

# ON THE INTERNAL STRUCTURE OF THE WORD IN EDO

Thomas O. Omoṛuyi  
University of Benin, Benin, Nigeria

Consonant and vowel deletions are common occurrences in rapid speech tempo in Edo. The final vowel of a word is commonly elided whenever the following word begins with a vowel. This process affects the occurrence of tone and nasality, and in some cases, creates ambiguities and analytical problems. In this paper we examine the deletion processes and changes that occur across word boundaries.

From the viewpoint of the centrality of the verb, we examine the derivation of major word-classes from Edo verbs. Affixes which have constant and identifiable meanings are grouped according to their functions and occurrences with verb stems. Pluralization of nouns is examined from the viewpoint of vowel substitution and the inflectional endings of verbs and their phonological conditioning rules are examined.

L'élision vocalique et consonantique à une vitesse d'élocution rapide sont des phénomènes assez courants en Edo. La voyelle finale d'un mot est souvent éliminée lorsqu'elle précède un autre mot commençant par une voyelle. Ce processus donne lieu à une modification des structures tonales ainsi que de la nasalité. Dans certain cas, il crée des ambiguïtés et des problèmes analytiques. Dans cet exposé, la processus d'élision et les changements occasionnés dans les frontières de mot font l'objet de notre étude.

Etudiée également est la dérivation des classes de mots majeurs à partir des verbes Edo dûe à la position centrale qu'occupent les verbes de la langue. Les affixes ayant des sens identifiables constants sont regroupés selon leurs fonctions et leurs distributions dans des radicaux verbaux. La pluralisation du groupe substantival est étudiée du point de vue de l'alternance vocalique, de la terminaison des afflexionnels, et de leur conditionnement phonologique.

## 1. INTRODUCTION

The purpose of this paper<sup>1</sup> is to examine some changes that occur in the internal structure of words in Edo<sup>2</sup> as some vowel and consonant segments are deleted or added when words co-occur in rapid speech. These deletions and additions have often created problems in the analysis of some sentence structures.

With regard to the verbs, for example, Welmers (1973:42-3) observes that 'after a considerable amount of elicitation, an investigator may well be tempted to wonder how even a native speaker of Edo knows what the final vowel of a given verb actually is.' He further observes that emphatic or topicalized (focus) constructions usually reveal the vowels that have been deleted. This recovery procedure has some limitations because verbs cannot be topicalized or focussed in Edo; they must be nominalized before they can be focussed (see Omoṛuyi, forthcoming). As we shall observe shortly, tone and nasality often shift to other vowel segments when vowels are elided.

## 2. DELETION OF SEGMENTS

Speech tempo plays a significant role in the occurrence or non-occurrence of some vowels and consonants. Westcott (1962:61) identifies seven speech tempos in Edo: ceremonious, deliberate, slow, ordinary, rapid, hurried and slurred. The most common forms which we shall be concerned with are the slow and rapid speech tempos. Both occur in normal discourse but the rapidity varies from one speaker to another. First, we shall examine the vowel elision processes.

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<sup>2</sup> Edo is a member of the Edoid group (Elugbe, 1979) within the Kwa sub-group of the Niger-Congo phylum of African languages. It is also called Bini in the literature and is the main language of the ancient Kingdom of Benin in Nigeria. In spite of my native speaker competence in the language, I was assisted by many others.

## 2.1 ELISION OF VOWELS

All words in Edo end in vowels and whenever the following word in an utterance begins with a vowel, the final vowel of the preceding word is elided in rapid speech. However, the high vowels /i/ and /u/ are not often elided.

Elision of vowels is a common phenomenon in Edoid languages. In Yekhee (Etsako), for example, Laver (1969:51) observes that:

In connected speech, word-final vowels are elided before word-initial vowels, unless the word-final vowel is either /i/ or /u/ in which case it is replaced by /j/ and /w/ respectively.

With the exception of these high vowels and /o/ in some environments described below, the Edo Vowel Elision rule can be stated as follows:

1. V --> Ø / \_\_\_\_\_ # V (where # represents word boundary).

Consider the following examples which consist of a monosyllabic verb and a noun. The first column represents the full or underlying forms used in slow speech and writing. In the second column, the hyphens represent the gaps created by vowel elision and the third column represents the phonetic forms in rapid speech which are, of course, unitary sequences of speech without inter-word pauses.<sup>3</sup>

2.	<b>gbè # òfèn</b>	'kill a rat'	<b>gb- # òfèn</b>	<b>gbòfèn</b>
	<b>bò # òwá</b>	'build a house'	<b>b- # òwá</b>	<b>bòwá</b>
	<b>dè # íkèké</b>	'buy a bicycle'	<b>d- # íkèké</b>	<b>díkèké</b>
	<b>kiè # èkpò</b>	'open a bag'	<b>ki- # èkpò</b>	<b>kièkpò</b>

Whenever verbs end in sequences of two identical vowels, only the final vowel is elided. Amayo (1976:85) rightly observes that 'all vowels have normal value of length; in other words, there are no long or short vowels in the language.' The elision of only the final vowel in such sequences appears to justify this viewpoint. Examples:

3.	<b>hèè # isàn</b>	'pack faeces'	<b>hè- # isàn</b>	<b>hèisàn</b>
	<b>lòò # ùkpòn</b>	'press clothes'	<b>lò- # ùkpòn</b>	<b>lòúkpòn</b>
	<b>khàá # èmwè</b>	'say a word'	<b>khà- # èmwè</b>	<b>khàèmwè</b>
	<b>fùú # èbé</b>	'scramble for books'	<b>fù- # èbé</b>	<b>fùébé</b>

Unlike the Yoruba vowel elision case (Awobuluyi 1986), the application of rule 1 is highly predictable in Edo. Vowel coalescence and assimilation were attested only in the following examples in our data:

4.	<b>kpèè # ùrhù</b>	'shout voice (preach)'	<b>kpòórhu</b>
	<b>kpèè # ókpè</b>	'blow a flute'	<b>kpòókpè</b>

We observe, however, that some tonal changes occur in 2 and 3 after vowel elision. Low tones occur only if the contiguous vowels bear low tones. In other cases, high tones always take precedence over low tones. Alternatively, we can argue that high tones always supercede low tones whenever they occur across word boundaries. This can be summarised and further illustrated in 5:

<sup>3</sup> All examples are cited in the Edo orthography recommended by Amayo and Elugbe (1983). The oral vowels i, e, ɛ, a, o, o and u approximate to /i/, /e/, /ɛ/, /a/, /ɔ/, /o/ and /u/ in the IPA chart respectively. The nasalized vowels are marked by n as follows: **in** = /ĩ/, **ɛn** = /ɛ̃/, **an** = /ã/, **on** = /ɔ̃/ and **un** = /ũ/. However, nasality is unmarked word-finally if a vowel is preceded by a nasal consonant. Acute and grave accents represent high and low tones respectively. Vowels which are phonetically realized as glides are unmarked for tone. The double consonants are realized as follows: **gb** = /g̃b/, **gh** = /g̃/, **kh** = /x/, **kp** = /k̃p/, **mw** = /m̃/, **vb** = /ṽ/, **rh** = /r̃/ and **rr** = /r̃/.

- 5a. Low # low = low  
 tà # òkhá 'tell a story'      t- # òkhá      tòkhá  
 tiè # èbé 'read a book'      ti- # èbé      tièbé
- b. Low # high = high  
 kò # ókà 'plant maize'      k- # ókà      kókà  
 gbè # ókhuè 'break walnut'      gb- # ókhuè      gbókhuè
- c. High # high = high  
 hàá # íghó 'pay some money'      hà- # íghó      hàíghó  
 nòó # Áyì 'ask Ayi'      nò- # Áyì      nòáyì
- d. High # high = high  
 tàá # òbó 'imitate a doctor'      tà- # òbó      tàóbó  
 hòó # ùkpòn 'wash clothes'      hò- # ùkpòn      hòúkpòn

Amayo and Elugbe (1983) observe that 'sometimes a nasalized vowel is deleted at word boundary but its nasality remains.' In such cases nasality is transferred to the next vowel segment e.g:

6.      tàn # ùkpòn 'spread clothes'      t- # ùkpòn      tùnkpòn  
          vèn # èbò 'swear by juju'      v- # èbò      vènbò  
          tòn # ùvún 'dig a hole'      t- # ùvún      tùnvún  
          khièn # àlìmoí 'sell oranges'      khi- # àlìmoí      khiànlìmoí

In all these examples, vowel elision results in loss of a syllable and therefore, of course, of a tone also. However, as mentioned earlier, vowel elision does not occur when a verb ends in a high vowel /i/ or /u/, and is followed by a word beginning with other vowels. These high vowels form glides as shown in 7:

7.      khù # óhuán 'drive a sheep'      khuóhuán  
          kùn # ímótò 'construct a car'      kunímótò  
          sì # òsá 'draw a debt'      siòsá  
          fì # úgbé 'throw a missile'      fíúgbé

Although vowel elision has not occurred in 7, there is loss of a syllable and perhaps of a tone because these high vowels form glides in their phonetic realization as /i/ and /u/ and become [j] and [w] respectively. The tone of the word-initial vowel does not normally change, but for no apparent reason word-initial low tone becomes high in the following examples:

8.      tù # àsèn 'spit saliva'      tuásèn  
          bù # ùdè 'give advice'      bùúdè

Normal vowel elision occurs if the contiguous vowels across word boundaries are both /i/ or /u/ e.g:

9.      bì # ímótò 'push a car'      b- # ímótò      bímótò  
          rhù # úkpá 'light a lamp'      rh- # úkpá      rhúkpá  
          rù # ùmòzò 'make a sword'      r- # ùmòzò      rùmòzò

Glides are formed when a verb ends in /o/ and is followed by a word beginning with a vowel. /o/ is realized as [w] as in 10:

10.      sò # árábà 'tap rubber'      suárábà  
          hò # èmwí 'look for something'      huèmwí  
          sò # isé 'nail a nail'      suisé

Again, for reasons not clear, the low tone of the initial vowel of ẹ̀kì 'market' becomes high when preceded by d̀ò 'hold' as follows:

11. d̀ò # ẹ̀kì 'hold market' duẹ̀kì

When a verb ends in /oo/, the second /o/ is elided and the first forms a glide as in 12:

12. l̀ò # ighó 'spend money' l̀ò- # ighó luighó  
 ẁò # iyán 'plant yams' ẁò- # iyán wuían  
 hò # àrò 'be curious' hò- # àrò huárò  
 ghò # ízẹ 'hawk rice' ghò- # ízẹ ghuízẹ

Glide formation does not, however, occur when a disyllabic verb ending in a consonant and /o/ is followed by a vowel-initial word e.g:

13. hòhó # ẹ̀rhẹ̀n 'blow fire' hòh- # ẹ̀rhẹ̀n hòhẹ̀rhẹ̀n  
 k̀òk̀ò # ighó 'collect money' k̀òk̀- # ighó k̀òk̀ighó  
 kp̀òlò # ùghà 'sweep a room' kp̀òl- # ùghà kp̀òlùghà  
 ròrò # ìrò 'think (a thought)' ròr- # ìrò ròrìrò

In a few cases, glides are formed when a noun ending in /o/ is followed by another noun e.g:<sup>4</sup>

14. ẹ̀vbò # òmwá 'one's town' ẹ̀vbuò!mwá  
 àrò # òfẹ̀n 'a rat's eyes' àruò!fẹ̀n

Normal vowel elision occurs in associative (noun-noun) constructions. However, regardless of the tones of the contiguous vowels before elision occurs, the word-initial vowel of the second noun in the construction always bears a high tone. This is obligatorily followed by a down-stepped tone whenever the inherent tone of the word-initial vowel of the second noun is low, as in 15:

15. ighò # ẹ̀wé 'goat horn' igh- # ẹ̀wé ighé!wé  
 ẹ̀tò # Ọzò 'Ozo's hair' ẹ̀t- # Ọzò ẹ̀tò!zó  
 ọ̀tọ̀ # ìmà 'our land' ọ̀t- # ìmà ọ̀tí!mà  
 ùwònmwẹ̀ # ògì 'melon soup' ùwònmw- # ògì ùwònmwó!gì

Amayo (1983) argues that 'only the positing of a floating high tone can account for the resultant H when two Ls contact across word boundaries.' Elimelech (1978:55) observes a similar phenomenon in Yekhee (Etsako) and he posits an underlying associative morpheme (A) which is marked by a high tone (see also Nyaggah, 1976). According to Elimelech, there is apparently no other way of accounting for the tonal alternations. His examples include the following:

16. /àmè/ /' / /èθà/ --> áméèθà --> [ámèθà]  
 'water' 'A' 'father' 'father's water'  
 /àmè/ /' / /òké/ --> áméòké --> [ámòké]  
 'water' 'A' 'ram' 'ram's water'  
 /àmè/ /' / /ómò/ --> áméómò --> [ámómò]  
 'water' 'A' 'child' 'a child's water'  
 /àmè/ /' / /ódzì/ --> áméódzì --> [ámódzì]  
 'water' 'A' 'crab' 'a crab's water'  
 /únò/ /' / /èθà/ --> únóèθà --> [únèθà]  
 'mouth' 'A' 'father' 'father's mouth'

<sup>4</sup> The exclamation mark (!) in the third column represents a down-stepped tone.

Donwa's (1982:210) analysis of associative constructions in Isoko (an Edoid language) is largely consistent with the analysis of Amayo and Elimelech. She says that 'where a noun is followed by another noun we have an associative construction marked by a floating high tone.'

In the Edo case, Amayo (1983) apparently ignores the optional occurrence of the associative marker *oghé* between these nouns. In associative constructions which mark possession, this morpheme signifies 'belonging to' and in other constructions it expresses the prepositional notions of 'for', 'from', 'of', 'about' and so on. It is often deleted in rapid speech. Therefore the full forms of the examples in 15 are as follows:

17.	<i>ìghò</i>	<i>oghé</i>	<i>èwé</i>	'a horn of a goat'
	<i>ètó</i>	<i>oghé</i>	<i>Òzó</i>	'the hair of Ozo'
	<i>òtò</i>	<i>oghé</i>	<i>ìmà</i>	'land belonging to us'
	<i>ùmònmwè</i>	<i>oghé</i>	<i>ògì</i>	'soup made from leon'

When these full forms are uttered in slow speech the initial vowel of the second noun does not obligatorily bear a high tone but when *oghé* is deleted, as often happens, and the final vowel of the first noun is elided, some tonal adjustments naturally follow.

The two high tones previously borne by *oghé* (i.e. before the deletion) are left stranded or floating. They merge because they have identical melody and then they shift to an adjacent tone-bearing syllable. This phenomenon has been widely attested in Niger-Congo languages. According to Williamson (1989:26):

Synchronic studies of tone systems have been supported by comparative-historical ones which show that the deletion of segments often does not involve the deletion of the tones associated with them. Such tones are instead left 'floating', and interact with tones that remain associated with tone-bearing units; they are the most common cause of tone perturbations.

If the word-initial vowel of the second noun originally bore a low tone as in 17 above, the tone of the next syllable will be a step lower than the preceding high tone derived from the tonal shift. It is this phenomenon which we refer to as a downstepped tone. It is different from automatic downdrift which occurs when high tones are successively lowered by preceding low tones. In the last column in 15, when a high tone displaces a low tone, the following tone is downstepped. Some analysts, however, have seen automatic downdrift and downstep as essentially the same phenomenon (Williamson, 1970).<sup>5</sup>

On the other hand, if the word-initial vowel of the second noun bears a high tone, the high tone of the deleted associative marker simply merges with it and the downstep phenomenon does not occur after vowel elision. For example:

18.	<i>úko # ófìgbòn</i>	'a calabash for oil'	<i>úk- # ófìgbòn</i>	<i>úkófìgbòn</i>
	<i>èkpò # íghó</i>	'a bag of money'	<i>èkp- # íghó</i>	<i>èkpíghó</i>
	<i>úgbó # òkà</i>	'a maize farm'	<i>úgb- # òkà</i>	<i>úgbókà</i>
	<i>éwià # éré</i>	'the smell of beans'	<i>éwi- # éré</i>	<i>éwiéré</i>

According to our informants, the morpheme *ítsì* performs a similar associative function in Yekhee (Etsako). Therefore, for Elimelech to posit a hypothetical morpheme

<sup>5</sup> Prof. Elugbe (personal communication) suggested that it is plausible to derive downstep tones from the occurrence of successive low and high tones. For example, the underlying form of *ámò!gbá* in 15 is *amẹ* (LL) *oghe* (HH) *ogba* (LH).

called A, or for Amayo to call the associative marker a floating high tone may not fully account for the Yekhee (Etsako) and Edo data.<sup>6</sup>

From the foregoing analysis, it is clear that an understanding of the vowel elision processes is crucial to any morphological analysis of Edo and for the explication of the tone and nasality. All these processes occur often in the formation of words in Edo.

We must note that vowel elision can create ambiguities. Consider the examples in a and b below which have identical phonetic realizations:

19(i)	a.	òwá # Òzó	'Ozo's house'	òw- # Òzó	òwó!zó
	b.	òwẹ # Òzó	'Ozo's leg'	òw- # Òzó	òwó!zó
	(ii)	a.	luè # íghó	lu- # íghó	luíghó
		b.	lòó # íghó	lò- # íghó	luíghó
	(iii)	a.	gbà # òkhókhò	gb- # òkhókhò	gbòkhókhò
		b.	gbè # òkhókhò	gb- # òkhókhò	gbòkhókhò

Such structures are usually disambiguated by contextual information, the previous mention of words in a discourse and/or a deliberately slow speech tempo. The occurrence of the associative marker óghé also helps to disambiguate associative constructions.

Sentences can also be disambiguated when the direct object of verbs is transposed to sentence-initial positions in topicalized or focus constructions. In such cases, the verbs occur sentence-finally in their full forms e.g:

20.	òkhókhò	ẹ	ré	I	wẹẹ	nè	ú	gbà/gbè
	chicken	it	be	I	asked	COMP	you	tie/kill
	'It is a chicken I asked you to tie/kill'							

With the occurrence of the verb sentence-finally in 20 vowel elision does not occur so its full form is realized.

## 2.2 CONSONANT DELETION PROCESSES

Consonants are also commonly deleted in rapid speech. Omozuwa (1987) observes that 'the Edo alveolar glide [ɹ] and the glottal [h] are usually deleted in rapid speech.' The alveolar glide is a weak consonant which is susceptible to deletion when it occurs intervocally e.g:

21.	<u>Slow Speech</u>		<u>Rapid Speech</u>
	àrò	'eye'	àrò
	òròkà	'ring'	òròkà
	árábà	'rubber'	áábà
	ékírẹ	'frog'	ékíẹ

In these examples, consonant deletion neither affects the tone pattern nor reduces the number of syllables in a word. In the following trisyllabic words the glottal which occurs in the second syllable is commonly deleted in rapid speech.

22.	<u>Slow Speech</u>		<u>Rapid Speech</u>
	òhóghè	'lie'	òhghè
	ùhòbò	'name of a tribe'	ùòbò

<sup>6</sup> As suggested by an anonymous reviewer, the 'A' morpheme is purely hypothetical; it could be called 'B'. The real morpheme in Etsako (Yekhee) is itsl.

<b>òhóhò</b>	'whole'	<b>òóhò</b>
<b>úhúkì</b>	'obsession'	<b>úúkì</b>

In a few cases, however, it is in the third syllable that [h] is deleted e.g:

23.	<u>Slow Speech</u>		<u>Rapid Speech</u>
	<b>èhíhì</b>	'ant'	<b>èhî</b>
	<b>èhóhò</b>	'wind'	<b>èhò</b>
	<b>ìyòhà</b>	'hostage'	<b>ìyòà</b>

When a consonant and a vowel are reduplicated in a noun, the first consonant is commonly deleted in rapid speech e.g:

24.	<u>Slow Speech</u>		<u>Rapid Speech</u>
	<b>íkèké</b>	'bicycle'	<b>ìèké</b>
	<b>égógó</b>	'bell'	<b>éógó</b>
	<b>ósísí</b>	'gun'	<b>óísí</b>
	<b>éénà</b>	'these ones'	<b>éénà</b>

A syllable consisting of a consonant and a vowel can be deleted word-medially or finally in rapid speech as in:

25.	<u>Slow Speech</u>		<u>Rapid Speech</u>
	<b>íkpihiánbò</b>	'finger'	<b>íkpiánbò</b>
	<b>ùhúnmwù</b>	'head'	<b>ùhún</b>
	<b>ìdàmwèhósà</b>	'personal name'	<b>ìdàhósà</b>
	<b>èrhùnmwù</b>	'prayer'	<b>èrhùn</b>

Finally, we observe that as speech tempo naturally varies from speaker to speaker, so there are differences in the deletion of vowels and consonants among speakers. In fact, consonant deletion as in 24 does not occur in the speech of some of my informants because they constantly maintain a slow speech tempo. Inhabitants of Benin City are generally slower in speech than people living in the rural areas.

### 3. WORD FORMATION PROCESSES

Edo is a verb-based language in terms of word formation because other word classes such as nouns, adjectives and adverbs can be derived from verbs through tonal changes, reduplication and affixation. Consider the following:

- 26a. **Evbàré nà tinnié** 'This food is small'  
 food this be-small
- b. **Òzó fián èvbàré tinnié nè Áyì**  
 Ozo cut food small for Ayi  
 'Ozo cut a small quantity of food for Ayi'
- c. **Ozó fián èvbàré tinniétinnié nè ìbiékà níì**  
 Ozo cut food small-small for children those  
 'Ozo cut small quantities of food for those children'
- d. **mà rrí ètinnié vbè èvbàré rué** 'we ate a small part of your food'  
 we eat small in food your
- e. **Ózó ghí déghè tinniétinnié** 'Ozo now sees faintly'  
 Ozo AUX see small-small

In 26a *tínniè* 'be small' functions as what has variously been called an adjectival verb, attributive verb, quality verb and stative verb. With the tonal change in 26b, *tínniè* 'small' functions as an adjective modifying *èvbàré* 'food'. Similarly, *tínniè́tínniè* 'small-small' in 26c is an adjective but the reduplication has implications for plurality.

In 26d, a common noun is formed by prefixing *è-* to *tínniè* 'small' while a proper noun is formed by prefixing *á-* to it. Finally, in 26e, *tínniè́tínniè* 'small-small' functions as an adverb and the obligatory reduplication indicates emphasis. Thus the verb is central to the formation of words in Edo as we shall further show in the formation of nouns.<sup>7</sup>

### 3.1 FORMATION OF NOMINALS

All nouns in Edo begin and end in vowels while verbs begin with consonants and end with vowels. Many simple verbs permit the derivation of nouns through the prefixation of oral vowels to them. Such nouns are called deverbal nouns, verbal nouns and verbal derivatives in the literature because the verb stems often retain their formal characteristics. In Edo, there are no phonological motivations for the choice of vowel prefixes e.g:

27.	<b>khiàn</b>	'walk	<b>òkhlán</b>	'walk'
	<b>khiè</b>	'mourn'	<b>àkhiè</b>	'mourning'
	<b>giè</b>	'laugh'	<b>òghiè</b>	'laughter'
	<b>tótà</b>	'sit down'	<b>ítótà</b>	'sitting'

In a few cases, vowel alternations occur in the verb stems when verbal nouns are derived from them e.g:

28.	<b>vbiè</b>	'sleep'	<b>òvbé</b>	'sleep'
	<b>dièn</b>	'be senior'	<b>òdiòn</b>	'senior'
	<b>bò</b>	'divine'	<b>òbó</b>	'diviner'
	<b>viè</b>	'cry'	<b>èvé</b>	'cry'

A sequence of two identical vowels is usually reduced to one in the derivation of verbal nouns e.g:

29.	<b>kùú</b>	'play'	<b>ìkù</b>	'play'
	<b>yàán</b>	'vow'	<b>èyán</b>	'vow'
	<b>ghòó</b>	'hawk'	<b>ìghó</b>	'hawking'
	<b>tèèn</b>	'relate'	<b>òtèn</b>	'relation'

Vowels can also be prefixed to compound and complex verbs in the derivation of nouns. Following Agheyisi (1986) we shall classify verbs consisting of a verb and a noun as complex verbs, while compound verbs are those made up of two verbal morphemes or a verb and a particle. In both cases, the literal meanings of the constituent verbs, nouns and particles may change when they combine to form derived noun stems.<sup>8</sup> 30 gives examples of nouns derived from compound verbs:

30.	<b>lèè</b>	<b>gàá</b>	<b>òlègá</b>		<b>miè</b>	<b>fán</b>	<b>ìmiéfàn</b>
	'run'	'round'	'ring road'		'take'	'free'	'freedom'

<sup>7</sup> See Omoreuyi (1986b) for a detailed description of the derivation of adjectives from verbs and relative clauses. For example, other adjectives such as *nétínniè* 'small' and *nétínniè́tínniè* 'small' are derived by the prefixation of *né* to the verb stem. In this paper we shall focus our attention on the derivation and inflection of nouns and verbs for specific purposes.

<sup>8</sup> Such semantic changes in compound and complex verbs have been attributed to a process of lexical re-analysis (Agheyisi, 1986).



<b>mù</b>	<b>díá</b>	<b>ìmúdià</b>		<b>dò</b>	<b>miá</b>	<b>ìdómìà</b>
'carry'	'straighten'	'standing'		'struggle'	'shake'	'restlessness'

Again, there does not appear to be any phonological rule for the choice of vowel prefixes. In the case of complex verbs, abstract common nouns are formed by the prefixation of *ì-* to stems which consist of verbs and nouns, and the derived nouns bear low tones e.g:

31.	<b>ruè</b>	<b>èmwí</b>	<b>ìruèmwí</b>		<b>sièn</b>	<b>èmwè</b>	<b>ìsiènmwè</b>
	'learn'	'something'	'lesson'		'deny'	'word'	'denial'
	<b>sàsà</b>	<b>ègbé</b>	<b>ìsàsègbè</b>		<b>tàlò</b>	<b>émwè</b>	<b>ìtálèmwè</b>
	'exercise'	'body'	'smartness'		'say'	'word'	'loquacity'

Here the vowel elision processes discussed in 2.1 are often strictly followed in the derivation of the nouns.

### 3.2 TYPES OF NOUN PREFIXES

Some verbs and verb phrases permit the derivation of agent nouns which may also possess or be characterized by the action or state expressed by the verb stem. The latter usually take the agentive prefix *ò-*:

32.	<b>zùrò</b>	<b>èzúrò</b>	<b>òzùrò</b>	
	'be stupid'	'stupidity'	'a stupid person'	
	<b>bù ùdè</b>	<b>ìbùdè</b>	<b>òbùdè</b>	
	'give advice'	'advice'	'adviser'	
	<b>bù</b>	<b>òhièn</b>	<b>ìbuòhièn</b>	<b>òbuòhièn</b>
	'settle'	'dispute'	'settlement'	'judge'
	<b>bà</b>	<b>òdè</b>	<b>ìbòdè</b>	<b>òbòdè</b>
	'watch'	'path'	'watchfulness'	'guard'
	<b>gbè</b>	<b>étì</b>	<b>ìgbètì</b>	<b>ògbètì</b>
	'cause'	'confusion'	'trouble making'	'a trouble maker'

The agentive prefix *ò-* appears to be derived from the underlying third person subject pronoun *ò* 'he/she/it' (Omoruyi, 1986a); it means a doer of something or someone engaged in the state or action expressed by the stem. In some cases, this prefix can be substituted with another vowel in the formation of plural nouns to be examined shortly.

The prefix *a-* also performs the function of characterizing nouns which perform the action or are in the state expressed by the verb or verb phrase from which the nouns are derived. In other words, it can also be an agentive prefix e.g:<sup>9</sup>

33.	<b>sièn</b>	'sieve'	<b>ásièn</b>	'sieve'
	<b>vbièrè</b>	'be lazy'	<b>àvbièrè</b>	'a lazy person'
	<b>rhù àrò</b>	'close eye'	<b>àrhuárò</b>	'a blind person'
	<b>bà èmwè</b>	'watch words'	<b>àbèmwè</b>	'a stammerer'

The agentive prefix *a-* appears to be derived from the underlying indefinite pronoun *a* 'one'. In addition to acting as agentive prefixes, *ò-* and *a-* can also be used in the formation of verbal nouns as we shall illustrate shortly.

<sup>9</sup> The use of *ò-* and *a-* as agentive prefixes has also been attested in Yoruba by Awoyale (1974:398).

Finally, the prefix **u-** usually denotes instruments for achieving the action or state expressed by the verb or verb phrase to which it is attached. In 34, **u-** serves as an instrumental prefix.

34.	<b>guè</b>	'cover'	<b>ùgué</b>	'cover/lid'
	<b>gbè ètó</b>	'cut hair'	<b>ùgbètò</b>	'scissors'
	<b>kpè àkòn</b>	'clean teeth'	<b>ùkpákòn</b>	'a chewing stick'
	<b>gbàlò ètó</b>	'tie hair'	<b>ùgbàlètò</b>	'a head tie'

In spite of the prevalence of noun prefixes in Edo and in many Edoid languages, it is misleading to conclude that all initial vowels of nouns are prefixes (Elimelech, 1978; Donwa, 1982). Welmers (1973:184) and Elugbe (1983) have observed that these initial vowels could be vestigial prefixes of a decadent noun class system. In a synchronic study of Edo, we observe that there are several instances in which the phonological forms of verbs and nouns overlap. However, they are semantically unrelated; therefore the latter cannot be said to derive from the former, e.g:

35.	<b>khuò</b>	'be slippery'	<b>òkhuò</b>	'woman'
	<b>hù</b>	'grow fast'	<b>òhù</b>	'anger'
	<b>gà</b>	'serve'	<b>àgà</b>	'chair'
	<b>mòmó</b>	'borrow'	<b>òmómó</b>	'baby'

As mentioned above, **o**, **a-** and **u-** can also be prefixed to some verbs to form corresponding verbal nouns. In 36, **o-** and **a-** are not agentive, and **u-** is not an instrumental:

36.	<b>fò</b>	'perspire'	<b>òfò</b>	'perspiration'
	<b>fùrré</b>	'be cool'	<b>òfùrré</b>	'coolness/peace'
	<b>ghèé</b>	'look'	<b>ùghé</b>	'sightseeing'
	<b>lèé</b>	'run'	<b>ùlè</b>	'race'

We must therefore be careful in ascertaining the functions of noun prefixes; they can be agentive or instrumental prefixes, or simply verbal noun formatives.

### 3.3 FORMATION OF GERUNDS

Gerunds are formed by the affixation of the discontinuous morpheme **ù-...-mwè** to a verb stem. Elugbe (1984) examines the formation of gerunds in Dẹgẹma, Uvbie, Isoko, Edo, Yẹkhee and Emhalhe (all Edoid languages) and concludes that 'the full morpheme was \*U...AmhI in Proto-Edoid'. The following are examples of gerunds in Edo:

37.	<b>biè</b>	'give birth'	<b>ùbièmwè</b>	'giving birth'
	<b>gò</b>	'shout'	<b>ùgómwè</b>	'shouting'
	<b>gbè</b>	'beat'	<b>ùgbémwè</b>	'beating'
	<b>fù</b>	'be calm'	<b>ùfúmwè</b>	'being calm, calmness'

A straightforward classification of verbs into those from which verbal nouns can be derived, and those from which gerunds can be derived is not feasible because some verbs permit the derivation of both. e.g:

38.	<b>fè</b> 'be rich'	<b>èfè</b> 'richness'	<b>ùfémwè</b> 'being rich/richness'
	<b>ghèè</b> 'look'	<b>ùghé</b> 'look'	<b>ùghémwè</b> 'looking'
	<b>hòghá</b> 'be light'	<b>óhóghà</b> 'lightness'	<b>ùhóghámwè</b> 'being light/lightness'
	<b>mè</b> 'hiss'	<b>òmè</b> 'hissing'	<b>ùmémwè</b> 'hissing'

#### 4. INFLECTIONAL AFFIXES

Thus far we have examined class-changing derivational affixes. This section will examine inflectional affixes which mark plurality and tense. Nouns and verbs can be inflected for plurality while verbs alone are inflected for tense.

##### 4.1 PLURALIZATION OF NOUNS

Edo operates a two-tier system of singular and plural in which the former represents one entity and the latter represents more than one. However, only a few nouns possessing the semantic feature [+Human] can be overtly inflected for plurality. Other Edoid languages such as Urhobo, Isoko, Yekhee and Ghoyuṣ inflect both human and non-human nouns for plurality.<sup>10</sup>

Inflection for plurality occurs at word-initial vowels and the tendency has been for linguists to identify 'plural prefixes' in Edoid languages (Elimelech, 1978; Elugbe, 1983; Donwa; 1982; Kelly, 1970-71). Oṃoruyi (1986c) argues that pluralization should not be seen from the viewpoint of prefixation in a synchronic study of Edo because not all initial vowels of nouns are prefixes as we have already shown.

Prefixation and pluralization are independent processes; the latter should be analysed as a vowel substitution process irrespective of whether these word-initial vowels are prefixed or not. In 39, pluralization changes the agentive prefix ɔ- (see 3.2 above) to e- or i-:

39.	<b>òkhàèmwè</b> 'chief'	<b>èkhàèmwè</b> 'chiefs'
	<b>òmuàdà</b> 'sword bearer'	<b>èmuàdà</b> 'sword bearers'
	<b>òsuàràbà</b> 'rubber tapper'	<b>ìsuàràbà</b> 'rubber tappers'
	<b>òrhiàèvbò</b> 'malefactor'	<b>ìrhiàèvbò</b> 'malefactors'

However, the initial vowels of the following nouns cannot be isolated as prefixes even though the nouns are overtly inflected for plurality:

40.	<b>òmwá</b> 'person'	<b>èmwá</b> 'persons'
	<b>èghélè</b> 'young man'	<b>íghélè</b> 'young men'
	<b>ògiè</b> 'king'	<b>ìgiè</b> 'kings'
	<b>òvién</b> 'slave'	<b>èvién</b> 'slaves'

These cases are similar to the pluralization of English **man**, **foot** and **goose** which gives us **men**, **feet** and **geese** respectively. Such plural formation is never attributed to infixation. It is said to involve vowel mutation (Quirk et al, 1972:177). In the same way, mutation changes word-initial vowels in 40.

<sup>10</sup> Other strategies for forming plurals and the possible reasons why only human nouns are overtly inflected for plurality in Edo are discussed in Oṃoruyi (1986c).

## 4.2 PLURAL VERBS

Some monosyllabic action verbs can be inflected for the purpose of pluralizing nouns which co-occur with them. In some cases the inflection marks repeated action. These verbs take suffixes which are phonologically conditioned. Verbs in which oral vowels occur take the suffixes *-lé*, *-lò*, *-lò* and *-lẹ* as in 41:<sup>11</sup>

41.	<b>dè</b>	'fall'	<b>dèlé</b>	'fall + PLUR'
	<b>gbè</b>	'kill'	<b>gbèlé</b>	'kill + PLUR'
	<b>sà</b>	'bite'	<b>sàlò</b>	'bite + PLUR'
	<b>fì</b>	'throw'	<b>fìlò</b>	'throw + PLUR'

Only the suffixes *-nò* and *-nẹ* occur with verbs containing nasalized vowels, because /e/ and /o/ do not have nasalized counterparts in Edo e.g:

42.	<b>kìn</b>	'tighten'	<b>kìnnnò</b>	'tighten + PLUR'
	<b>fàn</b>	'loosen'	<b>fànnò</b>	'loosen + PLUR'
	<b>mò</b>	'bear fruit'	<b>mònnò</b>	'bear fruit + PLUR'
	<b>khièn</b>	'sell'	<b>khiènnẹ</b>	'sell + PLUR'

If a plural verb is transitive, the direct object is interpreted as plural irrespective of the inflection or non-inflection of the object noun for plurality. Intransitive plural verbs pluralize subject nouns (Omoruyi, 1986c). Alternatively, we can argue that these verbs are inflected for plurality when they occur in the environment of plural nouns e.g:

43.	<b>òzò</b>	<b>fìlò</b>	<b>ósísí</b>	<b>nè</b>	<b>ọ</b>	<b>gbèlé</b>	<b>úzò</b>
	Ozo	fire +PLUR	shot	REL	PRO	kill +PLUR	antelope
	'Ozo fired shots which killed antelopes'						

From the inflection of the verbs *fì* 'fire' and *gbè* 'kill' which gives us *fìlò* 'fire + PLUR' and *gbèlé* 'kill + PLUR' respectively, we immediately know that *ósísí* 'shot' and *úzò* 'antelope' must be plural, even though these nouns are not inflected for plurality. On the other hand, consider the intransitive verbs *sò* 'shout' and *sòlò* 'shout + PLUR' in 44:

44a.	<b>òvbí</b>	<b>òsàsú</b>	<b>sò</b>	<b>vbè</b>	<b>úwú</b>	<b>òwá</b>
	child	Osasu	shout	in	inside	house
	'Osasu's child is shouting in the house'					
b.	<b>ìvbí</b>	<b>òsàsú</b>	<b>sòlò</b>	<b>vbè</b>	<b>úwú</b>	<b>òwá</b>
	children	Osasu	shout +PLUR	in	inside	house
	'Osasu's children are shouting in the house'					

*sòlò* 'shout + PLUR' in 44b agrees with the plural subject noun. The singular verb *sò* 'shout' can only be acceptable in 44b if the shouting is done together which apparently makes it a single event. On the other hand, *sòlò* 'shout + PLUR' cannot occur in 44a even when the shouting is done repeatedly.

## 4.3 INFLECTION OF VERBS FOR TENSE

Simple past tense is marked on Edo verbs by the suffixation of *-rè*. This suffix is phonologically conditioned. Verbs ending in the oral vowels /e/, /a/, /ɛ/ and /ɔ/ always take the suffix *-rè*, while those ending in the vowels /i/, /u/, /o/ always copy these vowels in the suffixes as *-rì*, *-rù*, and *-rò* respectively (Omoruyi, 1986b). e.g:

<sup>11</sup> English does not have plural verbs similar to these Edo examples. We shall therefore gloss them as consisting of an underlying verb stem and plural suffix (PLUR).

45.	<b>khàá</b>	'say'	<b>khàárè</b>	'said'
	<b>dẹ</b>	'buy'	<b>dẹrè</b>	'bought'
	<b>hè</b>	'refuse'	<b>hèrè</b>	'refused'
	<b>fì</b>	'throw'	<b>fìrì</b>	'threw'
	<b>hù</b>	'grow fast'	<b>hùrù</b>	'grew fast'
	<b>dò</b>	'weave'	<b>dórò</b>	'wove'

Whenever the nasalized vowels /ĩ/ and /ũ/ occur verb stem final, the simple past suffix is realized as -rìn and -rùn respectively. However, if /ɛ/, /ɔ/ and /ã/ occur, the simple past suffix is always realized as -rẹn e.g:

46.	<b>hĩn</b>	'climb'	<b>hĩrìn</b>	'climbed'
	<b>bùún</b>	'break'	<b>bùúnrùn</b>	'broke'
	<b>hòn</b>	'hear'	<b>hònrẹn</b>	'heard'
	<b>sàán</b>	'jump'	<b>sàánrẹn</b>	'jumped'

Note however, that these suffixes never occur whenever a verb is followed by a direct object. They only occur when a verb is employed intransitively or when a direct object is transposed to a sentence-initial position in a focus construction e.g:

47a.	<b>Ozó sàánrẹn</b>		b.	<b>óhuán ọ ré Ozó dẹrè</b>
	Ozo jump +PAST			sheep it be Ozo buy +PAST
	'Ozo jumped'			'It is a sheep which Ozo bought'

It is in topicalized or focus constructions such as 47b that Welmers (1973:42-3) was able to recover the full forms of Edo verbs.

Finally, we observe that the simple past tense can be formed from plural verbs. The plural suffix occurs first and it is the vowel of this suffix that conditions the occurrence of the simple past suffix. The seven oral vowels in Edo occur in 48:

48.	<b>sì</b>	<b>sìlọ</b>	<b>sìlórò</b>
	'drag'	'drag + PLUR'	'drag + PLUR + PAST'
	<b>wù</b>	<b>wùlọ</b>	<b>wùlórò</b>
	'die'	'die + PLUR'	'die + PLUR + PAST'
	<b>sè</b>	<b>sèlé</b>	<b>sèlérè</b>
	'sew'	'sew + PLUR'	'sew + PLUR + PAST'
	<b>sò</b>	<b>sòlọ</b>	<b>sòlórò</b>
	'shout'	'shout + PLUR'	'shout + PLUR + PAST'
	<b>vẹ</b>	<b>vẹlẹ</b>	<b>vẹlérè</b>
	'burst'	'burst + PLUR'	'burst + PLUR + PAST'
	<b>sà</b>	<b>sàlọ</b>	<b>sàlórè</b>
	'bite'	'bite + PLUR'	'bite + PLUR + PAST'
	<b>vbọ</b>	<b>vbọlọ</b>	<b>vbọlórè</b>
	'uproot'	'uproot + PLUR'	'uproot + PLUR + PAST'

The five nasal vowels occur in 49:

49.	<b>sìn</b>	<b>sìnnọ</b>	<b>sìnnọrẹn</b>
	'smear'	'smear + PLUR'	'smear + PLUR + PAST'
	<b>bùún</b>	<b>bùnnọ</b>	<b>bùnnọrẹn</b>
	'break'	'break + PLUR'	'break + PLUR + PAST'
	<b>biẹn</b>	<b>biènnẹ</b>	<b>biènnẹrẹn</b>
	'slice'	'slice + PLUR'	'slice + PLUR + PAST'

<b>tòn</b>	<b>tònnó</b>	<b>tònnórèn</b>
'dig'	'dig + PLUR'	'dig + PLUR + PAST'
<b>fàn</b>	<b>fànnó</b>	<b>fànnórèn</b>
'free'	'free + PLUR'	'free + PLUR + PAST'

The simple past suffixes *-rìn* and *-rùn* do not occur after plural suffixes in 49 because /i/ and /u/ do not occur in the formation of the plural suffixes. It is for the same reason that *-rì* and *-rù* do not occur in 48.

## 5. CONCLUSION

This brief analysis of the internal structure of words in Edo began by showing that consonants and vowels are commonly deleted in rapid speech. We examined the processes for their deletion with a view to making their recovery and the syntactic structures in which they occur easier to understand. From the point of view of the centrality of the verb, we observed that Edo verbs form the base of the derivation of other word classes. The processes of forming nouns from verbs and their inflections were carefully examined.

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## REVIEW

Alio, Khalil et Herrmann Jungraithmayr. 1989. *Lexique Bidiya*. Frankfurter Wissenschaftliche Baitrage. Frankfurt am Main: Vittorio Klostermann. 84DM.

Reviewed by Zygmunt Frajzyngier. Dept. of Linguistics, Colorado.

Bidiya is an East Chadic language spoken in the Gera administrative district of Chad. The 1963 census gave the number of speakers as 12,500. Khalil Alio is a native speaker of Bidiya, currently teaching at the University of Maiduguri, in Nigeria. He previously published a grammar of Bidiya (Alio 1986), which was his doctoral dissertation written at the University of Marburg under the supervision of the coauthor of the dictionary. Herrmann Jungraithmayr is a well-known Africanist, more specifically Chadicist, currently holding the Chair of African Linguistics at the University of Frankfurt. The dictionary is a product of collaboration between the two men, which began in 1982. The authors state that this is only the third East Chadic language to have a sizeable dictionary published, citing as predecessors the dictionaries of J. Fédry and P. de Montgolfier of two dialects of Dangaleat. They fail to mention the very important and ample dictionary of Kera published by Karen Ebert (Ebert 1976).

The dictionary consists of the following parts: Introduction (13-17), a grammatical sketch (19-50), Bidiya-French dictionary (51-128), and French-Bidiya index (129-164).

The Introduction gives information on the geographical location, dialects, and migrations of Bidiya speakers. It appears that migrations to Sudan had an effect on the language. The authors estimate that more than 50% of Bidiyas have travelled to Sudan in search of work. Sudanese Arabic has become a language of prestige among Bidiya, resulting in massive multilingualism and contributing thus to the increase in Arabic loans in Bidiya.

The Grammatical sketch is divided into two parts: Phonology and Morphology. The phonological information consists of a list of consonantal and vocalic phonemes, with minimal pairs to illustrate them, and a section on tone. The authors hint at a correlation between tone and the following consonant. This correlation is illustrated rather than described, but one cannot formulate a rule describing this correlation from the illustration provided. Morphological information is given in the form of paradigms and examples of word formation. Some of the more interesting features for this reviewer are feminine noun derivation through the suffix *a* and multiple means of nominal plural formation, which include addition of vocalic and consonantal suffixes, vowel infixes, reduplication, gemination, and tonal changes. Unlike many other Chadic languages, Bidiya has a class of inherent adjectives, as well as morphological means to form adjectives. The plural verb formation is achieved by the suffix containing a *-w* and by second vowel lengthening for polysyllabic verbs. The authors give a rather large list of types of verbal noun forms. The only information on syntax contained in the sketch is a paragraph on genitive construction and a paragraph on nominal and verbal conjunctions. It would have been useful to have some main syntactic characteristics, especially when the authors were quite generous with their morphological information. A bibliography of works cited and relevant to Bidiya (including Alio's own grammar of that language!) would have been a useful addition.

The entries for nouns contain information about gender and also give plural forms. Entries for verbs usually contain three forms: The citation form chosen is aorist, which the authors claim to be the unmarked form. That is followed by the perfective form and by the verbal noun that enters into the formation of the future tense. In addition each

verbal entry is accompanied by the plural forms. Many verbal entries have examples of their usage, with translations. The authors also mark lexical items that are borrowings from Arabic.

For many items referring to plants, the authors provide only general descriptions such as 'plante *sp*', sometimes accompanied by a description of the usage.

The French-Bidiya part is an index organized in a way that allows for easy location of the appropriate item in the Bidiya-French part.

This dictionary demonstrates how useful and important it is to have a native speaker of the language as the author. The Bidiya-French dictionary's total of 4,000 lexical items is double that of most dictionaries of Chadic languages (except for Hausa), that took the same length of time to write as the work under review.

Unlike most of the current publications in linguistics (African and other), which are printed from a camera-ready copy, this volume has been typeset, has a hard cover and has all the marks of good book making. It is not likely to fall apart even after very extensive usage.

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