-wà   'person/people'   Yom (Central Gur)   Fiedler (2012)

      d.   class prefixes or suffixes (depending on grammatical context)
             li-kęn / kén-dì mí-ɛ   'knife/my knife'   Sherbro (Mel)   Rogers (1967)

      e.   class circumfixes
             ù-túk-ká / ù-tùk-nà   'the night/s'   Kagoro (PLATOID)   Gerhardt (1967)

1 Introduction

+ distinct historical reconstructions to account for diverse modern patterns - e.g., co-occurrence of pre- and suffixes aka circumfixation, as in (1)e., viewed as:

a) original situation
   cf., e.g., Westermann (1913), Prost (1964: 14), Welmers (1973: 209), or

b) secondary development – cf., e.g., de Wolf (1967), Williamson (1989: 31-7):
   "There is, in fact, considerable evidence that prefixes are older than suffixes in Niger-Congo." (Williamson 1989: 33)
   > challenged by cross-linguistic suffix preference (cf. Bybee et al. 1990, Himmelmann 2014)

!!!1 Introduction

- 2 hypotheses assuming a flexible class marker position in proto-language:

(I) New classifier-to-affix scenario (Kießling 2013, Güldemann and Fiedler 2021, Güldemann and Merrill in prep.):

Modern class marking originates in a late classifier system in which classificatory elements had a phonologically more independent status.

(II) Traditional demonstrative~determiner scenario (Greenberg 1977, 1978):

Classificatory demonstratives were not yet bound to the noun root in proto-state.

Both involve: Classifier~class determiner > class **CLITIC** > class affix

1 Introduction

+ our historical problem:

- review the history and sometimes the very nature of modern **adnominal** gender-number aka class marking across a maximally diverse range of relevant Niger-Congo languages

- ultimately infer from the modern diversity the nature of **adnominal** gender-number aka class marking in the proto-language

> agreement of secondary importance

+ various analytical fallacies regarding modern Niger-Congo languages:

a) disregard recurring cases of nouns without any classifying affixes

b) erroneously analyze class markers as affixes rather than clitics (cf., e.g., Creissels (2015: 21) on some Atlantic languages)

???1 Introduction

- adnominal gender-number markers have different morpho-syntactic properties across Niger-Congo, to be categorized as:

➢ **classifiers**: free or bound elements that classify nouns according to its referential properties, flexible syntax depending on the construction in which they are used – synchronically covert but diachronically implied

➢ **clitics**: forms bound to a host of different syntactic nature, can be detached from the noun (cf. Haspelmath & Sims 2010: 196-200)

➢ **affixes**: forms bound to a host of a more specific syntactic nature; are attached directly to the noun, have an abstract grammatical meaning (Haspelmath & Sims 2010: 15-22, 196-203), are obligatory in all environments and thus build words with the nominal base

1 Introduction

\+ 2 types of markers regarding the vowel quality across different classes:
(I) variable vowel or
(II) invariable vowel
\> diagnostic for mono- or bimorphemic status of marker

(I) Classificator-only
(vowel is thematic for the class)

(II) Classificator-cum-determiner
(as per Greenberg 1977, 1978)

(2) **Sherbro (Mel, ATLANTIC)**

a. *kén-**dì*** *mí-ɛ̀* …
knife-11   POSS.1SG-DET
'My knife …'

b. *kén-**dò*** [< *di-o]
knife-11:PROX.DEM
'this knife'
(Rogers 1967: 125, 115)

2 DIFFERENT TYPES OF GENDER-NUMBER AFFIXES/CLITICS

2 Different types of gender-number affixes/clitics

+ we identify **four** modern language types of adnominal gender-number aka class "affixes", which differ first of all historically:

2.1   Prefixes/suffixes that are in fact clitics

2.2   Prefixes/suffixes that are the first and only bound elements

2.3   Renewed prefixes/proclitics co-occurring with prefixes
       Renewed suffixes/enclitics co-occurring with suffixes

2.4   Renewed suffixes/enclitics co-occurring with prefixes.
       Renewed prefixes/proclitics co-occurring with suffixes.

2.1 "Affixes" that are synchronically clitics

C'lela (Kainji-Platoid, BENUE-KWA)

- different kinds of "affixes" (Hoffmann 1967)
- adnominal "prefixes" of different shapes (C-, V- or Ø, not CV-) are restricted to contexts where no other class marking occurs, notably as "citation form"

(3) a.   *ì-hònò*/*m̀-hònò*   'calabash/calabashes'

- adnominal "prefixes" as in (3)a. are absent in extended NP where the following modifier is class-marked

> grammatically conditioned class marker use (rather than affix loss on noun)
> class marking has a phrasal character

2.1 "Affixes" that are synchronically clitics

C'lela (Kainji-Platoid, BENUE-KWA)

(3) a. *ì-hònò/m̀-hònò*

I.7-calabash (SG)/M.8-calabash (PL)

b. *gòt í-hònò*

look I.7-calabash

'look at a calabash'

c. *m̀-hònò d-kʷɛ̀z-n í-dɔ́n*

M.8-calabash 5-twenty-and CL.7-one

'twenty-one calabashes (lit.: 21 **of** cals.)'

d. *hòn í-zá dá*

calabash.7 < **CL.7**-be.not not

'there is no calabash'

e. *hòn=í-hna*

calabash.7=< **CL.7**-this

'this calabash'

f. *hòn=í-nló*

calabash.7=< **CL.7**-that

'that calabash' (Dettweiler 2015: 43, 97, 101)

2.1 "Affixes" that are synchronically clitics

Other cases

Gola (ATLANTIC)	Koroma (1994)
Kisi (Mel, ATLANTIC)	Childs (1995)
Sherbro (Mel, ATLANTIC)	Rogers (1967)
?Aghem (Ring, Grassfields, Bantoid, BENUE-KWA)	Hyman (1979, 2010)
?Isu (Ring, Grassfields, Bantoid, BENUE-KWA)	Kießling (2010)

2.2 Affixes that are the first and only bound elements

Suffixes: Mba (Mbaic, UBANGI)

- all suffixes in Mba show invariable vowel */e/* (cf. Pasch 1986), pointing to their bimorphemic character: **CLF + DET** (cf. (5c) below)

> evidence for Greenberg's idea of affix development out of classificatory determiners – mostly postposed, hence bias toward **suffixes**

(5) a. *là-**lè** / là-**sè***   'eye/eyes'
       *njánjá-**ề** / njánjà-**zè***   'fly/flies'

2.2 Affixes that are the first and only bound elements

Suffixes: Mba (Mbaic, UBANGI)

- suffixes on the noun occur in nearly every construction directly on the stem

(5) b. AGR_x-'other'   N-**$CL.SF_x$**
         l-*étà*   *mbìà*-*lē*
         3-other   head-LE.3
         'anderer Kopf [another head]' (Pasch 1986: 145)

    c.   [N-**$CL.SF_x$**] = [AGR_x-DEM]
         ŋgò-***mé*** = ***m*-*è***
         water-ME.11 = 11-DEM
         'this water' (Carrington 1949: 95)

2.2 Affixes that are the first and only bound elements

Suffixes: other cases

(I)   **N-CL.SF**
Yom (Oti-Volta, GUR)   Fiedler (2012)
Baatonum (South-Central Gur, GUR)   Winkelmann (2007)
Vere (Samba-Duru, ADAMAWA)   Kleinewillinghöfer (2018)
Kulaal (Bua, ADAMAWA)   Boyeldieu et al. (2020)

(II)   **N-CL.SF:DET** (= Greenberg's DET scenario)
Longuda (Longuda, ADAMAWA)   Elstermann, Fiedler, Güldemann (2021)
Zan Gula (Bua, ADAMAWA)   Boyeldieu et al. (2020)
Supyire (Senufo, GUR)   Carlson (1994)

2.2 Affixes that are the first and only bound elements

Prefixes: Balant Ganja (Bak, ATLANTIC)

- prototypical system of nominal prefixes and prefixal agreement marking (Biaye & Creissels 2015)
- adnominal class prefixes seem to be present in all contexts

(4) a.   ***à**-nínà̲*   ***à**-wɔ́dì̲*   ***h**-ɔ́-mbɔ̀*

           A.1-woman   1-one   1-PROX-EMPH

           'cette unique femme-ci [this unique woman]'

    b.   ***b**-tá*   ↓***b**-ɔ́dì̲*   ***b**-ɔ́-mbɔ̀*

           B.3-tree   3-one   3-PROX-EMPH

           'cet unique arbre-ci [this unique tree]'   (Biaye & Creissels 2015: 214)

2.2 Affixes that are the first and only bound elements

Prefixes: Balant Ganja (Bak, ATLANTIC)

- a Ø-class in adnominal prefixes is not evidence for the clitic status of these prefixes or for prefix loss but rather a recurrent exception with a well-defined class of nouns, notably proper names, kinship terms, loan words

(4) c.   ***Ø-fàafá***   ***à-mfáná***   =⁺***h-í.***
        Ø-father.1   1-nice   =1-ID
        'C'est un gentil père. [this is a nice father]'
        (Biaye & Creissels 2015: 214, 241)

2.2 Affixes that are the first and only bound elements

Prefixes: other cases

(I) **CL.PF-N**

Lelemi (Na-Togo, BENUE-KWA)	Allan (1973)
Akan (Potou-Akanic, BENUE-KWA)	Bodomo & Marfo (2007)
Ogbe-Oloma (Edoid, BENUE-KWA)	Schaefer & Egbokhare (2021)
Durop (Cross-River, BENUE-KWA)	Connell (2021)
Nyun (Wolof-Nyun, ATLANTIC)	Bao Diop (2015)
Miyobe (?GUR)	Fiedler & Winkhart (to appear)

(II) **CL.PF:DET-N** (= Greenberg's DET scenario)

Temne (Mel, ATLANTIC)	Wilson (1961), Schulze (2021)

2.3 Renewed markers co-occurring with affixes on the same side > "affix" stacking

The "augment" in Bantu (Bantoid, BENUE-KWA)

- many Bantu languages with an "element that precedes the class prefix …" (van de Velde 2019: 247) - called initial vowel, pre-prefix, augment

> Ganda (JE15): augment form (*a-, e-, o-*) depends on the class prefix vowel
- proper nouns do not take augment
- demonstratives of proximity *-no* and non-proximity *-li* follow the noun and never involve the augment (Ashton et al. 1954: 41)

(6) a. *o-mu-ntu / a-ba-ntu*   'the/a person/people'
         o-mu-ti / e-mi-ti   'the/a tree/s'
         e-ki-bbo / e-bi-bbo   'the/a basket/s'

                                         (Ashton et al. 1954: 29, 65, 88)

2.3 Renewed markers co-occurring with affixes on the same side > "affix" stacking

The "augment" in Bantu (Bantoid, BENUE-KWA)

-- augmented noun in various constructions - often related to definiteness etc.

(6) b. *to-gula*   ***ki**-bbo*
        PROH-buy   KI.7-basket
        'Don't buy a basket'

c. *gula*   ***e-ki**-bbo*
   buy:IMP   E-KI.7-basket
   'Buy a basket.'
             (Ashton et al. 1954: 30)

d. *to-gula*   ***n**-te*
   PROH-buy   N.9-cow
   'Don't buy a cow'

e. ***e-n**-te*   *to-**gi**-gula*
   E-N.9-cow   PROH-9.OBJ-buy
   'Don't buy the cow.'
             (Ashton et al. 1954: 407)

2.3 Renewed markers co-occurring with affixes on the same side > "affix" stacking

The "augment" in Bantu (Bantoid, BENUE-KWA)

- from a historical perspective: several "prefixes" follow each other
    1. inherited adnominal class prefix
    2. preceding pronominal class marker expressing definiteness (reconstructed still as separate word by Meeussen 1967, van de Velde 2019: 247)

- augment still today related to definiteness/referentiality, e.g., excluded with demonstratives
> instantiates Greenberg's DET scenario
> elements to be analyzed synchronically as proclitics: **AUG=CL.PF–N**

2.3 Renewed markers co-occurring with affixes on the same side > "affix" stacking

Other cases beyond Bantu

Host-initial class marker stacking

    CL.PF-N > **CLF.DET** = CL.PF-N

    Bayot Kugere (Bak, ATLANTIC)   Diagne (2015)

Host-final class marker stacking

    N-CL.SF > N-CL.SF = **CLF.DET**

    Buli, Konni (Central Gur, GUR)   Schwarz (2012a,b)

2.4 Renewed markers co-occurring with affixes on the opposite side > "circumfixation"

Yao (P21, Bantu, Bantoid, BENUE-KWA)

Whiteley (1966: 32-3) about demonstratives:

"A large number of these [demonstratives] occur, all of which consist of some kind of stem, usually monosyllabic, preceded or followed by a single or reduplicated affix. Some are **unstable** in the sense that they only occur in immediate association with a preceding word, others may occur initially in the sentence or in isolation, and are referred to as stable. […] Where only this [= **unstable**] form occurs, there is, at the semantic level, little demonstrative force, especially in Masasi, and it may best be translated by the definite article."

2.4 Renewed markers co-occurring with affixes on the opposite side > "circumfixation"

Yao (P21, Bantu, Bantoid, BENUE-KWA): CL.PF-N=CLF

(7) a. *mu-ndú-**jú***   [*mundú:jú*]   b. *aju*   *mú-ndú-**jú***
         1-man-**1PROX.DEM**   1PROX.DEM   1-man-**1PROX.DEM**
         'the man'   'this man'

    c. *m-nendó-**jo***
         1-stranger-**1REF.DEM**
         'the stranger in question' (Whiteley 1966: 33)

- 'unstable' forms develop into adnominal markers without demonstrative force
> incipient circumfixal class marking that eventually may lexicalize

2.4 Renewed markers co-occurring with affixes on the opposite side > "circumfixation"

Prefixes > circumfixes: other cases

(I)   CL.PF-N → (CL.PF-)N-CL.SF

(II) CL.PF-N → CL.PF-N (MOD)=CLF:DET

Kagoro (Plateau, BENUE-KWA)	Gerhardt (1983, 1967/68)
Foodo (Guang, BENUE-KWA)	Plunkett (2009), Fiedler (f.n.)
Wushi (Bantoid, BENUE-KWA)	Hodieb (2021, 2022)
Akebu (KA-Togo, BENUE-KWA)	Makeeva & Shluinsky 2018
Joola Kerak (Bak, ATLANTIC)	Segerer (2015)
Wolof, Cangin, Fula (all ATLANTIC)	Creissels (2015)

2.4 Renewed markers co-occurring with affixes on the opposite side > "circumfixation"

Ditammari (Central Gur, GUR)

- synchronically circumfixes with erosion of **suffixes** (Reineke, to appear)
- prefixes are formally identical to class pronouns/agreement markers

(8) a.   **CLF = N(-CL.SF)**

dī-yètĭ-*rĭ* / *yā*-yèt-*à*   'name/s'

kū-bà-*kù* / *ī*-bà-*kà*   'branch/es' (Reineke, to appear)

- originates in a change of the reconstructed state of Central Gur with suffixes only (Manessy 1965-6):

*N-CL.SF   →   **CLF = N(-CL.SF)**

2.4 Renewed markers co-occurring with affixes on the opposite side > "circumfixation"

Ditammari (Central Gur, GUR)

- no prefix in some constructions reflecting the earlier state, e.g., in simple possessive constructions where noun is determined by another NP element

(8) b.   [*ō*   *bí-**rà***]
        1:POSS   child-**DA.20**
        'his/her child'

     c.   [*ō*   *kó*]   [***dā**-bí-**rà***]
        1:POSS   ASS   **DA.20**-child-**DA.20**
        'his/her child' (Reineke, to appear)

2.4 Renewed markers co-occurring with affixes on the opposite side > "circumfixation"

Suffixes > circumfixes: other cases

(I)   N-CL.SF $\rightarrow$ CLF = N(-CL.SF)

(II) N-CL.SF $\rightarrow$ (CLF.DET) N-CL.SF $\rightarrow$ CLF.DET = N-CL.SF:DEF

Syer, Kar (Senufo, GUR)	Dombrowsky-Hahn (2015, to appear)
Supyire (Senufo, GUR)	Carlson (1994)
Konkomba, Ncam, Akasele (Gurma, Oti-Volta, GUR)	Miehe et al. (2012)
Khe (Khe-Dogosu, South Central Gur, GUR)	Winkelmann (2007)
Tula (Tula-Waja, ADAMAWA)	Kleinewillinghöfer (p.c.), Elstermann (2021)

3 CONCLUSIONS

3 Conclusions

- investigation across Niger-Congo reveals diverse morpho-syntactic properties and histories of adnominal gender-number aka class marking

a) clitics (§2.1)
b) affixes (§2.2)
c) stacked affixes < affixes + same-position clitics (§2.3)
d) circumfixes < affixes + different-position clitics (§2.4)

> at least languages under §2.1, §2.3 and §2.4 provide clear evidence for affix emergence by way of cliticization, the latter two representing multiple cycles

> same modern form can have different histories – see above, sometimes even involving borrowing (cf. Pasch (1988) on Ndunga (Mbaic))

3 Conclusions

- two scenarios for the origin of classificatory noun affixes~clitics

(I) Classifier-to-affix scenario (Kießling 2013, Güldemann & Fiedler 2021)

(II) Demonstrative~determiner scenario (Greenberg 1977, 1978)

(I) New classifier-to-affix scenario

- variable rather than unitary vowel across different class markers directly reflects the larger inventory of the original classifier system

- **parallel** grammaticalization of classifier to agreement and noun inflection explains isomorphy of adnominal class affix and class pronoun

$$[N=CLF]/[CLF=N] \longrightarrow \textbf{N-CL.SF/CL.PF-N}$$

CLF

CL.PRO
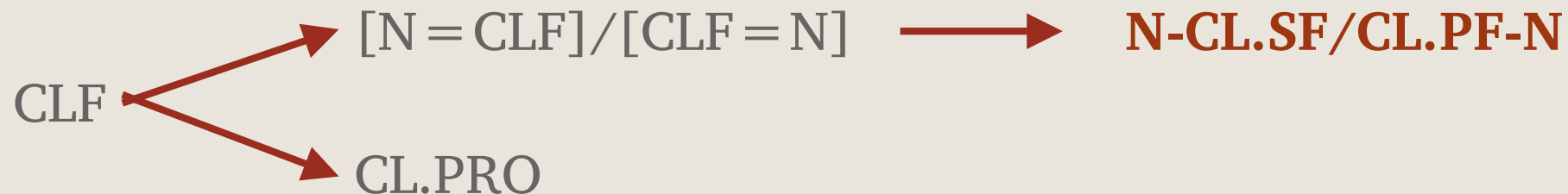
3 Conclusions

(II) Greenberg's demonstrative~determiner scenario

"… the class marker was neither a prefix nor a suffix but varied in its order and became fixed as it developed into an article, just as in the Romance languages. The Latin example is suggestive for another reason. It was noted earlier that the article which renewed the class marker in the languages like Gurma is generally synchronically considered either identical with, or obviously related to, the pronominal subject markers of the verb. In the Romance languages, the article is similar to, or identical with, verb subject or object pronouns, but not with the present demonstratives … But historically both the article and the pronoun have a common origin in the Latin demonstrative."

(Greenberg 1977: 102)

3 Conclusions

(II) Greenberg's demonstrative~determiner scenario

- assumed initial change:

    NUM.CLF > [NUM.CLF + DEM] > CL.DEM

> DEM~DET reflected in the class marker by an invariable element, normally a unitary vowel

- subsequent **parallel** grammaticalization of classificatory demonstratives, explains isomorphy of adnominal class affix and class pronoun

[N = CL.DET]/[CL.DET = N] ⟶ **N-CL.SF/CL.PF-N**

CL.DEM

CL.PRO
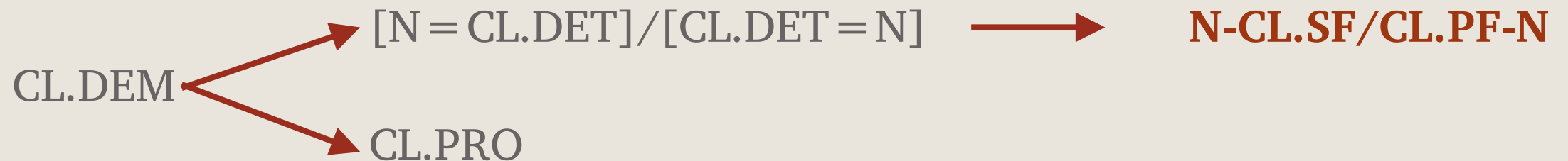
3 Conclusions

- two cliticization scenarios yielding classificatory noun affixes~clitics
(I) Classifier-to-affix scenario (Kießling 2013, Güldemann & Fiedler 2021)
(II) Demonstrative~determiner scenario (Greenberg 1977, 1978)

- different class affix position related partly to NP structure, notably for (I):
(a) head-initial [CLF N] > host-initial morphology: Benue-Kwa, Atlantic
(b) head-final [N CLF] > host-final morphology: Gur

Position\Form	**(I)** CL-Ø	**(II)** CL-V (V = DET)
(a) Host-initial	Benue-Kwa, Atlantic	Temne (Mel)
(b) Host-final	Gur, Adamawa	Mba, many others

Table 1: Variable adnominal class marking across Niger-Congo

THANK YOU!

References

Allan, Edward Jay. 1973. *A grammar of Buem: The Lelemi language.* School of Oriental and African Studies, University of London: Doctoral dissertation.

Ashton, Ethel O., Enoch M. K. Mulira, E. G. M. Ndawula, & Archibald N. Tucker. 1954. *A Luganda Grammar.* New York: Longmans, Green and Company.

Bao Diop, Sokhna. 2015. Les classes nominales en nyun gunyamolo. In : Denis Creissels & Konstantin Pozdniakov (eds.), *Les classes nominales dans les langues atlantiques*, 369-404. Cologne: Rüdiger Köppe Verlag.

Biaye, Séckou, & Denis Creissels. 2015. Les classes nominales en balant ganja. In : Denis Creissels & Konstantin Pozdniakov (eds.), *Les classes nominales dans les langues atlantiques*, 209-260. Cologne: Rüdiger Köppe Verlag.

Bodomo, Adams & Charles Marfo. 2007. The morphophonology of noun classes in Dagaare and Akan. *Studi Linguistici e Filologici Online* 4: 205-243.

Boyeldieu, Pascal, Raimund Kastenholz, Ulrich Kleinewillinghöfer & Florian Lionnet. 2020. The Bua group noun class system: looking for a historical interpretation. *Language in Africa* 1,3: 181–215. doi: 2686-8946-2020-1-3-181-215.

Bybee, Joan L., William Pagliuca & Revere D Perkins. 1990. On the asymmetries in the affixation of grammatical material. In: William Croft, Keith Denning & Suzanne Kemmer (eds.), *Studies in Typology and Diachrony: Papers presented to Joseph H. Greenberg on his 75th Birthday*, 1-42. Amsterdam: John Benjamins.

Carlson, Robert. 1994. *A grammar of Supyire.* Berlin/New York: Mouton de Gruyter.

Carrington, John F. 1949. Esquisse de la langue mba (Kimanga). *Kongo-Overzee* 15: 90-107.

Childs, George Tucker. 1995. *A grammar of Kisi, a southern Atlantic language* (Mouton Grammar Library 16). Berlin/New York: Mouton de Gruyter.

References

Connell, Bruce. 2021. The gender system of Durop. *STUF – Language Typology and Universals* 74,2: 405-425.

Creissels, Denis. 2015. Typologie des classes nominales dans les langues atlantiques. In : Denis Creissels & Konstantin Pozdniakov (eds.), *Les classes nominales dans les langues atlantiques*, 7-55. Cologne: Rüdiger Köppe Verlag.

Dettweiler, Stephen. 2015. *C'Lela grammar portrait*. SIL Nigeria, Jos.

De Wolf, Paul P. 1971. *The noun class system of Proto-Benue-Congo*. (Janua linguarum; Series practica: vol. 167). The Hague, Paris: Mouton de Gruyter.

Diagne, Mbacké. 2015. Classes nominales en bayot kugere. In : Denis Creissels & Konstantin Pozdniakov (eds.), *Les classes nominales dans les langues atlantiques*, 147-170. Cologne: Rüdiger Köppe Verlag.

Dombrowsky-Hahn, Klaudia. 2015. A *grammar of Syer (Western Karaboro, Senufo)*. Cologne: Rüdiger Köppe Verlag.

Dombrowsky-Hahn, Klaudia. to appear. Gender and deriflection in Syer. In: Ines Fiedler, Jan Junglas & Michael Schulze (eds.), The diversity in Gur nominal classification. Cologne: Rüdiger Köppe Verlag.

Elders, Stefan. 2006.

Elstermann, Julius-Maximilian, Ines Fiedler & Tom Güldemann. 2021. The gender system of Longuda. In: Tom Güldemann & Ines Fiedler (eds.), *STUF - Language Typology and Universals* 74,2: 327-346.

Elstermann, Julius-Maximilian. 2021. *Noun classification in Tula. First steps towards reconstructing the gender system of Proto-Tula*. Berlin: Humboldt-Universität zu Berlin (MA thesis).

Fachner, Regine. 1990. The noun phrase in Gola. *Afrikanistische Arbeitspapiere* 23: 5-52.

References

Fiedler, Ines. 2012. E1: Yom. In: Gudrun Miehe, Brigitte Reineke & Kerstin Winkelmann (eds.), *Noun class systems in Gur languages, Vol. II North central Gur languages*. 533-565. Cologne: Rüdiger Köppe Verlag.

Fiedler, Ines & Benedikt Winkhart. to appear. The gender and deriflection system of Miyobe. In: Ines Fiedler, Jan Junglas & Michael Schulze (eds.), The diversity in Gur nominal classification. Cologne: Rüdiger Köppe Verlag.

Gerhardt, Ludwig. 1967-1969. Analytische und vergleichende Untersuchungen zu einigen zentral-nigerianischen Klassensprachen. *Afrika und Übersee* 51: 161-198; 52: 23-57, 125-143, 207-242; 53: 44-65.

Gerhardt, Ludwig. 1983. *Beiträge zur Kenntnis der Sprachen des Nigerianischen Plateaus*. Glückstadt: Augustin.

Greenberg, Joseph H. 1977. Niger-Congo noun class markers: prefixes, suffixes, both or neither. *Studies in African Linguistics, Supplement* 7, 97-104. Los Angeles: Department of Linguistics, University of California.

Greenberg, Joseph H. 1978. How does a language acquire gender markers? In: Joseph Greenberg, H., Charles A. Ferguson & Edith A. Moravcsik (eds.), *Universals of human language, vol. 3: word structure*, 47-82. Stanford (California): Stanford University Press.

Güldemann, Tom & Ines Fiedler. 2021. More diversity enGENDERed by African languages. *STUF – Language Typology and Universals* 74,2: 221-240.

Güldemann, Tom & Jack Merrill. In preparation. Proto-Niger-Congo as a late classifier language, or why should Africa be full of "noun classes" but almost void of classifiers?

Haspelmath, Martin & Andrea D. Sims. 2012. *Understanding morphology*. London: Hodder Education.

Himmelmann, Nikolaus. 2014. Asymmetries in the prosodic phrasing of function words: Another look at the suffixing preference. *Language* 90,4: 927-960.

Hodieb, Liliane. 2021. On the aspectual system of Wushi (Babessi), a Ring Grassfields Bantu language of Cameroon. *Language in Africa* 2,2: 43–65. doi: 10.37892/2686-8946-2021-2-2-43-65.

References

Hodieb, Liliane. 2022. From noun class marking to plural marking. Evidence from Mambiloid and Grassfields for a diachronic universal. Paper presented at the "1st Conference on Bantoid languages and linguistics", University of Hamburg, 23-25 March, 2022.

Hoffmann, Carl F. 1967. An outline of the Dakarkari noun class system and the relation between prefix and suffix noun class systems. In : Gabriel Manessy (ed.), *La classification nominale dans les langues négro-africaines*, 237-259. Paris: CNRS.

Höftmann, Hildegard. 1971. *The structure of Lelemi language*. Leipzig: Verlag Enzyklopädie.

Hyman, Larry M. 1979. Phonology and Noun Structure. In Larry M. Hyman (ed.), A*ghem Grammatical Structure* (Southern California Occasional Papers in Linguistics 7), 1-72. Los Angeles: Department of Linguistics/University of Southern California.

Hyman, Larry M. 2010. Focus Marking in Aghem: Syntax or Semantics? In: Ines Fiedler & Anne Schwarz. (eds.), *The expression of information structure: A documentation of its diversity across Africa*, 95-116. Amsterdam/Philadelphia: John Benjamins.

Kießling, Roland. 2010. Focalisation and defocalisation in Isu: from noun class prefixes to suffixes? In: Ines Fiedler & Anne Schwarz. (eds.), *The expression of information structure: A documentation of its diversity across Africa*, 145-164. Amsterdam/Philadelphia: John Benjamins.

Kießling, Roland. 2013. On the origin of Niger-Congo nominal classification. In: Ritsuko Kikusawa & Lawrence A. Reid (eds.), *Historical linguistics 2011: Selected papers from the 20th international conference on historical linguistics, Osaka, 25-30 July 2011,* 43-66. Amsterdam/Philadelphia: John Benjamins.

Kleinewillinghöfer, Ulrich. 2018. Gender in Vere and Alantika Vere (draft). Paper presented at "Gender across Niger-Congo", Humboldt-Universität zu Berlin, 29-30 November, 2018.

References

Koroma, Regine [Fachner]. 1994. *Die Morphosyntax des Gola* (Afrikanistische Monographien 4). Cologne: Institut für Afrikanistik, Universität zu Köln.

Lehmann, Christian. 2020. Univerbation. *Folia Linguistica Historica* 41,1: 205–252. https://doi.org/10.1515/flih-2020-0007.

Lesage, Jakob. 2021. Plural words in the Macro-Sudan belt. Paper presented at the Workshop "West-central African linguistic history between Macro-Sudan Belt and Niger-Congo: commemorating the 100th anniversary of the Berlin professorship for African languages and the legacy of Diedrich Westermann", Humboldt-Universität zu Berlin, 4-6 November, 2021.

Makeeva, Nadezhda, and Shluinsky, Andrey. 2018. Noun classes and class agreement in Akebu. *Journal of West African Languages* 45,1: 1-26.

Manessy, Gabriel. 1965-1966. Les substantifs à préfixe et suffixe dans les langues voltaïques. *Journal of African Languages* 4: 170-181, 5: 54-61.

Meeussen, Achile, Emile. 1967. Bantu grammatical reconstructions. *Africana Linguistica* 3. 79 - 121. Tervuren: Koninklijk Museum voor Midden-Afrika

Miehe, Gudrun, Ulrich Kleinewillinghöfer, Manfred von Roncador & Kerstin Winkelmann 2012. Overview on noun classes in Gur (II) (revised and enlarged version). In: Gudrun Miehe, Brigitte Reineke & Kerstin Winkelmann (eds.), *Noun class systems in Gur languages. Vol. II. North Central Gur languages,* 5-37. Cologne: Rüdiger Köppe Verlag.

Neukom, Lukas. 2004. *Esquisse grammaticale du mbèlimè, langue voltaïque du Bénin.* Arbeiten des Seminars für Allgemeine Sprachwissenschaft, 18. Zürich: ASAS-Verlag.

References

Pasch, Helma. 1986. *Die Mba-Sprachen; Die Nominalklassensysteme und die genetische Gliederung einer Gruppe von Ubangi-Sprachen* (SUGIA, Sprache und Geschichte in Afrika). Hamburg: Helmut Buske.

Pichl, Walter J. 1964. *Sherbro-English dictionary*. Freetown: Fourah Bay College.

Plunkett, Gray C. 2009. An overview of Foodo, a linguistic island in Benin. *Journal of West African languages* 36,1-2: 107-138.

Prost, André. 1964. *Contribution à l'étude des langues voltaïques*. Mémoires de l'Institut Français d'Afrique Noire, 70. Dakar: Institut Fondamental d'Afrique Noire, Université de Dakar.

Reineke, Brigitte. to appear. Gender and deriflection in Ditammari (Oti-Volta). In: Ines Fiedler, Jan Junglas & Michael Schulze (eds.), The diversity in Gur nominal classification. Cologne: Rüdiger Köppe Verlag.

Rogers, Henry E. 1967. *The phonology and morphology of Sherbro*. New Haven: Yale University, PhD thesis.

Schaefer, Ronald P. & Francis Egbokhare. 2021. Reassessing gender in Ogbe-Oloma. *STUF – Language Typology and Universals* 74,2: 387-404.

Schulze, Michael. 2021. Morphosyntactic patterns of nominal classification marking in Mel. Paper presented at Linguistic Colloquium, Seminar für Afrikawissenschaften, Humboldt-Universität zu Berlin, 02 February, 2021.

Schwarz, Anne. 2012a. A1: Buli. In: Gudrun Miehe, Brigitte Reineke & Kerstin Winkelmann (eds.), *Noun class systems in Gur languages, Vol. II North central Gur languages.* 39-61. Cologne: Rüdiger Köppe Verlag.

Schwarz, Anne. 2012b. A2: Kɔnni. In: Gudrun Miehe, Brigitte Reineke & Kerstin Winkelmann (eds.), *Noun class systems in Gur languages, Vol. II North central Gur languages.* 62-82. Cologne: Rüdiger Köppe Verlag.

References

Segerer, Guillaume. 2015. Les classes nominales en keerak (joola de Kabrousse). In : Denis Creissels and Konstantin Pozdniakov (eds.), *Les classes nominales dans les langues atlantiques*, 103-146. Cologne: Rüdiger Köppe Verlag.

Van de Velde, Mark. 2019. Nominal morphology and syntax. In: Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu languages*, 237-269. London/New York: Routledge.

Van de Velde, Mark. to appear. Agreement on Proto-Bantu relative verb forms. In: Koen Bostoen, Gilles-Maurice de Schryver; Rozenn Guérois & Sara Pacchiarotti (eds.), *On reconstructing proto-Bantu grammar*. Berlin: Language Science Press.

Welmers, William E. 1973. *African language structures*. Berkeley: University of California Press.

Westermann, Diedrich. 1913. Die Mossi-Sprachengruppe im westlichen Sudan. *Anthropos* 8: 467-504, 810-830.

Whiteley, Wilfred H. 1966. *A study of Yao sentences*. Oxford: Clarendon Press.

Williamson, Kay. 1989. Niger-Congo overview. In: John Bendor-Samuel (ed.), T*he Niger-Congo languages*, 3-46. Lanham: University Press of America.

Wilson, William André Auquier. 1961. *An outline of the Temne language*. London: School of Oriental and African Studies (SOAS), University of London.

Winkelmann, Kerstin. 2007a. Baatɔnum. In: Gudrun Miehe & Kerstin Winkelmann (eds.), *Noun class systems in Gur languages. Vol. I. Southwestern Gur languages (without Gurunsi)*, 269-291. Cologne: Rüdiger Köppe Verlag.

Winkelmann, Kerstin. 2007b. Khe. In: Gudrun Miehe & Kerstin Winkelmann (eds.), *Noun class systems in Gur languages. Vol. I. Southwestern Gur languages (without Gurunsi)*, 181-193. Cologne: Rüdiger Köppe Verlag.