

## **UNNATURAL TERMS FOR NATURAL THINGS:**

# **LEXICAL FLOW IN**

# THE COMPARATIVE ETHNOBOTANY OF EAST-CENTRAL GHANA

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#### 1. Introduction

One of the guiding principles of a historical linguistics that aims to reconstruct past lifestyles is a distinction between culture and nature. Social institutions and technology are mutable, and pattern of innovation and loanwords suggest change and development. Natural and environmental items, whether biological or other, have been used to reconstruct homelands and migrations, assuming their ecological stability in a given area. Reconstructions of the names of trees and fish have played a significant role in studies of the homeland and migrations of the Indo-Europeans (ref.).

As with all simple and neat dichotomies, reality is more complex. It seems a credible assumption that objects present in the natural environment of individual ethnolinguistic groups would have a name at the time of a proto-language and descendant forms of that name would follow through daughter languages. For example, if a particular animal is present in a zoogeographic region which coincides with a group of related languages, there would appear to be no need to borrow or innovate the name of the animal.

Unfortunately, this does not appear to be case. Under certain circumstances, borrowing and adaptation of the names for indigenous or local species is common. Sometimes this can be easily detected because the process is recent and its motivation identifiable. However, presumably such processes occurred in a now barely recoverable past, leading to strata of loanwords that give the appearance of historical retentions. In this case, picking apart contact relations from genetic connections is often problematic.

There is another aspect to this; why borrow names for common items familiar from everyday life? It is easy to account for loanwords through cultural dominance or the spread of new or exotic items. But

This paper<sup>1</sup> explores this topic through the analysis of tree names in the Volta Region of Ghana. The stimulus for this discussion has been the collection of detailed ethnobotanical materials for some of the languages of the region as well as sufficient linguistic analyses to make transcription fairly reliable. Volta Region represents a complex interactive zone of languages from different subgroups of Kwa, as well as Gur languages and as such is a useful test-zone to explore this type of intensive borrowing.

#### 2. Ethnographic and linguistic background to Volta Region

The Volta region of Ghana and the adjacent part of Togo is the most ethnically complex region of Ghana. The hilly terrain is probably in part responsible; various groups appear to have settled on the hills, and become relatively isolated. The most recent classification of these languages is found in the 13<sup>th</sup> Ethnologue (http://gamma.sil.org/ethnologue/). The population figures should be treated with some scepticism, since they data from the early 1990s and are anyway estimates. The figures include both Ghana and other countries where speakers are found and for the larger groups such as Ewe refer to all speakers, not just those in Volta Region. Table 1 shows the main ethnic groups and languages:

<sup>&</sup>lt;sup>1</sup> The main research for this paper was carried out at a writers' workshop held in Tamale, 22-27 May, 2000. The Workshop held jointly by ODI and GILLBT was funded by DFID, to whom our thanks. Some twenty literacy teams attended and prepared lists of useful plants; each tema in the Volta Region subsequently went out in the field with me to check and expand the dataset. I am grateful to Pat Herbert and Peter Wangara, who bore the brunt of local organisation and other members of the GILLBT team. I would also like to thank Dr. Elizabeth Hsu who came out from England to help work with the teams and William Asante and Oscar Abaalong from the University of Development Studies, Tamale. Finally, I would also like to thank James Amaligo of the Regional Forestry Office, Tamale, who not only worked tirelessly through the workshop, but accompanied me on the subsequent follow-up trip to Volta Region, undertaken in June 2000.

Name	People	Language	Classification	Location	Population
Adele	Bidire	Gidire	Na-Togo	Ghana/Tog	21,000
			-	0	
Akan	Asante	Twi	Central Tano	Ghana	7,000,000
Akpafu	Siwu	Siwu	Na-Togo	Ghana	16,000
Akposo			Ka-Togo	Ghana/Tog	100,000
				0	
Akyode	Akyode	Gikyode	N.Guang	Ghana	10,000
Animere			Ka-Togo	Ghana	2000
Avatime			Ka-Togo	Ghana	12,000
Bassari			Gur	Ghana/Tog	220,000
				0	
Bowiri	Bawuli	Tuwuli	Ka-Togo	Ghana	10,000
Buem	Buem	Lelemi	Na-Togo	Ghana	42,000
Challa	Cala	Cala	Gur	Ghana	2000
Chumburung			N.Guang	Ghana	40,000
Dwang			N.Guang	Ghana	10,000
Ewe	Ewe	Ewe	Gbe	Ghana/Tog	3,000,000
				0	
Konkomba	Bikpakpaln	Likpakpaln	Gur	Ghana/Tog	450,000
				0	
Likpe	Sekpele		Na-Togo	Ghana	15,000
Logba			Na-Togo	Ghana	5000
Nawuri	Nawuri	Nawuri	N.Guang	Ghana	10,000
Nkonya			Na-Togo	Ghana	20,000
Ntrubo	Ntrubo	Dilo	Gur	Ghana/Tog	15,000
				0	
Nyangbo			Ka-Togo	Ghana	3,900
Seele	Sele	Sele	Na-Togo	Ghana	6000
Tafi			Ka-Togo	Ghana	3000

 Table 1. Peoples and languages of the Volta Region

The earliest literature for most of these languages is Westermann (1922a,b, 1954). The most useful survey of the minority Kwa languages (formerly *Togorestsprachen*, now usually 'Central Togo') is Heine (1968) although because this is in German it is less accessible to Ghanaian readers. Kropp-Dakubu and Ford (1989) represents a recent summary in English and Rongier (n.d.) an overview in French. This is updated in Painter (1970) is a survey of the Guang languages and Snider (1989) is a comparative Guang wordlist.

Most of these languages are Kwa languages although from very diverse branches. Figure 1 shows a family tree of Kwa including these branches as some of the terminology used above may be unfamiliar. Although much of the literature and in particular Heine (1968) treats the Central Togo languages as a unit, since Stewart (1989) it has generally been accepted that these form distinct branches showing no particular relationship. Rongier (n.d.) goes so far as to argue that some Central Togo languages are in fact, based on the sufficing morphology, but this is not generally accepted.



Figure 1. Classification of Kwa languages in Volta Region

Adapted from Williamson & Blench (2000)

Apart from Kwa languages, there are also some Gur languages, notably Dilo (Jones 1987) and Bassari, which is centred in Togo, but has now developed scattered colonies throughout this region and has an independent Bible Translation Programme based at Kpandae.

The linguistic dynamics of this region have been transformed by its opening up in the twentieth century and the creation of the Volta Lake. Prior to the twentieth century, the inaccessibility of the region meant that there were no long-distance trade routes traversing it. However, the construction of roads, notably the Great Eastern trunk road in 1964, opened up the region to both trade and migration. The construction of the Volta Lake in 1975 compelled many ethnic groups to leave their ancestral lands and move east or north into new territories, causing the interlacing of populations to become still more intense.

The exact chronology of Ewe migration into this region seems to be well documented, but especially in the south, there are actual Ewe villages and many populations speak Ewe fluently as a second language. Further north, towards Nkwanta, Ewe becomes less important although it is still known to traders and some members of the older generation. At the same time, the expansion of primary education had the effect of spreading Twi more widely, together with the expansion of government. Nonetheless, the absence of significant numbers of first-language speakers of Twi makes it typically a market language with no great depth of vocabulary. Certainly, none of the languages in this region appear to be threatened and most have well-supported literacy programmes.

#### 3. Ecology and economic change

#### **3.1 Evolving attitudes to forest**

Ghana was once one of the great areas of high forest in West Africa and in the precolonial era, the forest covered much of the southwest of Ghana as well as the highland areas along the Ghana Togo borderland, north of the semi-arid regions along the coast west of Accra. The Akan languages developed a rich and complex terminology for high forest trees which was well-documented in the colonial forestry literature (e.g. Irvine 1961).

By modern standards, precolonial impacts on the forest were slight. Timber was cut for construction in the immediate area of settlement and forest products were gathered and traded. Certain species, such as oil-bearing trees, were preferentially encouraged, especially during the phase of slash-and-burn cultivation. In Volta Region with low population densities and low-volume trade the impact was still less. With the colonial era, processes were set in motion which effectively changed attitudes to the forest environment permanently. The key changes were the cutting and export and high-value hardwoods and the notion of clearing forest for plantations as well as the spread of introduced exotics. With the growth of a market for timber, some 'wild' species underwent a major increase in market value. There is no tradition of planting trees in this region, so the introduction of the mango in the German period was of major significance.

The Ghanaian government and its predecessor the Gold Coast government operated a sustainable forestry policy until the 1960s. However, since that time, despite projects, pronouncements and policies, the forest is being inexorably cut down, both by government and small and large timber traders. Chainsaw operators can often operate in areas that would be uneconomic for larger companies and can often gain access to commercial species extremely cheaply by international standards. This has had its greatest impact on the forest in the southwest, but lesser forests, such as the montane forests along the Ghana/Togo border are now severely threatened. Commercial chainsaw operators began to appear in the region in the 1980s and the impact of their operations is now highly visible. The creation of the Kyabobo Range National Park is one attempt to halt this process but it doubtful if commercial pressure can be resisted where the *in situ* populations themselves are highly ambivalent about conserving such and environment (Ledward and Lyon 1996).

#### 3.2 The flow of name for trees and other vegetation: does something with no use have a name?

One of the clichés of ethnobotany is that all plants have names and uses and that every individual in some mythical tribe is a fluent exponent of this knowledge. This is no more true than that everyone in Western society is a professional botanist. Evidently people who live closer to plants in everyday life are more likely to know their names and uses, as studies on traditional plant lore in Britain also suggest (Mabey 1997). However, even within traditional society there is a considerable hierarchy of knowledge, both because of the existence of specialists and micro-variations in an individual's circumstances.

However, there is an additional feature in many African societies, a lack of interest in flowers and other decorative aspects of vegetation (e.g. Goody 1994). In contrast to much of Asia and Europe, plants without any use were also not given any cultural space and therefore very often had no names. This is often perplexing in ethnobotanical fieldwork, as a common working method it to collect plants that seem salient to the researcher and bring them to locally recognised experts for identification. Numerous times in Ghana and Nigeria, they have simply been said to have no name 'because we don't use them for anything'.

Modern times have begun to change these attitudes. A familiar sight in West Africa is the yard of a school or hospital set out with small flowering plants such as Persian lilac. Originally introduced in colonial times, certain species have become associated with institutions and with the houses built by returnees, those who have come back to their village after earning their living elsewhere. However, these species remain within this very limited cultural context unless it happens that they are perceived to have a use in another sphere, in which case they will make the jump to the more disorderly plant environment of the traditional compound.

Nonetheless, particularly among small communities, where the environment is highly complex, such as in rainforest, not only is it the case that not everything has a name, but that many items of flora and fauna are weakly named, in other words they are named in a rather *ad hoc* fashion and the name only known to a few 'expert' speakers. Strangely, valuable and well-known timber trees may fall into this category, because they may have little or no use to a small community. For this reason, invasive words from other languages can easily fill this niche in the language if a tree suddenly changes its value.

The behaviour of names for exotics, such as newly introduced trees is somewhat different. Unless a tree is spread by the authorities, in which case the names may reflect the government department or name, it will spread from one community to another. In most cases, the name will travel with it, appropriately adapted to the phonology and morphology of the borrowing languages. As such items usually spread from the coast, there are often multiple routes and the interwoven names in different languages reflect this.

#### 4. Names for trees

The following section compares names for indigenous trees in languages of Volta Region and elsewhere with names for introduced exotics.

#### 4.1 Local lexical clusters

A number of tree names have been identified that are clearly cognate, but which do not seem to conform to the subgroup affiliation of the languages in which they occur.

Camel's foot (*Piliostigma thonningii*) is widespread in West Africa but of no great economic importance. It is used to make the straps for sandals. **Table 2** shows the names of the camel's foot in Volta Region:

Table 2.	Names for	camel's foot
(Piliostigm	a thonningii)	
Group	Language	Name
Tano	Brong	bafanyan
N. Guang	Gikyode	bàfànyð
	Anyanga	bany'
	Chumburung	, bofanyaŋ
Na-Togo	Gidere	bàfàny5

The African custard-apple is much appreciated as a fruit throughout West Africa. **Table 3** shows a set of linked names for the custard-apple in Volta Region:

Table3.Nsenegalensis)in	ames for the n Volta Region	e custard-apple	(Annona
Group	Language	Name	
		sg.	pl.
N. Guang	Gikyode Chumburung	pónpósì poŋposi	ìpónpósì
Na-Togo Gur	Nkonya Ntrubo Bassari	sàpòpòsìpò kècèrèpómpóó kúnààputisốŋ	

#### 4.2 Widespread tree names

A number of trees are extremely important economically in the present climate seem to have diffused their names widely throughout the region. In most cases, Twi is presumably the donor language, although their integration in the alternating affix system of these languages suggests this process is quite old.

Odum (*Milicia excelsa*) is of major importance as a timber tree. **Table 4** shows the names of odum:

Table 4. Names for odum (Milicia excelsa) in Volta Region and beyond					
Group	Language	Name		Presumed source	
		sg.	pl.		
Tano	Twi	odum			
	Ga	odúm			
N. Guang	Gikyode	òdúm	ìdúm		
Na-Togo	Gidere	ólókò	ílókò	< Yoruba ?	
	Lelemi	odúm			
	Sele	ódúmú	sidúmú		
Ka-Togo	Tuwuli	òdúm	tudúm		
Gur	Ntrubo	ódùm			

The case of odum is particularly interesting, since there are three major roots in the broader area, all competing for the attention of minority languages. There may have been an older Tano root something like #ala, which is being driven out by #odum. However, the #-roko forms which have their epicentre further east and may ultimately derive from Yoruba are also spreading into the region.

Wawa (Triplochiton scheroxylon) is a tall tree common in deciduous lowland forest from Guinea to Zaire. 
**Table 5** shows the names of wawa in the Volta Region:

ource
Table 4)

Table 5. Names for wawa (Triplochiton scheroxylon) in Volta Region and

The names in Nigeria are something of a puzzle, since Igala and Urhobo are not in direct contact with the Ghanaian languages in question. It is likely that this is an artefact of the forestry trade in the colonial period, perhaps even the movement of a single officer. The Gikyode name, which is derived from widespread names for odum suggests the diffusion of the idea that timber trees were salient became accidentally attached to the wrong tree.

Another key product of the colonial era, previously little-valued, was rubber. Forestry officers were constantly on the lookout for species other than *Hevea brasiliensis* and numerous vines and trees were essayed during this period. Table 6 shows the names of the bush rubber tree in the Volta Region:

Table 6. Names for bush rubber tree (Funtumia elastica) in Volta Region and beyond				
Group	Language	Name		
		sg.	pl.	
Tano	Twi	o-fruntum		
Gbe	Ewe	funtum		
N. Guang	Gikyode	òfúntún	ìfúntún	
Ka-Togo	Tuwuli	òfruntum	tùfruntum	
Gur	Ntrubo	òfúrúntún		

Another closely related species was also used for rubber. Table 7 shows the names of rubber tree in the Volta Region:

Table 7. Names for the rubber tree (Funtumia africana) in Volta Region and beyond				
Group	Language	Name		
		sg.	pl.	
Tano	Twi	OSESE		
	Ga	oseseo		
N. Guang	Gikyode	dsésé	ìsésé	
Na-Togo	Gidere	dséséé	Ìsésée	
	Lelemi	dsesé		
	Sele	ofee		
	Nkonya	òfìn		

Whether the Sele and Nkonya terms are cognate is somewhat doubtful, but they are included here pending more data.

#### 4.3 Recent spread of economic species

The names of trees that have spread recently show quite different patterns. In the case of the pawpaw, English, Ewe and Twi all seem to have contributed names to Volta Region, presumably marking subtle patterns of diffusion. Table 8 shows the names of pawpaw:

Table 8. N	ames for pawp			
Group	Language	Name	_	Presumed source
		sg.	pl.	
Tano	Twi	borəfere		
	Ga	adiba		<ewe< td=""></ewe<>
Gbe	Ewe	adiba		
N. Guang	Gikyode	pópòrí		< English
	Chumburung	brofree	ebrofree	
	Nawuri	poripori		
Na-Togo	Gidere	dìbòròfíré	àbòròfíré	
	Sele	kuduba <sup>+</sup>		< Ewe?
	Nkonya	bàflĕ		
Ka-Togo	Tuwuli	lebeflé	fòbɛflé	
	Bassari	borfule		
Gur	Ntrubo	dèpé		
	Tem	poripori		

The neem tree, a native of India was introduced in the colonial era as a shade tree, but it has rapidly developed a place in local medicine because of the medical properties of its bark. Table 9 shows the names of the neem (*Azadirachta indica*) in Volta Region:

Lable 9. Names for neem in the Volta Region							
Group	Language	Name		Presumed source			
		sg.	pl.				
Tano	Twi	?					
Gbe	Ewe	liliti					
N. Guang	Gikyode	lilitiri		? lili + Engli	ish 'tree'		
	Chumburung	kayii preprese					
	Nawuri	nyimsi		borrowed	from	а	Gur
				language?			
Na-Togo	Gidere	lílì	bèlílì				
	Sele	liliti	aliliti				
	Nkonya	lílì òyi					
Ka-Togo	Tuwuli	lílìtí					
Gur	Ntrubo	gáábú dàŋ					
	Bassari	nyimisì		<english +="" 1<="" td=""><td>noun-clas</td><td>s suf</td><td>fix</td></english>	noun-clas	s suf	fix

Table 9. Names for neem in the Volta Region

The ackee apple is a New World fruit, widely used in making soup. Table 10 shows the names of the ackee apple in Volta Region:

in Volta Region					
Group	Language	Name			
		sg.	pl.		
Tano	Twi	ancen			
Gbe	Ewe	aja			
N. Guang	Gikyode	gìké	àké		
	Chumburung	kike	ake		
Na-Togo	Gidere	<b>ð</b> kpì			
	Nkonya	ıkε			
Ka-Togo	Tuwuli	ácá			
Gur	Ntrubo	kpèsé			

 Table 10. Names for ackee apple (Blighia sapida)

It is not yet clear whether all these roots are the same, or whether the Twi, Ewe and Tuwuli names are cognate and the others from a different source.

The physic nut is known both as a hedge-plant and for its oily nut which can be used as a substitute candle. The purgative properties of the nut have caused its rapid adoption into local medical repertoires. Table 11 shows the names of physic nut (Jatropha curcas) in the Volta Region:

Group	Language	Name		Presumed source
-		sg.	pl.	
Tano	Twi	akaneadua		
	Baule	propro		
Gbe	Ewe	kpoti		

kènkèrèdùwé

dìgbísá ténì

lekpótí

klànduà

poopo

#### mag for physic put in the Volte Degi TT 1 1 1 1

The Twi name has been a source for some other the other Volta language names, though strangely the Baule and Tuwuli names are probably cognate and perhaps connected with Ewe.

akpótí

#### 5. Conclusions

N. Guang

Na-Togo

Ka-Togo

Gikyode

Gidere

Nkonva

Tuwuli

Sele

The evidence presented for tree names in this paper suggests that despite their presence in the natural environment, they are unstable and can be borrowed readily. The suggestion is that this is a reflection of cultural salience: in other words the environment is culturally constructed. People see in trees and landscapes what they need to see for immediate cultural purposes and name items accordingly. It is likely that items of little use have only weak names, diverse and known to a few specialists, and that these can be displaced by incoming terminology that strongly externally reinforced. Social, economic and environmental change lead to changes in the salience of individual species and names can be created or borrowed according to circumstances. Introduced exotics show a rather different pattern with borrowing from source languages reflecting particular routes and means of introduction.

This paper has developed examples from the recent past, but it is easy to see that it has relevance for reconstructing linguistic history. Borrowing can be detected because of the similarity between forms, indeed their near identity, in languages that are not closely related. However, similar situations must also have

occurred in the unrecoverable past, also leading to similar borrowings, which will be much more difficult to detect. The moral is that we must be careful in using the nature/culture distinction in historical reconsutrction.

#### References

Adjanohoun et al. 1986. Contribution aux études ethnobotaniques et floristiques au Togo. Paris: ACCT.

- Allan, E.J. 1974. A grammar of Buem. Ph.D. Thesis, University of London.
- Allan, E.J. 1977a. Buem. In: *West African Language Datasheets, I.* M.E. Kropp-Dakubu ed. West African Linguistic Society. s.l.
- Allan, E.J. 1977b. Likpe. In: *West African Language Datasheets, I.* M.E. Kropp-Dakubu ed. West African Linguistic Society. s.l.
- Allen, C. 1977. Sele. In: *West African Language Datasheets, I.* M.E. Kropp-Dakubu ed. West African Linguistic Society. s.l.
- Bertho, R.P. 1952. Les dialectes du Moyen-Togo. Bulletin de l'IFAN, XII, 3:872-892. or 14:1046-1107?.
- Burkill, H.M. 1985. The Useful Plants of West Tropical Africa, Families A-D, Kew, Royal Botanic Gardens.
- Burkill, H.M. 1994. The Useful Plants of West Tropical Africa, Families E-I, Kew, Royal Botanic Gardens.
- Burkill, H.M. 1995. The Useful Plants of West Tropical Africa, Families J-L, Kew, Royal Botanic Gardens.
- Burkill, H.M. 1997. The Useful Plants of West Tropical Africa, Families M-R, Kew, Royal Botanic Gardens.
- Burkill, H.M. 2000. The Useful Plants of West Tropical Africa, Families S-Z, Kew, Royal Botanic Gardens.
- Christaller, 1894. Die Adelesprache im Togogbiet. ZAOS, 1:16-33.
- Dokosi, B.D. 1999. Herbs of Ghana. Legon: Ghana University Press.
- Falconer, J. 1993. Non-timber forest products in Southern Ghana: main report. ms. London: ODA.
- Ford, K.C. 1971a. Aspects of Avatime syntax. Ph.D. thesis. Legon: University of Ghana.
- Ford, K.C. 1971b. Noun classes, concord and markedness in Avatime, Togo remnant group. Annales de L'Université d'Abidjan, Ser. H. 141-149.
- Ford, K.C. 1975. Some issues in the classification of the Togo Restsprachen (Nyangbo, Tafi, Avatime). AFR AMRB, 8:3-18.
- Heine, Bernd 1968. Die Verbreitung und Gliederung der Togorestsprachen. Berlin: Reimer.
- Hintze, U. 1959. Bibliographie der Kwa-Sprachen und der Sprach der Togo-Restvolker. Berlin. ??
- Iddah, R.K. 1981. Siwu. In: *West African Language Datasheets, II.* M.E. Kropp-Dakubu ed. Leiden: West African Linguistic Society with African Studies Centre.
- Irvine, F.R. 1961. *Woody Plants of Ghana with special reference to their uses*. London: Oxford University Press.
- Jones, P. 1987. The phonology of Delo. Legon: Institute of African Studies.
- Kropp, M.E. 1967. *Lefana, Akpafu and Avatime with English glosses*. Comparative African Wordlists 3. Legon: Institute of African Studies.
- Kropp-Dakubu, M.E. and K.C. Ford 1989. The Central Togo languages. In: *The Languages of Ghana*. M.E. Kropp-Dakubu ed. 119-153. London: Kegan Paul International.
- Ledward, A. & D.B. Lyons. 1996. The relationship between the Akyode people and their environment: a study in northern Volta Region, Ghana. Kyabobo Report Series, No. 2. Cambridge: Fauna and Flora International.
- Mabey, R. 1997. Flora Britannica. London: Sinclair-Stevenson.
- Okezie Akobundu, I. & C.W. Agyakwa 1998. *A handbook of West African weeds*. 2<sup>nd</sup>. ed. Ibadan: International Institute of Tropical Agriculture.
- Painter, C. 1970. The Guangs of Togo and Dahomey. Journal of African Languages, 9,1:31-37.
- Pollock, R. 1980. Influence of the Brukung cult in the social organisation of Shiare. Ph.D. Social Anthropology. Cambridge University.
- Rongier, Jacques 1995. Dictionnaire français-éwé. Paris: ACCT-Karthala.
- Seidel, A. 1898. Beiträge zur Kenntnis der sprachen in Togo. Zeitschrift für Afrikanische und Ozeanische Sprachen, 5.

- Snider, K.L. 1989. North Guang comparative wordlist: Chumburung, Krachi, Nawuri, Gichode, Gonja. Legon: Institute of African Studies.
- Westermann, D. 1910. Die Lefanasprache in Togo: Sprachstudien aus dem Gebiet der Sudansprachen. MSOS, 31:39-57.
- Westermann, D. 1922a. Vier Sprachen aus Mitteltogo: Likpe, Bowili, Akpafu und Adele, nebst einigen Resten der Borosprachen. *MSOS*, 25:1-59.
- Westermann, D. 1922b. Die Sprache der Guang in Togo under auf der Goldküste und fünf andere Togosprachen. Berlin: Reimer.

Westermann, D. 1954. Die Togorestvölker und ihre Srachen. Tribus, 4-5:63-68.