

An areal typology of nasal vowel systems in West Africa

(Workshop 3: Areal Phenomena in Northern Sub-Saharan Africa)

ROLLE, Nicholas

University of California, Berkeley (n.rolle@berkeley.edu)

Abstract

It has long been known that contrastive nasal vowels are disproportionately common in West Africa compared to the rest of Africa and worldwide (Hyman 1972, Williamson 1973, Ruhlen 1978, Maddieson 1984, 2007, Clements & Rialland 2006, and Hajek 2011a,b). In fact, nasal vowels have been identified as a core feature defining the linguistic area called “the Macro-Sudan Belt” (Güldemann 2008, 2010) stretching from Senegal to Central African Republic. In this paper, I refer to this area as the West African Nasal Vowel Zone (NVZ). Within this zone, a number of questions remain including the following: (1) what are the patterns of phonemic inventories of nasal vowel systems and their common gaps, (2) how are these patterns distributed areally and genetically within West Africa, and (3) how can we situate these patterns within greater typological and phonetic literature.

To this end, I have created a typological database of nasal vowel systems, activity, and patterns in nearly 400 languages/language clusters in West Africa, the largest of its kind to date. A main goal of this typological survey is to demarcate the exact areas within West Africa which do and do not have contrastive nasal vowels. To this end, this survey demarcates five areas which do not have nasal vowels, referred to as West African Oral Vowel Zones (OVZ) 1-5: [1] Atlantic (Senegal/Guinea Bissau), [2] Ivoirian (Southern Ivory Coast), [3] Ghanaian (Northern Ghana, Southern Burkina Faso), [4] Upper Nigerian (Northern Nigeria, Niger), and [5] Lower Nigerian (South-Eastern Nigeria, Cameroon).

Further, within the Nasal Vowel Zone there are two main types of nasal vowel systems: (1) those systems which have a full set of nasal vowel counterparts, and (2) those which do not have a nasal vowel counterpart to mid-close /e o/ (a fact previously noticed by many, e.g. Hyman 1972). This survey shows that languages which lack /ẽ õ/ form a continuum stretching from Western Nigeria along the coast into Ghana, and up into the Ivory Coast and the Mande language area. In contrast, languages which show a distinct presence of phonemic /ẽ õ/ (as well as other types of Nasal vowel systems) are disproportionately present in the Nasal Vowel Zone periphery where the Nasal Vowel Zone and the five Oral Vowel Zones meet. I show that these oral zones and the larger West African NVZ cannot be attributed merely to genetic inheritance but must be interpreted as structural convergence through language contact, while also making key reference to inherent phonetic pressures in the perception of nasal vowels which drive these patterns.

Concluding this paper, I situate this survey against previous large-scale cross-linguistic surveys, and also to concentrated nasal vowel zones in South America, Central America, India, and New Caledonia. I show that although other areas show similar nasal vowel gaps at mid-height to be common, the frequency and geographic extent to which a gap of /ẽ õ/ is found in West Africa is greater, suggesting large-scale macro areal convergence.

References:

- Clements, G. N. & Annie Rialland. 2006. “Africa as a phonological area”. In Bernd Heine & Derek Nurse (Eds.), *A linguistic geography of Africa*. Cambridge: Cambridge University Press. Available at http://annierialland.free.fr/Clements_Rialland.pdf.
- Güldemann, Tom. 2008. “The Macro-Sudan belt: Towards identifying a linguistic area in northern sub-Saharan Africa”. In Bernd Heine and Derek Nurse (eds.), *A linguistic geography of Africa*. Cambridge: Cambridge University Press. 151-185.
- Güldemann, Tom. 2010. “Proto-Bantu and Proto-Niger-Congo: Macro-areal typology and linguistic reconstruction”. In Christa König and Osamu Hieda (Eds.), *International Symposium of the Center of Corpus-based Linguistics and Language Education (CbLLE)*. Amsterdam/Philadelphia: John Benjamins.
- Hajek, John. 2011a. “Vowel Nasalization”. In Matthew S Dryer. & Martin Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Munich: Max Planck Digital Library, feature 10A. Available online at <http://wals.info/feature/10A>.
- Hajek, John. 2011b. “Nasal Vowels in West Africa”. In Matthew S Dryer. & Martin Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Munich: Max Planck Digital Library, feature 10B. Available online at <http://wals.info/feature/10B>.
- Hyman, Larry M. 1972. “Nasals and nasalization in Kwa”. *Studies in African Linguistics*, 3(2):167-205.
- Maddieson, Ian. 2007. “Areal distribution of nasalized vowels”. Proceedings of ICPHS ID 1676 Saarbrücken, 6-10 August 2007. 1381-1384.
- Maddieson, Ian. 1984. *Patterns of Sounds*. Cambridge: CUP.
- Ruhlen, Merritt. 1978. “Nasal Vowels”. In Greenberg, J. (Ed.), *Universals of Human language. Vol II: Phonology*. Stanford: Stanford University Press. 203-241.
- Williamson, Kay. 1973. “More on Nasals and Nasalization in Kwa.” *Studies in African Linguistics* 4(2):115–138.

Keywords: nasality, areality, “West Africa”