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FLOATING NASALITY IN ÌDOMÀ-ÒTÙKPÓ- AN OT ACCOUNT

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Abstract

The thrust of this research paper is to show that the Ìdomà language manifests nasality as a floating feature. The analysis reveals that nasality conveys independent meaning in the language. The data were purely structured using English language since that is the only medium through which the researchers could elicit data from the language consultants. Five language assistants who are native speakers of the language and have lived in the area for more than 25 years were consulted for data elicitation. Over 100 syntactic patterns basically of structures that reflect positive and corresponding negative sentences were used. The theoretical framework adopted is Optimality Theory (OT) approach. The tenets of Autosegmental theory were also adopted albeit, in passing. This is so because Autosegmental theory is the theory that caters for floating elements like nasality with which we are concerned in this paper. The findings show that nasality is a negation marker (Neg. M.) domiciled at the clause final position for sentence negation in the language and is therefore treated as a nasal morpheme in this study.

Keywords: Floating Nasality, Optimality theory, Negation marker, Ìdomà-Òtùkpó.

1. Introduction

Idoma is an Idomoid language which is a branch of Proto West Benue-Congo (Williamson and Blench 2000:13). This language is spoken in Benue, Nasarawa, Taraba, as well as Plateau States of Nigeria. The variety spoken in Benue State is of three sub-variants: Ìdomà-Òtùkpó, Ìdomà-Àgàtú and Ìdomà-Òwúkpa (Adesina 2017:8). The focus in this study is on the Ìdomà-Òtùkpó variety of the Ìdomà language.

The floating segment is a phonological phenomenon that has generated a lot of investigations in the field of linguistics (Bendor-Samuel 1960, Cole & Kisseberth 1995, Akinlabi 1996; Ibikunle 2017). Efforts have been made in previous studies to examine the phonological positions occupied by the 'floating segment' in a given context amongst other issues. There is sufficient evidence which will be shown later that there is a floating nasality in Ìdomà-Òtùkpó. The main purpose of the study is to investigate where floating nasality which occurs in Ìdomà-Òtùkpó resides within a clause; whether it is deleted at the output level or not and why it may or may not be deleted at the output level. All these questions are addressed within the OT framework. Thus, this research paper sets out to propose floating nasality as a morpheme in the language since available data show that the nasality carries independent meaning coupled with theoretical evidence that shows that the nasality cannot be subjected to deletion.

2. Methodology

Primary data for this research were collected from 5 language assistants. All of whom grew up speaking the language in their local community. All of the language consultants reside in the community as at the time of recording the available data.

Participant observation was adopted in the course of data elicitation, as one of the researchers lived in the Ìdomà-Òtùkpó for 10 months. Available data were carefully transcribed using IPA symbols, glossed and translated with the cooperation of the language consultants. This

participant observation method enhanced the elicitation of supplementary contextual data and a conduct informal interviews and vocabulary elicitation sessions.

A syntactic checklist by Awobuluyi (2010) which consists of 100 sentences of varied syntactic patterns basically of structures that reflect positive and corresponding negative sentences was adopted.

Care was taken to have the barest minimum level of background noise. The recordings were made using a headphone, telephone handsets as recording devices and writing materials among others. Three tokens each of words and sentences were recorded as part of the means to ascertain whether or not speakers consistently realized the nasality in the speech forms.

The method of data collection was unscripted in the sense that speakers were not required to read any texts. Rather they were verbally presented with English versions of utterances and were required to supply correspondences in Ìdomà-Òtùkpó. Also, non-linguistic factors of tension; nervousness were tempered by first engaging speakers in pre-recording discussion to informally intimate them with exercise. They were also allowed to repeat utterances as well as say things in varieties of ways during recording sessions. Fifty (50) sentences were elicited from each speaker.

3. Theoretical Framework

The theoretical framework adopted for this analysis is the Optimality Theory (OT). OT was formally proposed in the early 1990s with the work of Alan Prince, John McCarthy, and Paul Smolensky. In OT, all languages share the same set of aspirations. This set is finite and universal, but includes contradictions. It is the constraints and the ways they conflict that shapes language outputs. They form the basis of sound patterns.

It had been observed that many phonological rules were born out of the desire by language to maintain some phonological constraints since the early days of Generative Phonology. There are two major classes of **constraints** that pull the output in opposite ways: faithfulness constraints and markedness constraints. Faithfulness constraints make some comparison between the output and the input. For a faithfulness constraint to be satisfied, the output will have to resemble the input in some meaningful way. Markedness constraints demand that an output be easy to pronounce. Marked sounds and combinations of sounds are the less common ones and the harder ones to pronounce. For a markedness constraint to be satisfied, the output will need to have some properties that make it easy on the speaker.

Faithfulness constraints are good for listeners. The more direct information they have about the input, the less work they have to do to form an interpretation of the sentence. Markedness constraints are good for speakers. The easier the phonetic sounds of the output are to say; the less work a speaker's mouth and other articulators will have to do. In this way OT captures an intuitive fact about the social and communicative nature of language.

Each language resolves this universal conflict between markedness and faithfulness in a structured way. An infinite number of possible **outputs, or candidates**, will be graded on the constraints usually on a pass-fail basis. Since it is impossible to satisfy all the constraints, every language has its list of priorities. The candidate that performs the best wins and is the optimal output, hence the name *Optimality theory*. Even a winning candidate will have problems. However, the phonology of a language must dictate which of these problems it can ignore and which will be deal breakers. In practice, only the most conservative/compelling candidates and the constraints relevant for the problem at hand will be shown on an Optimality tableau.

On a tableau (that is the illustrative table), violation of a constraint is indicated by a star or asterisk (*) while an exclamation point (!) indicates crucial or fatal violation. A pointed finger (☞) indicates the chosen candidate that best satisfies the constraint set (Oyebade 1998:195).

Also, Autosegmental theory assumes that the features that represent each sound in an utterance are situated on different independent tiers. The theory was motivated by Goldsmith

(1976) where he argued for stability of floating autosegments such as tone and nasality which, at some points of derivation, merges with some vowel, thus, passing on its tonal specification to that vowel.

4. Review of Previous Studies

Some studies have been conducted to confirm Goldsmith's (1976) claim that segments and autosegments are on separate autonomous tiers (Durand 1990, Egbokhare 1990, Oyebade 1998, Ibikunle and Adesope 2017; Ibikunle 2017).

Ibikunle (2017) describes floating nasality as negator marker in Ìdomà-Òtùkpó using the Autosegmental framework couched in Goldsmith (1976). He identified three crucial contexts where the floating nasality can be used to negate sentences. These are: (i) to show inability to do something (ii) to negate future event and (iii) to negate an obligatory action. He further observed that the floating nasality can also be used in contexts other than the three contexts identified above to negate sentences. In this case, the floating nasality can be interchangeably used with the item [nó] which equally indicates negation in the language (Ibikunle 2017:160). In his analysis, no theoretical explanations were offered on where the nasality resides and why it is not easily deleted at the output level. Autosegmental theory employs a serial derivation of items from underlying level to surface phonetic representation. The derivation of floating nasality analyzed in Ibikunle (2017) employs some 'operators' like mapping, dumping, spreading and delink; thereby making the analysis complex.

Sanusi and Oyewole (2019), however, show that in Idoma, the negative marker is /nŏ/ which occurs at the sentence final position in any given negative construction as against the hypothesis of pre-verbal occurrence between the subject position and the inflected V. Some of the data presented in their analysis is shown in (1) below.

1. Sentence Negation: Affirmative/Negative Sentences in Idoma

a. Affirmative		b. Negative	
(i)	**Peter lo dule** **Peter eat food** **S V O** **'Peter ate the food.'**	**(i)**	**Peter lo dule a nŏ** **Peter eat food the Neg** **S V O** **'Peter did not eat the food.'**
(ii)	**èbɛ̀gényen gbɛ̀ nehì** **fish is big** **S V Adj** **'The fish is big.'**	**(ii)**	**èbɛ̀gényen gbɛ̀ nehì nŏ** **fish is big Neg** **S V Adj** **'The fish is not big.'**
(iii)	**ɛ́nɛ́ hògì kappa** **mother cook rice** **S V O** **'Mother cooked rice.'**	**(iii)**	**ɛ́nɛ́ hògì kappa a nŏ** **mother cook rice the Neg** **S V O** **'Mother did not cook rice.'**
(iv)	**Bright ńmé eyin** **Bright fetch water** **S V O** **'Bright fetched water.'**	**(iv)**	**Bright ńmé eyin a nŏ** **Bright fetch water the Neg** **S V O** **'Bright did not fetch water.'**
(v)	**oche ju ɔkpa li John**	**(v)**	**oche je ɔkpa li John nŏ**

king give book to John	**king give book to John Neg**
S V DO IO	**S V DO IO**
'The king gave a book to John.'	**'The king did not give a book to John.'**

Sanusi and Oyewole (2019:88)

In Tenera, an Arawakan language of Brazil, the 3rd person affix is realized as nasality, attested in local nasal harmony.

2.

'1sg.subject'		'3sg.subject'	
iwatako	**'I sat'**	**ĩwãndako**	**'s/he sat'**
otopiko	**'I chopped'**	**õndopiko**	**'s/he chopped'**
jono	**'I walked'**	**j̃õnõ**	**'s/he walked'**
arunoe	**'I, the girl'**	**ãr̃ũnõẽ**	**'she, the girl'**

(Bendor-Samuel1960; Cole & Kisseberth 1995).

The data above indicates that the 3sg. subject is a nasal segment as shown on the right side. At the input level, the nasality is left afloat at the clause initial position before it spreads from the left edge until it is blocked by a stop at the output level. This resembles nasal harmony where segments in a domain share the same value for nasal. The Ìdomà and Terena cases above lends credence to Akinlabi's (1996:255-257) assertion that some affixes are not realized segmentally but rather as a feature (or combination of features) on some segments of the root. These affixes typically target an edge or another prominent position. Features do not always need to be associated with a root node. Floating features display a different set of locality facts than associated features. In his analysis, Akinlabi (1996) describes an interestingly similar case of nasality in the same Terena. However, according to him, it is rather the first person that is marked through a process of progressive nasalization in the Terena language thus.

3. 1st person in Terena

ajo	**'his brother'**	**ãj̃õ**	**'my brother'**
arine	**'sickness**	**ãr̃ĩnẽ**	**'my sickness'**
unae	**'boss'**	**ũnãẽ**	**'my boss'**
emoˀu	**'this word'**	**ẽmõˀũ**	**'my word'**
owoku	**'his house'**	**õw̃õᵑgu**	**'my house'**
iwuˀɪʃo	**'he rides'**	**ĩw̃ũˀĩⁿʒo**	**'I ride'**
ɪtuke	**(Poss Pro)**	**ĩⁿduke**	**(1 Pers Poss Pro)**
nokone	**'he needs'**	**nõᵑgone**	**'I need'**

This case in Terena gives impetus to a hypothesis that a language may adopt a non-segmental morpheme such as nasality and its activity can be analogous to that of the very familiar Vowel Harmony.

This current research is on the variety of Ìdomà, spoken in Òtùkpó local government area of Benue State and it analyses negative marker as a floating nasality in some syntactic contexts. However, as noted in Ibikunle (2017), the floating nasality can be interchangeably used with the item /nó/ which equally indicates negation in the language and the position of occurrence is clause final or post verbal as pointed out in Sanusi and Oyewale (2019).

The next section presents data from Ìdomà-Òtùkpó that display what we consider to be floating nasality.

5. Data Analysis

There are at least, three crucial semantic contexts where floating nasality is used. They are shown in the following data where the non-negated forms are presented in (i) while the negated equivalents are shown in (ii).

4. To Negate Ability

a. (i) /ó jɛ̀hɛ̀ glá/ ⟶ [ó jɛ̀hɛ̀ glá] 's/he can laugh'
s/he laugh can
(ii) /ó jɛ̀hɛ̀ glá {N}/⟶ [ó jɛ̀hɛ̀ glã́] 's/he cannot laugh'
s/he laugh can Neg.M.

b. (i) /ń lódré glá/ ⟶ [ń lódré glá] 'I can eat'
I eat can
(ii) /ń lódré glá {N}/⟶ [ń lódré glã́] 'I cannot eat'
I eat can Neg.M.

c. (i) /é kɛ̀la glá/ ⟶ [é kɛ̀la glá] 'they can talk'
they talk can
(ii) /é kɛ̀la glá {N}/⟶ [é kɛ̀la glã́] 'they cannot talk'
they talk can Neg.M.

d. (i) /ó gútábà glá/⟶ [ó gútábà glá] 's/he can smoke cigarette'
s/he smoke-cigarette can
(ii) /ó gútábà glá {N}/⟶ [ó gútábà glã́] 's/he cannot smoke cigarette'
s/he smoke-cigarette can Neg.M.

e. (i) /á gbɔ̀la glá/ ⟶ [á gbɔ̀la glá] 'you can sleep'
you(sg) sleep can
(ii) /á gbɔ̀la glá {N}/⟶ [á gbɔ̀laglã́] 'you cannot sleep'
you(sg) sleep can Neg.M.

f. (i) /àlɔ̀ ígbɔkɔ̀ glá/⟶ [àlɔ̀ ígbɔkɔ̀ gla] 'we can beg'
we beg can
(ii) /àlɔ̀ ígbɔkɔ̀ glá {N}/⟶ [àlɔ̀ ígbɔkɔ̀ glã́] 'we cannot beg'
we beg can Neg.M.

5. To Negate Simple Futurity/prediction

a. (i) /ń gá tɔ́kpá/ ⟶ [ń gá tɔ́kpa] 'I will write'
I will write
(ii) /ń gá tɔ́kpá {N}/⟶ [ń gá tɔ́kpã́] 'I will not write'
I will write Neg.M.

b. (i) /é gá pɛ́/ ⟶ [é gá pɛ́] 'they will drive'
they will drive
(ii) /é gá pɛ́ {N}/⟶ [é gá pɛ̃́] 'they will not drive'
they will drive Neg.M.

c. (i) /ó gá kú/ ⟶ [ó gá kú] 'it will die'
it will die
(ii) /ó gá kú {N}/⟶ [ó gá kṹ] 'it will not die'
it will die Neg.M.

d. (i) /ó gá ʤìkú/ ⟶ [ó gá ʤìkú] 's/he will cry'
s/he will cry
(ii) /ó gá ʤìkú {N}/⟶ [ó gá ʤìkṹ] 's/he will not cry'

s/he will cry Neg.M.

e. (i) /é gá gʷé/ ⟶ [ó gá gʷé] 'they will bath'
they will cry

(ii) /é gá gʷé {N}/ ⟶ [ó gá gʷẽ] 'they will not bath'
they will cry Neg.M.

f. (i) /àlɔ̀ ígá júklɔ́ / ⟶ [àlɔ̀ ígá júklɔ́] 'we will work'
we will work

(ii) /àlɔ̀ ígá júklɔ́ {N}/ ⟶ [àlɔ̀ ígá júklɔ̃́] 'we will not work'
we will work Neg.M.

6. To Negate Obligation

a. (i) /á gáa lé / ⟶ [á gáa lé] 'you must eat'
you(sg) must eat

(ii) /á gáa lé {N}/ ⟶ [á gáa lẽ́] 'you must not eat'
you(sg) must eat Neg.M.

b. (i) /á gáa hémkpo/ ⟶ [á gáa hémkpo] 'you must fetch water'
you(sg) must fetch-water

(ii) /á gáa hémkpo {N}/ ⟶ [á gáa hémkpõ] 'you must not fetch water'
you(sg) must fetch-water Neg.M.

c. (i) /ń gáa hɔʧɛ̀ dúma/ ⟶ [ń gáa hɔʧɛ̀ dúma] 'I must call anybody'
I must call anybody

(ii) / ń gáa hɔʧɛ̀ dúma{N}/ ⟶ [ń gáa hɔʧɛ̀ dúmã] 'I must not call anybody'
I must call anybody Neg.M.

d. (i) /é gáa gùta / ⟶ [é gáa gùta] 'they must sleep'
they must sleep

(ii) /é gáa gùta{N}/ ⟶ [é gáa gùtã] 'they must not sleep'
they must sleep Neg.M.

e. (i) /é gáa lá/ ⟶ [é gáa lá] 'they must sell'
they must sell Neg.M.

(ii) /é gáa lá {N}/ ⟶ [é gáa lã́] 'they must not sell'
they must sell Neg.M.

f. (i) /ó gáa ɲɔ́ / ⟶ [ó gáa ɲɔ́] 's/he must go'
s/he must go

(ii) /ó gáa ɲɔ́ {N} / ⟶ [ó gáa ɲɔ̃́] 's/he must not go'
s/he must go Neg.M.

The floating nasality '{N}' in data 4a-f negates ability. In 5a-f, it negates simple futurity. And lastly in 6a-f, obligatory constructions are negated using the floating nasality. The nasality appears post-verbally or clause finally and docks leftward to appear on the clause final vowel as shown on the right side of the arrow in all examples in (ii) because floating elements like the one being discussed in this paper cannot be produced in isolation without a Nasal Bearing Unit (NBU).

The nasality does not get deleted at the output level which is why the constraint MAX[+nas] is highly ranked in Ìdomà-Òtùkpó for the simple reason that the nasality is grammatical (a morpheme, indicating negation) rather than phonological (which is subject to deletion). This being the case, the markedness constraint [*FLOAT] triggered the floating nasality to have its way on the clause final vowel.

6. OT Analysis of Floating Nasality in Idoma-Otukpo

Five constraints are established on the OT analysis of the floating nasality. Three of them are faithfulness constraints viz: (MAX[+nas], Align L[+nas], IDENT-IO[NAS]) while the remaining two are markedness constraints: *FLOAT and *[+NAS].

1. MAX[+nas] = An input [+nas] must correspond to an output [+nas] (i.e. no deletion of [+nas]. McCarthy and Prince (1995)
2. Align [+nas] -R = Align the right edge of the [+nas] to the rightmost edge of a string (Hyde 2012).
3. IDENT-IO[NAS] = Input and output must be similar for nasal value (Beckman 1997)
4. *FLOAT = Assign a violation mark for every feature that is not associated to some X (i.e. No floating features) (Adewale 2016)
5. *[+NAS] = Avoid nasal

We propose that these constraints are ranked in the language thus:

*FLOAT; MAX [+nas] >> Align[+nas]-R >> IDENT-IO[NAS] >> *[+NAS]

It should be noted that *FLOAT and MAX [+nas] have equal ranking specification in the constraint ranking above.

Tableau 1: How OT selects the best candidate when negating ability

[+nas] /ó jɛ̀hɛ̀ glá /	*FLOAT	MAX[+nas]	Align[+nas]-R	IDENT-IO[NAS]	*[+NAS]
a. [+nas] ☞ ó jɛ̀hɛ̀ glá				*	*
b. [+nas] ó jɛ̀hɛ̀ glá			*!	*	*
c. [+nas] ó jɛ̀hɛ̀ glá		*!			*
d.[+nas] ó jɛ̀hɛ̀ glá		*!	*		*
e. ó jɛ̀hɛ̀ glá		*!	*	*	
f. [+nas] ó jɛ̀hɛ̀ glá			*!	*	*

On the OT tableau 1 above, candidate (a) is optimal candidate because it minimally violates the least ranked constraints.

The markedness constraint *FLOAT and the faithfulness constraint MAX[+nas] are highly ranked in the language, candidates (d) and (c) fail out on account of the violation of the previous constraint while the violation of the later constraint affects candidate (e)**.** The faithfulness constraint Align[+nas]-R is violated by candidates (b) as well as (f) which leads to their downfall.

Tableau 2: How OT selects the best candidate when futurity is negated

[+nas] / á gá tɔ́kpá /	*FLOAT	MAX[+nas]	Align[+nas]-R	IDENT-IO[NAS]	*[+NAS]
a.[+nas] á gá tɔ́kpá	*!		*		*
b. [+nas] á gá tɔ́kpá			*!	*	*
c. [+nas] á gá tɔ́kpá	*!				*
d. [+nas] ☞ á gá tɔ́kpá				*	*
e. á gá tɔ́kpá		*!	*	*	
f. [+nas] á gá tɔ́kpá			*!	*	*

OT tableau 2 above indicates that candidate (d) is the winning candidate because it minimally violates the least ranked constraints.

The violation of the highly ranked constraints *FLOAT and MAX[+nas] in the language leads to the downfall of candidates (a) and (c) on account of the former constraint while the violation of the later constraint affects candidate (e)**.** The constraint Align[+nas]-R is violated by candidates (b) as well as (f) which force them out of competition.

Tableau 3: How OT selects the best candidate when obligatory action is negated

[+nas] / á gáa lé /	*FLOAT	MAX[+nas]	Align[+nas]-R	IDENT-IO[NAS]	*[+NAS]
a. [+nas] á gáa lé	*!		*		*
b. [+nas] á gáa lé			*!	*	*
c. [+nas] ☞ á gáa lé				*	*
d. [+nas] á gáa lé	*!				*
e. á gáa lé		*!	*	*	
f. [+nas] á gáa lé			*!	*	*

Tableau 3 above shows that candidate (c) is the optimal because it minimally violates the least ranked constraints.

The highly ranked constraints *FLOAT is violated by candidates (a) and (d). This forces them out of the completion. Also, the violation of the highly ranked faithfulness constraint MAX[+nas] affects candidate (e)**.** Candidates (b) as well as (f) lose out on account of the violation of the markedness constraint Align[+nas]-R.

7. Conclusion

This paper argues that floating nasality is a morpheme which resides at the clause final position in Ìdomà-Òtùkpó to negate three kinds of constructions namely: ability, simple futurity and obligation. It equally shows that the grammaticality of the nasality makes it to survive deletion at the output level; lending credence to MAX[+nas] as a highly ranked constraint in the language. More so, it has been argued that nasality is not a vowel segment that is devoid of all vowel qualities but rather it is a featural affix that lacks a Nasal Bearing Unit (NBU) at the input level but acquires its NBU at the output level to motivate the high rank nature of the constraint [*FLOAT].

References

Adesina, Boluwatife. 2017. Interrogatives in Idomoid. B. A. Long Essay. Adekunle Ajasin University Akungba Akoko.

Adewale, Omolola. 2016. Optimality Theory and Tone in Igbomina. *Akungba Journal of Linguistics and Literature* 7. 100-113.

Akinlabi, Akibiyi. 1996. Featural Affixation. *Journal of Linguistics* 32:239-289.

Beckman, Jill. 1997. Positional Faithfulness, Positional Neutralisation, and Shona Vowel Harmony. *Phonology* 14.1-46.

Bendor-Samuel, John. 1960. Some Problems of Segmentation in the Phonological Analysis of Terena.Word 16.348–355.

Cole, Jennifer and Charles Kisseberth. 1995. Nasal harmony in Optimal Domains Theory. In Proceedings of the Western Conference on Linguistics, Fresno, CA: California State University Department of Linguistics, vol. 7. 44–58.Available on Rutgers Optimality Archive, ROA 49, http://roa.rutgers.edu.

Durand, Jacques. 1990. *Generative and Non-Linear Phonology*. New York: Longman

Egbokhare, Francis. 1990. *Nasality of Emai,* Afrika and Ubersee, Band 73: 237-250.

Goldsmith, John. 1976. *Autosegmental Phonology.* PhD dissertation, MIT.

Hyde, Brett. 2012. Alignment Constraints. Natural Language and Linguistic Theory **30**. 789-836.

Ibikunle, Abiodun and Dauda Adesope. 2017. Tomorph and Nasal Morpheme in Tiv: An Autosegmental Approach. *Akungba Journal of Linguistics and Literature*. 8. 42-50.

Ibikunle, Abiodun. 2017. Floating Nasality in Idoma: An Autosegmental Approach. *Ife Journal of Language and Literature* 3. 155-163

McCarthy, John and Alan Prince. 1995. *Generalized Alignment*: Technical Report no.3 of the Rutgers Center for Cognitive Science, New Jersey.

Oyebade, Francis. 1998. *A Course in Phonology.* Ijebuode: Shebiotimo Publications.

Prince, Alan and Paul Smolensky. 1993. *Optimality Theory: Constraint Interaction in Generative Grammar*. Ms., Rutgers University, New Brunswick and University of Colorado, Boulder.

Sanusi, Issa and Lydia, D., Oyewole. 2019. The Syntactic Position of Negative Markers in Idoma and Tiv: A Deviation from Language Universal Validity. *Journal of Universal Language* 20(1): 77-98. DOI 10.22425/JUL.2019.20.1.77

Smolensky, Paul. 1993. Harmony, Markedness and Phonological Activities. Paper delivered at Rutgers Optimality Workshop 1.

Williamson, Kay, and Roger Blench. 2000. Niger-Congo. Pages 11–42 of: Heine, Bernd, and Nurse, Derek (eds), *African Languages. An Introduction.* Cambridge: Cambridge University Press.

List of Abbreviations

Adj.	Adjective
DO	Direct Object
IO	Indirect Object
N	Nasality
NBU	Nasal Bearing Unit
Neg. M.	Negative Marker
OT	Optimality Theory
Poss Pro	Possessive Pronoun
SVO	Subject Verb Object
3sg	Third Person Singular