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ELISION AND OTHER MORPHEME BOUNDARY PHENOMENA IN THE WESTERN DIALECTS OF OBOLO

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Even in the most formal speech styles in Obolo, the mere occurrence of two morphemes in succession in the speech chain triggers a complex series of phenomena that alter (sometimes radically) the underlying forms of the morphemes affected. There is no segment or tone in the language which does not undergo some type of elision, metathesis, reduplication, coalescence, or deletion at morpheme boundaries.

In this paper, an attempt is made to formalize these processes and to establish the order in which they take place, as well as to determine a hierarchy of phonological, social, and situational environments that restrict or broaden their range of application. Finally, the complications introduced by these phenomena in the teaching of Obolo are discussed.

L'élision et d'autres processus intermorphémiques en Obolo (dialèctes occidentaux)

La forme de base de tout morphème en obolo est très souvent modifiée, même dans les régistres les plus soignés (et ceci à un degré parfois extrème) par une série complexe de processus qui est déclenchée par la simple occurrence de ce morphème entre d'autres morphèmes dans la chaîne parlée. Il n'y a pas de consonne, de voyelle, ou de ton qui ne subisse entre autres, les processus d'élision de fusion, de redoublement, etc., à l'initiale comme à la finale d'un morphème.

Ce travail représente un essai de détermination et de formulation des règles qui correspondent aux processus en question, et de l'ordre dans lequel ces règles entrent en jeu. Cet ordre est déterminé par des facteurs sociaux et situationels, facteurs dont on fait une analyse préliminaire, aussi bien que phonologiques. Le décalage produit par ces processus entre la langue écrite et la langue parlée et les difficultés qu'il entraîne dans l'enseignement et dans l'apprentissage de l'obolo sont aussi traitées et discutées.

1. Introduction

The Obolo language is spoken by about 200,000 people inhabiting the extreme south-eastern corner of the Niger Delta, who call themselves and their homeland 'Obolo,' though the name 'Andoni', of foreign origin, is also used. Obolo has been classified by Williamson[1] as a member of the Lower Cross subbranch of the Delta Cross branch of the Eastern division of the South-Central Niger-Congo languages. Previously, Obolo had been assigned, along with the most closely related languages (which include Ibino, Oron, Eket, Annang, Ibibio, Efik, etc.) to Cross River groups 2 and 3 of the Benue-Congo languages.[2]

The phenomena dealt with in this article[3] occur primarily across morpheme boundaries and are all to one degree or another variable, none being absolutely automatic. In practice, however, utterances unaffected by the processes in question are extremely rare. Indeed, in order to understand and to speak Obolo, the assimilation and mobilization of these processes is essential. Cases of separate morphemes fused by means of these phenomena into single sound-units are so abundant that the problem of word division has become one of the major obstacles in the way of the development of an acceptable orthography for Obolo.

2. Processes Affecting Vowels and Syllabic Nasals

Obolo has six vowel phonemes /a, ɔ, e, o, i, u/ and a syllabic nasal phoneme which is homorganic to the following consonant in terms of place of articulation. About 40% of Obolo morphemes end in vowels. While almost all stem morphemes begin with a consonant, a vowel or a syllabic nasal is prefixed to the stem in all but a few rare cases. Thus, the environments where syllabic segments are in contact across morpheme boundaries (especially when these coincide with word boundaries) are plentiful.

When syllabic segments are in contact, more often than not some form of merger or fusion occurs to some degree. Syllabic segments interact according to a hierarchy of inherent and positional 'strength' that is rarely violated.

'Strong' syllabic segments are characterized by the following qualities, which themselves form an ordered hierarchy according to the degree to which they contribute to the relative strength of two syllabics in contact:

(1) A non-nasal syllabic (a vowel) is stronger than a syllabic nasal.

(2) A long vowel is stronger than a non-long vowel.

(3) A low vowel is stronger than a mid vowel.[4]

(4) When two vowels merge, the second or following vowel is stronger than the first or preceding vowel.

The above criteria should be applied in disjunctive order, that is, a statement does not apply unless none of the statements above it applies.

Upon close study of the above criteria, it becomes apparent that the syllabics can be roughly classified in this way:

(1) Strongest: /a, ɔ/

(2) Strong: /i, u/

(3) Weak: /e, o/[5]

(4) Weakest: /N/

Except where /a/, /ɔ/, and /N/ are involved, the second of two syllabics in contact is stronger than the preceding one.

Every possible type of interaction between syllabics is attested to in Obolo. Examples:

(1) Diphthongization: The stronger vowel will constitute the nucleus of the diphthong:

/ìdʒó	étìp/	——————>	[ìdʒóetìp]
bad	*news*		'bad news'
/úkó	ánâm/	——————>	[úkoã̂nã̂m]
farm	*animal*		'farm of animals'

(2) Glide Formation: The weaker vowel will become [j] if it is a front vowel and [w] if it is a back vowel.[6]

Examples:

/ìdʒó	étìp/	——————>	[ìdʒwétìp]
bad	*news*		'bad news'
/útì	úkáŋ/	——————>	[útjúkã́ŋ]
stick	*fire*		'candle'

(3) Medial Vowel Formation: When vowels are of relatively equal strength, they sometimes coalesce into a third vowel which combines some of the features of both. This happens especially in the case of combinations of /e/ and /o/, neither of which seems strong enough to impose its quality on the other.[7]

Examples:

(overleaf)

/ìdʒɔ́	étìp/	——————>	[ìdʒɛ̀tìp]
bad	*news*		'bad'
/ámà	î-wa/[8]	——————>	[ãmêwà]
town	*3PSCP exist*		'many towns'

(4) Elision: The weak vowel is completely elided. Only the strong vowel remains.

Examples:

/úwù	ĺkpá/	——————>	/úwĺkpá]
house	*book*		'school'
/î-dʒɔ̀ŋɔ̀	érè /	——————>	/îdʒɔ̃̀ŋɔ́rè]
3PSCP be	*long place*		'it is far away'

(5) Syllabic Nasals: Syllabic nasals lose their syllabicity when they merge with preceding vowels across morpheme boundaries. (Syllabic nasals never precede syllabics).

Example:

/gé	m̀kpɔ́/	——————>	[gɛ̃́mkpɔ́]
write	*something*		'Write something!'

3. Processes Affecting Consonants

In Obolo /p, t, k/ and their nasal counterparts /m, n, ŋ/ are the only consonants that can occur morpheme finally 'underlyingly'.[9] /p/, /t/, and /k/ are realized before a pause either with aspiration (in deliberate or emphatic speech) or as the unreleased stops [p̚], [t̚], and [k̚]. Unreleased [k̚] is in free variation with the glottal stop [ʔ] in this position. [ŋ] is similarly in free variation with [ʔ] morpheme finally. In fact, the only way to distinguish [k] from [ŋ] before a pause in most cases is the nasalization of the vowel preceding a [ʔ] that corresponds to /ŋ/. (All final nasal consonants nasalize the vowel immediately preceding.)

A morpheme final consonant does not combine into one syllable with an initial vowel of a following morpheme without undergoing a process whereby it is somehow 'weakened'. /t/ and /n/ become [r] under these circumstances and /p/ and /m/ are realized as the approximant [w]. /k/ and /ŋ/, however, are completely deleted in such cases.[10]

Examples:

/ìbòt	ì-rép/	——————>	[ìbòrìrép]
rain	*3PSCP fall*		'It's raining'

/úsèn	ínî/	——————>	[úsèrínî]
day	*four*		'Thursday'
/wòp	údʒí/	——————>	[wòwúdʒí]
bail	*canoe*		'Bail the canoe!'
/ròm	úwù/	——————>	[ròwúwù]
create	*house*		'Build the house!'
/gò:k	èdʒì/	——————>	[gò:edʒì]
follow	*1PPPN*		'Follow us!'
/múŋ	ɪɪíɪé/	——————>	[mũíɪíɪé]
water	*big*		'high tide'

It should be noted that /k/ and /ŋ/ are deleted at a higher frequency than that at which /t/ and /n/, and especially /p/ and /m/ are weakened.

The above described consonantal phenomena lend themselves well to a prosodic analysis. [p] and [m] could be considered to be manifestations of a 'w' prosody, [t] and [n] may be realizations of an 'r' prosody, while [k] and [ŋ] in morpheme final position would be aspects of a '?' prosody.

4. Processes Affecting Syllable Structure

Weakening and deletion do not *only* affect morpheme final consonants that precede morpheme initial vowels, however. When a morpheme initial consonant follows a morpheme final consonant, an epenthetic vowel and epenthetic tone are often inserted in between, and the now intervocalic morpheme final consonant proceeds to weaken or to be deleted in exactly the same way as shown above.

Examples:

/ekwút - kàŋ/	————	[ékwúrúkã̀ŋ]
wrapper 2PSPOSSPN		'his wrapper'
/í-sí kèn múŋ/	————	[ísíkèrèmṹŋ]
3PSCP go bathe water		'she bathed'

Notice that the epenthetic vowel and tone are exact copies of the immediately preceding vowel and tone.

We have reason to believe that this vowel and tone reduplication and epenthesis process occurs in all cases of consonant weakening (even when a morpheme beginning with a vowel is fused with a morpheme ending in a consonant) and occurs *before* the consonant weakening process takes place.

First of all, in some Obolo dialects morphemes ending in consonants are in free variation with morphemes which are identical in phonetic shape, except that the final consonant has been somewhat altered and the preceding vowel and tone duplicated and appended. Examples: [ótú:k] ~ [ótúrú] 'all',[11] [dʒê:ŋ] ~ [dʒérèŋ] ~ [dʒénrè] 'teach'. Secondly, epenthesis always accompanies weakening not only pre-consonantally, but also when the speaker is signalling to the listener that (s)he is trying to find a word to follow another, but can't quite yet come up with it. For example, when trying to remember the day that something happened, one would say:

/î-rè úsèn ..... ísà/ ——————>
3PSCP be day two

[îrè úsèrè, úsèrè, úsèrè ..... úsèrísà]
'It was ..... it was Tuesday'.

Finally, since it would be much more difficult to explain the processes involved in consonant weakening in a VCC environment than in a VCV environment, epenthesis seems to be the logical precursor, feeding the weakening process when morpheme initial consonants follow morpheme final ones. We have no good reason to postulate a different order of operations in other cases.

In Obolo, when two morpheme internal vowels are identical and separated by [r], the first vowel is deleted in most speech registers. Examples: /ǹgìrìgó/ ——> [ǹgrìgó] 'shrimp', /ékìrìkà/ ——> [ékrìkà] 'harmattan'.[12] This same process occurs very commonly at morpheme boundaries. Thus, after a vowel and tone are reduplicated and epenthesized and the intervening consonant subsequently weakened, *the original vowel and tone* (that is, those preceding the weakened consonant) *are deleted.*

Examples:

Underlying Form	/í-sí kèn múŋ/	/ánâm órôn/
Gloss	*3PSCP go bathe water*	*animal bush*
Reduplication and Epenthesis	/í-sí kènè múŋ/	/ánâmâ órôn/
Weakening	/í-sí kèrè múŋ/	/ánâwâ órôn/
Deletion	/í-sí krè múŋ/	/ánwâ órôn/
(Fusion)		ánwârôn
Surface Form[13]	[ísí krèmṹŋ] 'he bathed'	[ãnwârõn] 'animals of the bush'

In fact, /p/ and /m/ are rarely weakened to [w] without the deletion of the preceding vowel taking place.

Thus, what appears on the surface to be metathesis, is rather the result of the reduplication, epenthesis, and subsequent deletion of a vowel and a tone. All of these processes act to profoundly modify the syllable structure of Obolo morphemes. Underlyingly, most stems have a CVC structure and the only combinations of non-syllabic segments permitted in the same syllable are /fj/, /bj/, /rj/, and /tʃj/. Phonetic morpheme boundary phenomena bring about a great proliferation of consonant-glide and consonant-[r] combinations as well as a drastic reduction in the number of CVC syllables in the spoken language.[14] In isolated cases, such underlyingly prohibited structures as CN are attested to as a result of morpheme fusion (usually in fast speech). Example:

/mé	èmèn	m̀kpɔ́	ḿ-là:k	⟶	[mé mè rm̀ kpḿ là:][15]
locative	*within*	*thing*	*INFP sleep*		'in bed'

As the result of boundary phenomena, [j] and [w] may occur word finally before a pause. As stated above, these are never morpheme final underlyingly. Example:

/mâ	télè	òwù/	⟶	[mâtélèw]
1PSFUTP	*leave*	*2PSPN*		'I will leave you'

5. Tone Across Morpheme Boundaries

Tone fusion is always complete across morpheme boundaries, that is, the 'weaker' tone is completely deleted while the 'stronger' tone remains. Tones follow a strict hierarchy of strength in their assimilatory behavior across boundaries, which is positively correlated to pitch level (height). We might call this process complete vertical assimilation, using Hyman and Schuh's terminology.[16]

There are three phonemic tones in Obolo; extra-high or falling /ô/, high /ó/, and low /ò/. Steps are very rare in stems underlyingly, and can be analyzed as allotones of high tone preceded by extra-high. Steps may be divided into two classes, Class I (non-alternating) and Class II, which includes stems which alternate with forms with low tone instead of step tone.

The hierarchy of tonal strength across morpheme boundaries is as follows:

1. *Strongest*-Extra-high (falling)
2. *Strong*-High
3. *Weak*-Step, Class I
4. *Weakest*-Step, Class II Low[17]

6. Tone and Vowel Influence Across Consonants

Boundary phenomena cannot be adequately accounted for without considering the effect of anticipatory and perseverative assimilation over more than one syllable, that is across consonants. Examples of such assimilation are:

/m̀gbɔ̀ kè èjí/ ——————> [m̀gbɔ̀ɣɔ́j]
time relative this 'now'

/ì-rè ì-kì-ké í-bà ì-ràkà í-tà ——————>
3PSCP be portion two 3PSCP pass three

[ìrìkìkíbèràɣìtà] 'It's 3:30.'

It is clear that vowel assimilation may occur once; /íbà ì-ràkà/ ——> /íbèràɣà/ and then again; /íbèràɣà/ ——> [íbèrèɣà]. This suggests recursive application. If we accept that assimilation of tone and vowel quality over consonants is what is happening here, it is virtually impossible to fix a precise point in the order of processes thus far established where it occurs. Tone and vowel fusion and assimilation seem to be recursively applicable processes that may come into play at any point relative to the operation of other morpheme boundary processes.

7. Morpheme Initial Consonant Deletion

The initial consonants of the four morphemes /jà/ (definite article), /mè/ 'and', /kè/ and /bè/ (relativizers) may be deleted in fast speech. This amounts to the effective elimination of any trace of these morphemes in surface structure in many cases.

Examples:

/gê mè ɪék/ ——————> [gê:ɪék]
one and body 'all'

/m̀kpɔ́ ì-fùk ègwé ì-kúp mè ɪék ì-nén/ ——>
thing 3PSCP read day 3PSCP stay and body how many

[m̀kpwìfwègwíkwúɪìnén] 'What time is it?'

8. Limit and Extent of Phonetic Morpheme Boundary Phenomena

In compound words, the possessive construction, and in the fusion of certain elements preceding the verb in the verb phrase, some of the processes discussed above have become, for all practical purposes, automatic, and apply virtually obligatorily.

Examples:

(opposite)

/m̀kpɔ́ ì-fùk ègwé/ ——————> [m̀kpwì fwègwé]
thing *3PSCP read* *day* 'wrist watch', 'hour'

/ébɔ́t - kùŋ/ ——————> [ébɔ́rɔ́kùŋ]
goat *2PSPOSS.PN* 'your goat'

/ɔ́-kè bè ɪ́-gé/ ——————————> [ɔ́kèbɪ́gé]
2PSP relatives INF.P. write 'as you were writing'

Most Obolo speakers are able, however, to analyze the first two of the above examples into their underlying components. In the third case, speakers are very reluctant to analyze what they conceive to be an aspectual (continuative) -topical-situation-focus (background) particle. It is significant that verb phrases containing [kèbɪ́] can optionally have [m̀gbɔ̀] ('when', 'as') in initial position. The fact that [m̀gbɔ̀] is optional indicates that [kèbɪ́] can effectively assume the functional and semantic load of [m̀gbɔ̀], thus taking on characteristics which are quite distinct from those of its component morphemes.

Preliminary stress and intonation studies indicate that, in Obolo statement intonation, the speech chain divides itself into rhythm groups centered either around a verb or around a complement of time, location, or manner. Thus, noun phrases tend to combine with the verb and direct object(s) to which they are most closely linked semantically and morphosyntactically into a single rhythm group. Primary sentence stress is usually assigned to one syllable of this group. Serialized verbs and indirect object phrases (which are introduced by serialized verbs) as well as complements of time, manner, or location tend to detach themselves from the rest of the sentence, receiving secondary stress in most cases. The boundaries between rhythm groups appear to be the most effective block to the occurrence of morpheme boundary phenomena besides, of course, a pause in the speech chain. The closer the grammatical or semantic relationship between morphemes within the rhythm group, the more likely is fusion across morpheme boundaries to take place.

9. Register, Style and Boundary Phenomena

To test the correlation of boundary phenomena to variables of register and style, samples of stories read from written texts, stories recited spontaneously from memory, and samples of conversation were analyzed.

While vowel and tone assimilation occur in all styles and registers of Obolo speech, the extent and degree to which these processes occur seems to be one of the primary factors differentiating one level of language behavior from another. The same *cannot* be said for consonantal weakening and deletion and vowel and tone reduplication, epenthesis, and deletion. Although underlying forms not affected by these latter processes are elicitable

from native speakers and are normally used in written texts, these underlying forms are not often realized, except in the most deliberate, slow, or careful styles and in the most formal registers.

Even while reading aloud slowly, however, with non-fused forms written on the page before the reader, a considerable amount of consonant weakening and deletion takes place. A comparison of the proportion of consonants to vowels realized was made for: 1) a written text; 2) the same text read aloud slowly; and 3) a spontaneously narrated story. The results are as follows:

		Consonants	Vowels	Syllabic Nasals
(1)	Written Text	48.6%	48.7%	2.7%
(2)	Text Read Aloud	41.8%	56.6%	1.6%
(3)	Spontaneous Narration	47.7%	51.0%	1.3%

The increase in the proportion of vowels to consonants realized from the written text (mainly underlying forms) to the recitation of the same text read aloud indicates that consonant weakening and deletion as well as vowel epenthesis occur to a significant degree, even in slow, relatively formal speech.

In faster, less formal speech, the amount of consonant weakening and deletion does not seem to increase much, while vowel assimilation and fusion seem to increase so dramatically, that the ratio of consonants to vowels increases sufficiently to re-establish the original, underlying proportion of syllabic to non-syllabic segments.

A preliminary analysis of children's speech shows boundary phenomena to be about as common in their speech as in the speech of adults, to a point. Consonant weakening and deletion as well as vowel and tone reduplication and epenthesis happen to about the same extent and degree across age groups. One major difference between children's speech and that of certain groups of adults is the occurrence of vowel assimilation across consonants. This type of assimilation seems to be one of a number of stylistic devices used mainly by men and especially by adolescent males to mark their speech behavior as somehow different from that of women and children.[18]

In the speech of elders during solemn occasions, such as the pouring of libations or in speeches of welcome to guests, boundary phenomena occur much more rarely than in other situations.

It appears to be the case, then, that a rather high degree of consonant weakening and deletion and vowel reduplication and epenthesis as well as a moderate degree of vowel and tone assimilation are typical of most speech registers and styles in Obolo. A high degree of vowel and tone assimilation characterizes the most casual

styles, while phonetic morpheme boundary phenomena are relatively rare in the most formal registers and deliberate styles.

10. Boundary Phenomena and Problems in the Teaching of Reading and Writing Obolo

The phonetic processes described above play some role in the realization of almost every Obolo utterance. Moreover, these processes modify the underlying forms of Obolo morphemes to a significant degree. Despite these facts, Obolo speakers in most cases can retrieve and identify the underlying forms of even the most completely fused strings of morphemes. Thus, while words written to reflect underlying rather than surface forms are not completely unintelligible to the reader, they are nonetheless extremely unnatural in many cases.

In the writing of compounds and the morphemes /kè/ and /bè/ (relativizers) in certain parts of the verb phrase, the use of fused rather than underlying forms in texts seems to be unavoidable. To do otherwise proves to be very unsatisfactory to the linguistic sensibilities of native speakers. The same is true, but to a slightly lesser degree, for /mé/ (locative particle) and /mè/ (conjunction) which are only rarely pronounced with their vowel intact. These latter particles are usually written with an 'm' and an apostrophe, and fused with the following word, if it begins with a vowel.

Another case where native speakers seem to prefer a surface form to an underlying one is the rejection of the use of 'b' to represent [p]. [p] only occurs in morpheme final position before pause, while [b] occurs in all environments except that where [p] is found.

Apart from these cases, most formally educated adult speakers of Obolo seem to prefer underlying forms to fused forms in reading and writing. The crucial test, however, is the result of using such forms in teaching Obolo children to read and write their language.

We will soon have the opportunity to test a system of word division and orthography based primarily on underlying forms, modified by the language sensitivities of formally educated adults, which has been used in the writing of *Àdàsí ĩkpá Ọ̀bólọ̀*, an Obolo reader assembled by the Andoni Language Committee, the School of Humanities of the University of Port Harcourt, and the author in conjunction with the Rivers Readers Project, which will soon be introduced in the Obolo primary school program. Do 'underlying' forms and the intuitions of formally educated adults correspond to the linguistic competence and sensibilities of school children sufficiently to form the basis of a pedagogically effective system of sound and meaning representation in writing? Preliminary

answers to this and related questions will become apparent as the extent and nature of the difficulties experienced by students in reading and in writing forms which, by and large, do not reflect the effects of phonetic morpheme boundary phenomena are measured and analyzed.

FOOTNOTES

[1]See Williamson (forthcoming)

[2]See Williamson (1971)

[3]This article was originally presented as a paper at the 15th Congress of the West African Linguistic Society in April 1982.

[4]It should be mentioned that the vowel length distinction, which is phonemic, is not regularly maintained in casual speech. Therefore, the behavior pattern of long vowels when they undergo assimilation or merger is one of the primary cues for vowel length in many cases.

[5]Similar patterns are exhibited by Igede mid-vowels at morpheme boundaries. See Bergman (1971), page 67.

[6]This process is paralleled by a 'glide decomposition' process in slow speech, whereby [j]→[i] and [w]→[u].

Examples: /rjâ/ ——→ [rí̀à] 'Eat!', /gʷɔ̌:k/ ——→[gù̀ó:k] 'Rinse (it)!'

This second example is particularly interesting, since it shows that the phoneme /gʷ/ acts at times as a consonant-glide combination.

[7]See Bergman (1971). Again Igede mid-vowels act similarly.

[8]Abbreviations used in glosses are the following: 3PS-third person singular, 1PP-first person plural, etc., POSS-possessive, PN-pronoun, CP-completive particle, INFP-infinitive particle, FUTP-future particle.

[9]A generative approach proves inadequate here. An interesting alternative is a structural analysis, using the archiphonemes /B/, /D/, and /G/ to show the neutralization of all consonantal oppositions except [± anterior], [±grave], and [±nasal] in morpheme final position.

[10]Similar 'weakening' processes occur in the case of syllable initial [b] which alternates with [β] and [v] and syllable initial [k] and [ŋ] which alternate with [ɣ], [ʁ], or [ʔ] in casual, fast speech.

[11]Note: these are not the only cases of [k] and [ŋ] alternating with [r] in Obolo!

[12]This parallels the behavior of /id/ in Efik, as reported by Cook and Ìta (1969).

[13]Note: the derivation of all previously illustrated forms should follow this same order of operations. The processes illustrated at some points in this work have been simplified for clarity of explanation.

[14]In fact, in surface consonant glide or liquid combinations C_1 C_2, C_2 can be [j], [w], [ɥ], or [r], while C_1 can be any consonant except [kʷ] or [gʷ].

[15]Here, the sonorant qualities of [r] and [m] 'absorb' the [e] that would normally be stronger than the syllabic nasal in coalescence.

[16]See Hyman and Schuh (1974) and Hyman (1976).

[17]Igede tones seem to merge in nearly the same way as Obolo tones do. See Bergman (1971).

[18]One is reminded here of strategies used by adolescents in Harlem to differentiate their speech from that of other members of the community, as reported by Labov (1968, 1972).

REFERENCES

Andoni Language Committee. 1978. *Reading and Writing Obolo.* Rivers Readers Project. Port Harcourt.

Andoni Language Committee (to appear). *Àdàsí ĩkpá Òbólò.* Rivers Readers Project. Port Harcourt.

Bamgboṣe, A. (ed.) 1976. *Mother Tongue Education.* UNESCO. Malta.

Bazell, C.E. et al. (eds.) 1966. *In Memory of J.R. Firth.* London.

Bergman, R. 1971. *Vowel Sandhi and Word Division in Igede* in Journal of West African Languages VIII, 1.

Cook, T.L., and K. Eyọ̀ Ìta. 1969. *The Pronunciation of Efik for Speakers of English.* Bloomington.

Gumperz, J. 1971. *Language in Social Groups.* Stanford.

Hyman, L. (ed.) 1976. *Studies in Bantu Tonology.* in Southern California Occasional Papers in Linguistics, No. 3.

Hyman, L. and R. Schuh. 1974. *Universals of Tone Rules: Evidence from West Africa* in Linguistic Inquiry, Vol. 1, Winter.

Labov, W. 1968, 1972. *Language in the Inner City,* Oxford.

Somerstein, A.H. 1977. *Modern Phonology.* London.

Williamson, K. 1971. *The Benue-Congo Languages and Ịjọ* in Current Trends in Linguistics, Vol. 7. The Hague.

Williamson, K. 1979. *Practical Orthography in Nigeria.* Port Harcourt.

Williamson, K. (to appear) *Linguistic Evidence for the Prehistory of the Niger Delta.*