Studies in African Linguistics
Volume 13, Number 1, April 1982

SYLLABLE COUNTING IN YORUBA*

Baruch Elimelech

The purpose of this paper is to argue that, in a synchronic grammar of Yoruba, it must be recognized that the distribution of the two sets of object pronouns is based solely on syllable counting. This is shown to be a viable phonological process which simply and automatically accounts for this morphological distribution. Furthermore, the analysis shows the phonological complementarity of the pronouns to be simpler than a syntactic complementary distribution as suggested by Bamgbose [1964, 1966b, 1967a].

0. Introduction

Yoruba has two sets of pronouns (given in (1)) that can occur in the surface structure as object pronouns, illustrated in (2).[1]

(1)

SET A	SET B	
mi	`mi	'me'
ẹ	`rẹ	'you'
ø	-rẹ	'him, her, it'
wa	-wa	'us'
yín	-yín	'you'
wọn	-wọn	'them'

---

*This paper was presented at the Ninth Annual Conference on African Linguistics, at Michigan State University, on 7-9 April 1978. I would like to thank Olu Ọmọlayọle, Richard Akanni Ọlarewaju, and Peter Badejo for giving me much of their valuable time as language consultants. The latter two assisted me in both Yoruba and Hausa. I would also like to thank Victoria Fromkin, Joe Emonds, and Bernard Comrie for reading and commenting on an earlier draft.

[1]The symbols used in the Yoruba examples in this paper are the same as the Yoruba orthography: ẹ = [ɛ] , ọ = [ɔ] , p = [k͡p] , ṣ = [š] , n after any vowel indicates nasalization, e.g. ọn = [ɔ̃] . Tone marking is as follows: V́ = high tone, V (no mark) = mid tone, - (a dash) = mid tone over no vowel,

(2) a. mo rí ẹ 'I saw you'
I see you

b. mo fẹ́ràn rẹ 'I love you'
I love you

Observe that the two pronoun sets are in complementary distribution with SET A occurring after one syllable words (2a) and SET B occurring after two syllable words (2b). Bamgbose [1964, 1966b, 1967a] suggests that the two pronoun sets are in syntactic complementary distribution. According to his analysis only SET A are object pronouns occurring after verbs; SET B are possessive pronouns occurring only after nouns. The word 'love' in (2b), according to Bamgbose, is a contracted surface form of a verb + noun, and he would derive all disyllabic verbs in this way. I will argue in this paper that this is an incorrect analysis and suggest instead that one can account for the distribution of the two pronoun sets phonologically, i.e. by syllable counting, rather than by syntactic category. Much discussion has been given recently to establish the syllable as a viable phonological unit, e.g. Vennemann [1972] and Hooper [1972]. It still remains unclear, nevertheless, as to where the process of syllable counting fits in. It is clear, for example, that the process involved here is not strictly a phonological one whereby a segment alternates with another after X number of syllables. Instead, what happens is that a morphological selection is made based on the phonological structure of morphemes, i.e. the number of syllables. Stephen Anderson [personal communication] points out that most processes involving syllable counting are cases of this sort.

1. How the Two Pronoun Sets Differ

One way in which SET A differs from SET B is tonal. Except for /yín/ 'you (plural)', the underlying tones of the pronouns of SET A are unspecified and are determined by the tone of the preceding verb.[2] If the verb has a high

---

V̀ = low tone, V̌ = rising tone, V̂ = falling tone, and .V = assimilated low tone.

[2]This approach corresponds with Bamgbose [1964, 1966b, 1967a] and Rowlands [1969]. Courtenay [1968], on the other hand, posits an underlying high tone for all pronouns and derives the mid tone by a tonal dissimilation rule.

tone, then the object pronoun (except for /yĩn/) will have a mid tone, as illustrated in (3).[3]

(3) ó rí mi 'he saw me'
he see me

The tone of the object pronoun is high after a verb with a non-high tone (mid or low), as seen in (4).

(4) ó jọ mí 'he resembles me'
he resemble me

ó wò mí[4] 'he looked at me'
he look-at me

In conjunction with the tonal information that is determined by the tone of the verb, the segmental information of the third person singular object pronoun is determined by the vowel of the verb, i.e. it is identical with the vowel of the verb, as illustrated in (5).

(5) mo rí ì 'I saw him'
I see him

mo jọ ọ́ 'I resemble him'
I resemble him

mo wò ó 'I looked at him'
I look-at him

Different from SET A, the object pronouns of SET B must be specified for tone at the underlying level of representation, as seen in (6).

(6) a. ó gbàgbé `rẹ → ó gbàgbéèrẹ
he forget you 'he forgot you'

/yĩn/ 'you (plural)' is treated as an exception to the tonal dissimilation rule.

[3]The object pronoun /yĩn/ 'you (plural)', nevertheless, surfaces with a mid tone between it and the verb, e.g. mo rí ì yĩn 'I saw you'. This mid tone does not occur with /yĩn/ after verbs of mid and low tone.

[4]High tone after low tone is phonetically rising, e.g. ó wò mí → ó wò mĭ 'he looked at me'. This is a general rule in Yoruba phonology, and it applies within and across boundaries. Consequently, it is not usually marked as a rising tone after a low tone. For further discussion concerning the tonal processes in Yoruba, see Courtenay [1968].

b. ó tọpinpìm `rẹ → ó tọpinpìnìnrẹ
he investigate you 'he investigated you fully'

c. ó fẹ́ràn `rẹ → ó fẹ́ràànànrẹ
he love you 'he loves you'

Observe that the tones of the pronoun of 6(a-c) are not determined by the tone of the verb. That is, regardless of whether or not a verb ends in either a high (6a), a mid (6b), or a low (6c) tone, the tones of the pronoun remain low-mid. Consequently, each pronoun of SET B is assigned a sequence of tones at the underlying level of representation, as seen in (1). The initial tone of the sequence receives its segmental specification from a preceding vowel, as illustrated in (6). That is, notice that the initial low tone of /`rẹ/ is realized on a vowel identical with the preceding vowel of the verbs. This vowel lengthening process, however, is not obligatory. Therefore, it may or may not show up at the phonetic level of representation. When vowel lengthening is not present on the surface, the same information can be conveyed by tonal alternations, as shown in (7).

(7) ó gbàgbé .rẹ 'he forgot you'
ó tọpinpìn .rẹ 'he investigated you fully'
ó fẹ́ràn .rẹ 'he loves you'

The low tone effect shows up on the pronoun causing the mid tone to lower in pitch. The diacritic (dot) before [.rẹ] , which needs be marked only after non-low, is to indicate the assimilated low tone.[5] The lowering in pitch produces a significant contrast after high, e.g. mo lá̀wo 'I have a secret', mo lá.wo 'I have a plate'. The mid tone in the first example is higher than the one in the second.

SET B but not SET A can also occur on the surface as possessive pronouns, as seen in (8).

(8) mo rí ilé `rẹ → mo ríléèrẹ or mo rílé .rẹ
I see house your 'I saw your house'

[5]The assimilated low tone was proposed by Bamgbose [1966a].

2. Analyses

Since SET B can occur as possessive pronouns, some linguists (Bamgbose [1964, 1966b, 1967a] in particular, and Courtenay [1968]) claim that any occurrence of SET B as an object pronoun reflects that the verb is derived from a verb + noun combination, as illustrated in (9).

(9) mo fẹ́ + ọ̀ràn `rẹ → mo fẹ́ràànrẹ or mo fẹ́ràn.rẹ
I {want, like, love} {trouble, affair} your 'I love you'

If we compare (8) and (9), we will notice that they are structurally the same. The verb + noun combination is formed by contraction. The process of contraction is obligatory in the case of (9) since the meaning of the uncontracted form will not be the same as that of the contracted form. Implicit in this claim is that SET B can occur only after nouns and that all surface verbs that take SET B are derived from a verb + noun combination. This argument further supports the generalization that Yoruba has only monosyllabic verbs at the lexical level of representation (a position shared by Bamgbose and Courtenay). While this might have been the case historically, I would claim that it is not valid synchronically.

In a synchronic description of Yoruba, one is immediately faced with the problem of establishing the underlying representation of verbs of the type in (10) if one attempts to derive all polysyllabic verbs from underlying verb + noun combinations.

(10)	gbàgbé	'to forget'	sokúrọ̀	'to hang up'
	gbòòrò	'to widen'	tọpinpin	'to investigate fully'
	tọrọ	'to beg for'	rojọ́	'to grumble (about)'
	bẹ̀rẹ̀	'to begin'	dàbí	'to resemble'
	rọ́pò	'to succeed'	taarí	'to thrust violently away'

Verbs of this type take object pronouns of SET B. There is no way of recovering the phonological shape or semantics of a possible verb + noun combination as was done for /fẹ́ràn in (9). Furthermore, Abraham [1958] mentions that the possible origin of the verb dàbí 'to resemble' is /dà/ 'to become' and /bí/ 'like'. Note that there is nothing nominal about this verb. Thus,

any compound construction of a verb + noun would be ad hoc.

A simpler approach is to recognize verbs of the type in (10) as polysyllabic verbs in their underlying form. This is not to claim that all surface polysyllabic verbs should be treated identically; some of them may be derived from verb + noun combinations, as suggested by Bamgbose. The surface disyllabic verbs—lexical or derived—can account for the complementary distribution of pronouns of SET A and SET B by a syllable counting process by the two rules stated in (11).

(11) a. Insert pronouns of SET A after monosyllabic morphemes.
b. Insert pronouns of SET B after polysyllabic morphemes.

These rules are stated without reference to any syntactic or morphological categories after the verb + noun contraction rules apply. Rule (a) will insert pronouns of SET A after surface monosyllabic verbs. Since all nouns are polysyllabic, rule (b) will insert pronouns of SET B after surface polysyllabic verbs, and nouns. Note that the contraction rule must leave the contracted structure as a verb.

3. Prepositions

The complementary distribution of SET A and SET B after prepositions supports the syllable counting analysis, as seen in (12).

(12) a. mo sọ̀rọ̀ sí ì — 'I spoke to him'
I speak to him
b. mo sọ̀rọ̀ nípa[6] rẹ̀ — 'I spoke about him'
I speak about him
c. mo lọ pẹ̀lú rẹ̀ — 'I went with him'
I go with him

In (12a), SET A occurs after prepositions of one syllable; in (12b,c), SET B occurs after prepositions of two syllables. The rules of (11a,b) will insert the correct pronoun SET after prepositions with no mention of category.

---

[6]Abraham [1958] mentions that the possible origin of the preposition nípa 'about' is /ní/ 'at, in' and /ìpə/ 'path, track'.

4. Evidence from Loan Words

Evidence from language borrowing further supports a hypothesis of syllable counting. Polysyllabic verbs borrowed into Yoruba always select pronouns of SET B. There is no evidence that such verbs are polymorphemic, verb + noun combinations.

Loan verbs from English into Yoruba illustrate this, as in (13).

(13)

	English	Yoruba			
a.	to fail	mo fêìl -rẹ̀	→	mo fêìlìrẹ̀	
		I fail it		'I failed it'	
b.	to pass	mo pâsì -rẹ̀	→	mo pâsìirẹ̀	
		I pass it		'I passed it'	
c.	to dupe	mo dûpù `rẹ	→	mo dûpùùrẹ	
		I dupe you		'I duped you'	

The loan words conform with the phonological properties of Yoruba;[7] vowels are added at the end of the verbs after a consonant to maintain the typical Yoruba CVCV structure. The vowels added are based on a front/back vowel harmony.[8] In examples (a-b), the vowel /i/ is added after consonants preceded by a non-back vowel; in (c), the vowel /u/ is added after a consonant preceded by a back vowel. The tone contour of loan words seems to reflect the stress patterns of English; the falling contour tone can be written over one or two [+syll] segments. As a result of the process of nativization of loan verbs, all consonant final monosyllabic verbs borrowed into Yoruba from English will have two or more syllables depending on their syllabic structure.[9] Like all other polysyllabic verbs, the English loan verbs take the pronouns of SET B as object pronouns as illustrated in (13), above.

Loan verbs from Hausa provide further support for an analysis of syllable counting. Some Hausa verbs that are borrowed into Yoruba are given in (14).

---

[7]See Courtenay [1968] for a detailed discussion of the phonological properties of Yoruba.

[8]For more discussion on vowel harmony in Yoruba, see Awobuluyi [1967], and Bamgbose [1967b].

[9]See Awobuluyi [1967] for a discussion on nativization of loan words into Yoruba.

(14)	Hausa	Yoruba	
	dàamú	dàmú	'to bother'
	wàhálàa	wàhálà	'to bother'
	yàrdá	yọ̀ọ̀da or yọ̀ǹda	'to allow'

These verbs also take pronouns of SET B, as in (15).

(15) má dàmú `mí má dàmúùmí 'don't bother me'
neg bother me

William Welmers [personal communication] suggests that languages generally borrow nouns and that Yoruba might be borrowing English verbs as nouns. This suggestion is obviously not supported by English since English has borrowed verbs, adverbs, adjectives, and pronouns from other languages. Besides, these loan verbs, from English into Yoruba, behave syntactically as verbs and not as nouns. For example, they take subjects, as seen in (16).

(16) mo dûpù rẹ 'I duped you'
I dupe you

They are negated like any other verb, as illustrated in (17).

(17) mí kò dûpù rẹ 'I didn't dupe you'
I neg dupe you

They take the progressive marker and the future tense marker like other verbs, as shown in (18).

(18) a. mo ń dûpù rẹ 'I am duping you'
I PROG dupe you

b. mo máa dûpù rẹ 'I will dupe you'
I FUT dupe you

They can undergo the process of reduplication to form the gerundive, as seen in (19).

(19) dûpù → dídûpù 'duping'

Welmers [personal communication] has also suggested that such verbs might be treated as a contraction of verb + noun combination, but the tone pattern of such verbs suggests otherwise.

(20) a. dûpù 'to dupe'

b. mánêjì 'to manage'
c. rìàlálsì 'to realize'

The penultimate falling tone in (20a,b,c) is clearly a reflection of the English intonation pattern. Other than English loan words, no verbs in Yoruba occur with these tone patterns. In the example of (14), the loan words from Hausa tend to reflect the tonal system of Hausa. Furthermore, the tonal pattern of (20a) cannot be derived from a verb + noun contraction (cf. fẹ́ + ọ̀ràn → fẹ́ràn but not fẹ̀ràn).

5. Possible Historical Explanation

The similarities of the phonological shapes of pronouns of SET A and SET B suggest that at one time in the history of the Yoruba language, there was only one SET. For most person-number combinations, the tone difference (as seen in (1)) is the only difference. Thus, there are overwhelming correspondences much greater than could be due to chance. Furthermore, the synchronic processes of -r- deletion and vowel assimilation suggest that the -r- of second and third person singular of the one SET of pronouns was affected historically by a deletion rule, and that the vowel of the third person was further affected by an assimilatory rule whereby it assimilated to a preceding vowel.[10] Third person, consequently, became realized as a length-

---

[10]In Courtenay's [1968] discussion of the processes of -r- deletion and vowel assimilation, she points out that one type of vowel length in Yoruba is the consequence of -r- deletion and vowel assimilation or just -r- deletion whenever two vowels are identical, e.g.

Yorùbá	→ Yoùbá	→ Yoòbá	'Yoruba'
orúkọ	→ oúkọ	→ ookọ	'name'
koríko	→ koíko	→ koóko	'grass'
dára	→	→ dáa	'to be good'

Notice that it is the vowel of the syllable of the deleted -r- that assimilates. Given that the rule of -r- deletion affects the -r- of the second and third person singular of SET B as well, e.g.

orúkọ rẹ	→ ookọ ẹ	'your name'
orúkọ rè	→ ookọ è	'his name'

it seems plausible that historically a similar process of assimilation might

ening process of the final vowel of verbs. Although phonetically motivated, the assimilatory process interacted with other factors of the grammar. That is, it was morphological in that it happened to third person, but not second, and it was sensitive to parts of speech in that it happened after verbs, but not after nouns.

During the time of this single SET of pronouns, object pronouns were formed by placing the one SET after the verb, which was monosyllabic. To form a possessive construction with pronouns, the one SET was placed after (an) associative morpheme(s) which occurred between the noun and the pronoun. Similar pronoun behavior is attested synchronically in other Niger-Congo languages. In Bambara, for example, the same SET of pronouns is used for subject, object, possessive, reflexive, etc. The associative morpheme *ká occurs between the pronoun and the noun to form a possessive construction (cf. Welmers [1963]).

In Yoruba, the segmental information of the associative morpheme was lost. But the tonal information of this morpheme remained and became an inherent part of the pronouns, creating a new distinct SET of possessive pronouns. At that point in history, the now two SET's of pronouns were in both syntactic and phonological complementary distribution. At that time, all nouns were polysyllabic and all verbs were monosyllabic. Contraction between monosyllab-

---

have affected the vowel of the third person singular to create maximal distinction between second and third person object pronouns, e.g.

*mo wò	rẹ →	mo wò ẹ →	mo wò ọ́	'I looked at him'
I look-at	him			
*mo wò	rẹ →	→	mo wò ẹ́	'I looked at you'
I look-at	you			

Henceforth, the vowel length process became known as the third person, while unassimilated -ẹ- with no -r- preceding it became known as the second person. To support the contention of assimilation of a vowel across a boundary, a low vowel assimilates to the vowel of the second and third person after -r- deletion, e.g.

ajá rẹ	→ ajá ẹ	→ ajẹ́ ẹ	'your dog'
ajá rẹ̀	→ ajá ẹ̀	→ ajẹ́ ẹ̀	'his dog'

ic and polysyllabic nouns led to the creation of a new class of verbs (namely polysyllabic). Simultaneously, SET B, which occurred as possessive pronouns of the noun of the verb + noun combination, took an additional semantic reading as object pronouns of the new class of verbs. Thus, SET B became associated with verbs of two or more syllables rather than a noun of a verb + noun combination. Consequently, SET B has been re-analyzed as object pronouns for verbs of two or more syllables irrespective of their origin. That is, it does not make any difference whether or not polysyllabic verbs are already part of the lexicon, derived from a verb + noun combination, derived from verb + verb compounding, or borrowed from another language.

6. Summary and Conclusion

It has been demonstrated that object pronoun selection is based on syllable counting. Evidence from polysyllabic verbs that must be considered lexical and from loan verbs from English and Hausa shows that pronouns of SET B have been reanalyzed as object pronouns for polysyllabic verbs, given the implausibility of such verbs consisting of a verb + noun combination underlyingly. A one time syntactic complementary distribution of the pronouns has given way to an existing phonological complementary distribution.

Implicit in this analysis is how evidence from language borrowing suggests a new synchronic analysis for the Yoruba verb, since all surface polysyllabic verbs cannot be derived from underlying verb + noun combinations. Therefore, the generalization that there is only one class of verbs at the underlying level of representation (namely monosyllabic) must be abandoned. Finally, this analysis shows "syllable counting" to be a viable phonological process which simply and automatically accounts for a morphological distribution.

REFERENCES

Abraham, R.C. 1958. ***Dictionary of Modern Yoruba.*** London: University of London Press.

Awobuluyi, A.O. 1967. "Vowel and consonant harmony in Yoruba." ***Journal of West African Languages*** 6(1):1-8.

Bamgbose, A. 1964. "Verb-nominal collocations in Yoruba." ***Journal of West African Languages*** 1(2):27-32.

Bamgbose, A. 1966a. "The assimilated low tone in Yoruba." ***Lingua*** 16:1-13.

Bamgbose, A. 1966b. ***A Grammar of Yoruba.*** West African Monograph Series, 5. Cambridge: Cambridge University Press.

Bamgbose, A. 1967a. ***A Short Yoruba Grammar.*** Second edition 1974, reprinted 1976. Ibadan, Nigeria: Heinemann Educational Books, Ltd.

Bamgbose, A. 1967b. "Vowel harmony in Yoruba." ***Journal of African Languages*** 6:268-273.

Courtenay, K. 1968. "A generative phonology of Yoruba." PhD Dissertation, University of California, Los Angeles.

Hooper, J.B. 1972. "The syllable in generative phonology." ***Language*** 48:525-540.

Rowlands, E.C. 1969. ***Teach Yourself Yoruba.*** London: The English University Press Ltd.

Vennemann, T. 1972. "On the theory of syllabic phonology." ***Linguistische Berichte*** 18:1-18.

Welmers, W.E. 1963. "Associative 'a' and 'ka' in Niger-Congo." ***Language*** 39:432-447.