VOWEL AND CONSONANT HARMONY IN YORUBA*

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1.0. Abraham noted in his dictionary of the Yoruba language that the language exhibits vowel harmony, but in his discussion and exemplification of the phenomenon he failed to give us anything approaching a clear picture of how it operates. This task was left for Ladefoged, who in discussing the systems of vowel harmony commonly found among the West African languages, gave the following diagram of the two mutually exclusive sub-systems of Yoruba vowel harmony:

\[
\begin{array}{c|c|c}
\text{Set 1} & \text{Combined sets} & \text{Set 2} \\
\hline
i & u & i \\
e & o & e \\
c & a & c \\
\end{array}
\]

Ladefoged's concern in his monograph was not with the particularities of individual languages, but rather with the presentation of an overall picture of the languages studied. Hence this diagram was accompanied by little discussion, a circumstance which has the rather unfortunate result of leaving us with a diagram which is not only somewhat misleading but also incomplete—misleading, because it gives the impression that the members of each sub-system co-occur freely, contrary to our findings; and incomplete, because it says nothing about the nasal vowels and also because there is yet another system of vowel harmony in the language, which we fail to detect in the diagram.

2.1. One of the two systems of vowel harmony in Yoruba, which we shall label word-initial, operates in vowel-initial nouns in such a way that we have the following pattern of vowel co-occurrence:

<table>
<thead>
<tr>
<th>In the first syllable</th>
<th>Followed in the second syllable by</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>a, e, u, i, ù, iù, iù</td>
</tr>
<tr>
<td>o</td>
<td>a, e, u, i, ù, iù, iù</td>
</tr>
<tr>
<td>ə</td>
<td>a, ã, e, u, i, ù, iù, iù</td>
</tr>
<tr>
<td>ë</td>
<td>a, ã, e, u, i, ù, iù, iù</td>
</tr>
</tbody>
</table>

---

* I am grateful to Professor Greenberg for making helpful comments on an earlier draft of this paper.


3. *The phonemes of the language are:*

\[
\begin{array}{l}
p - k \quad k p \\
b - d \quad j \quad g \quad g b \\
s - s \quad h \\
m - l \quad y \quad w \\
r \quad a \\
\end{array}
\]

Tones: high (*'*) and mid (unmarked), low (')

Evidence for establishing these phonemes and the rationale of their arrangement in this chart are presented in A. Olaidele Awobulu, *The Phonology and Morphophonemics of Yoruba*, unpublished Master's Essay, Columbia University, 1964.


5. There are no instances of Cu in the language, where C is any consonant. Since the rule of vowel harmony being illustrated here leads us to expect them, their failure to occur would seem to be accidental rather than structural.
Both a and i can occur with any vowel (e and the nasal vowels do not occur word-
initially).

No exceptions to the pattern of vowel co-occurrence shown in this chart were found
among the monomorphic vowel-initial nouns listed in Abraham's dictionary (op.
cit.). Some examples are given below.

\(i\): igó 'bottle', ọgbẹ 'exclamation', ọgbọ 'tree', ọka 'finger', iyọ 'feather', ọtọ 'saliva',
irú 'type, kind', iyọ 'that', iyọ 'argument', ọyà 'type of beads', ọdị 'report'.

\(a\): ọdụ 'wares', ọsọ 'cloth', ọwọ 'dishes', ọmọ 'sign', ọghọdọ 'drum (container)',
ọtọ 'hat', ọghọdọ 'coco-nut', ọrụ 'sickness', aghụ 'sniff', ọdụ 'prayer'.

\(e\): ọsọ 'foot', eghọ 'fish', ọwọ 'garment', ọhi 'blame', ọhụ 'tears', ọhụ 'horse',
ọghọdọ 'mosquito', ọghọdọ 'a type of food'.

\(o\): ọghọdọ 'day', ọghọdọ 'week', ọghọdọ 'market', ọrụ 'heaven', ọtọ 'wine', ọhụ 'one', ọhụ a
kind of bird.

\(e\): ọghọdọ 'proverb', ọwọ 'money', ọwọ 'cotton', ọri 'head', ọghụ 'sea, ocean', ọghụ
'law'.

\(e\): ọghọdọ 'hunger', ọghọdọ 'oil', ọghọdọ 'lips', ọghọdọ 'mouse', ọri 'elephant', eghụ 'bone'.

2.2. Among the bi- and polymorphic vowel-initial nouns, where this system of
vowel harmony operates, again without any known exceptions, it provides a simple
explanation for several otherwise mysterious morphological phenomena in the language.

2.2.1. For instance, there is an agentival construction which has the meaning 'someone
who ẹs something' and involves a recollocation of the derivational morpheme (ọ), for the
agent, the verb morpheme (i), to own, possess, and any noun morpheme,
in this order. Thus ọ-ọ-gi-o-ọ-gi.1 lit. agent owns/possesses yam/yams' yields by phonological
where the morpheme (ọ) is now realised as [a].

The explanations offered for the differing manifestations of the agent morpheme
(ọ) by earlier writers are rather unsatisfactory. Thus, Ward says: 'A large number
of nouns are constructed by some form of the word oni 'owner' (from ni 'to have'). We
have seen that the word ni has an alternative form bi, and that the vowel frequently is
elided. In the compounds under consideration the vowel prefix preceding ni (or bi) may
undergo change under the influence of the vowel of the noun from which the compound
is made: thus the 'owner' (oni) of cloth (aṣọ) is atọsọ.' Ward does not tell us
what exactly the influence of the vowel of the noun is, however. Another writer,
Bangbose, says only that, "the nominalising prefix is oni 'one who has'. When the final
vowel of this prefix is elided, ni ñi before all vowels, except i. The initial vowel of the
prefix is also replaced by that of the following item."
Actually, part of the explanation for the differing shapes of the agent morpheme (o) is to be found in vowel harmony of the type illustrated above. To begin with, a phonological (morphophonemic) rule of vowel elision, which has only a few exceptions, calls for the dropping of the i of verbs and prepositions before the initial vowels of their objects. Thus, *(ti-ajá) 'see/saw dog/dogs' and *(si-ajá) 'to dog/dogs' become *[räjá], and *[si:já], respectively, and with the same meanings; similarly, *(ji-ejá) 'steal/stole fish' and *(ti-ojá) 'from market' yield, respectively, *[jéjá] and *[tójá], with no difference in meaning. This same rule turns *(c-ll-ásho) lit. 'agent owns/possesses cloth/clothes' into *[c-ll-ás], a form which does not exist, because, as can clearly be seen in the chart given above (§2.1), e does not occur initially when the vowel in the next syllable is of a lower tongue height. Hence, if the [a] in the second syllable of this example is to remain, as indeed it must (because otherwise the resultant form would either have a totally different meaning or be unattested), then the initial [o] must be replaced by a non-higher-mid vowel, i.e., any vowel other than o and e. In this particular example the non-higher-mid vowel is [a]: so that the attested form of the construction is *[alás], 'owner/seller of cloth/clothes'.

We have no explanation for why the non-higher-mid vowel selected in this case should have been [a] rather than [e] or [o]. Our guess would be that the selection probably rests on considerations of economy of effort.

Some further examples of the agentivial construction are provided below:

*[s-léjá] 'owner/seller of fish', cf. *[s-já] 'fish'
*[o-tšká] 'owner/seller of lorry', cf. *[tšká] 'lorry'
*[e-švé] 'owner/seller of leaf', cf. *[švé] 'leaf'
*[o-šawá] 'owner of money', cf. *[šawá] 'money'

The initial vowel of each of these forms is a phonologically conditioned allomorph of the agent morpheme (o).

2.2.2. There are many other forms besides these in which what would otherwise be considered the morphologically conditioned allomorphs of some derivational morphemes can now be seen to be conditioned at least in part by vowel harmony. Thus, the same agent morpheme (o) that was discussed in the preceding subsection occurs also in these words (to mention only a few examples):

*a-dáášá lit. 'agent who settles cases'; i.e., 'a judge' (cf. *dáá 'to give an opinion', *sáá 'quarrel, court case'); *a-šáyá lit. 'agent that passes'; i.e., 'knife' (cf. *țe 'to peel'); *a-štá lit. 'agent that gave birth to'; i.e., 'parent' (cf. *štá 'to give birth to'); *a-ţpá lit. 'agent that deadens killings', i.e., 'antidote' (cf. *ţpá 'to kill/deaden').

A second morpheme (i) with the meaning 'that which is used for x' occurs with the allomorphs *i-, *u-, *o-, *e-; as in:

*i-čsá lit. 'that which is used for putting the feet into'; i.e., 'socks' (cf. *čá 'to put into', *ešá 'foot'); *a-čdá (>*a-čká) lit. 'that which is used for cutting'; i.e., *a-čá (cf. *čá 'to cut'); *a-ro lit. 'that which is used for fabricating'; i.e., 'machine' (cf. *ro 'to fabricate'); *a-čfá (>*a-fá) lit. 'that which is used for pulling'; i.e., 'magnet' (cf. *fá 'to pull').

1 This symbol stands for the whole class as well as for the allomorph with the widest distribution.
2 The form *čká occurs in some dialects in Ekiti Division.
A third morpheme (é) with something like the past participle meaning that which was x-ed has the allomorphs é, ë, and i; as in:

ê-ron lit. 'that which was thought', i.e., 'thought' (cf. rõ 'to think'); ê-ri lit. 'that which was seen', i.e., 'evidence' (cf. ri 'to see'); i-lá lit. 'that which was split', i.e., 'line' (cf. là 'to split').

As can be observed from these examples, the allomorphs of these morphemes occur with the vowels of the verb stem according to the pattern of vowel co-occurrence given in the chart in §2.1. To this extent at least, they seem to be phonologically conditioned. The only alternative to the partial explanation offered here is, as suggested above, to regard these allomorphs as the morphologically conditioned variants of their respective morphemes—an analysis which we find rather unsatisfying.

The fourth and last construction in which vowel harmony of the type exemplified above appears to play a role is illustrated by the following numerals:

ogó-ôjí 'forty' (< ogú + ójí) lit. 'twenty, two'
ogó-ôjé 'a hundred and forty' (< ogú + ójé) lit. 'twenty, seven'
ogó-ôjá 'a hundred and twenty' (< ogú + ójá) lit. 'twenty, six'
ogó-ôjír 'eighty' (< ogó + ójír) lit. 'twenty, four'

While it remains somewhat unclear how and why the sequence ë-ë becomes ó-ó and ë-ë becomes ò-ò in these numerals, a partial explanation seems available for at least the allomorph ogó of the morpheme ogú 'twenty' (ogó another allomorph of the same morpheme also occurs in these examples). As can be seen in the chart given in §2.1, ó is never followed in the second syllable by ò. This seems to explain why we have the allomorph ogó rather than *ogó, which we would have expected if vowels could co-occur freely.

3.1. The other system of vowel harmony in Yoruba, which we shall label as word-final, has to our knowledge never been noted by earlier writers. It operates in the last two syllables of monomorphemic non-onomatopoeic polysyllabic nouns. Some examples are provided below.

rójó a kind of tree
ábírú 'younger sibling'
èrúlú 'dust'
ábírú a type of farmland
èwáró 'morning'
èpìgè 'bone'
kpàáko 'hoof'
èléè a type of food
èrósì 'star'
èkùrú 'palm kernel'
ègôsè 'sheep'
èkòdà 'time, season'
òròko 'name'
ègôfà a kind of bird
èdàágbé 'neighbourhood'

ákí 'fame'
ákpere 'example'
òbèdè 'mid-way, mid-air'
ójrè 'wall'
òjídù 'stubbornness'
ité 'mud platform'
ìkèlé 'morsel'
ìyè 'trifles'
ìlè 'pig'
ìyèrè 'blue'
ìútè 'make-up powder'
ìsèfè 'stranger, alien'
ìbèrè 'kut'
ìbèrè 'needle'
ìbèdè 'blacksmith'

It will easily be seen with respect to four being neutral—it count shows the entries in Abrú. A conformity sec explanation for the

3.2. Addition made up for desc by assimilated "Yoruba being as by having their or the other of t conveniences, we

Which of the receives depends of the vowel in according to the back (labial), there appears apparent es

kọòtò 'Cu
gbásì ìgè bòò'
pèè 'pen'
còjìbò 'Eg
gèkùnìsì 'Ge
léèì 'late'
elísìbèléò ë

1 The details of Vowel-initi Consonant-

2 Rowlands pe as in did 'motor'. Rowlands, "Yorub This appears not ignore it for the.

We are usual (ibid. p. 209), a preceding sounds-

The term "p" IJAL 25, 147-152 shapes of new low
p = ò, ò, ò, y counterparts in Y

See footnote 1, page 3.
Coalescence was suggested as a possible explanation for these developments in Awohulu (op. cit.).
It will easily be noticed that the vowels in the last two syllables of these words agree with respect to frontness (nonlabiality) or backness (labiality), the low central vowel a being neutral—in the sense that it occurs with both front and back vowels. An actual count\(^1\) shows that approximately 84 per cent of the monomorphemic polysyllabic noun entries in Abraham's dictionary (op. cit.) exhibit this pattern of vowel co-occurrence. A conformity score of this magnitude, in our opinion, definitely rules out chance as an explanation for the pattern.

3.2. Additional proof of the reality (in the sense of existing in its own right and not made up for descriptive convenience) of this second system of vowel harmony is supplied by assimilated loanwords. In Yoruba, being an open-syllable type of language, loanwords entering it are assimilated by having their consonant clusters, if any, resolved with either i or u, and by having one or the other of these same vowels appended to them if they ended in consonants.\(^2\) For convenience, we shall discuss consonant-final loanwords first.

Which of the two open-thetic vowels i and u a particular consonant-final loanword receives depends, with a few apparent exceptions (discussed below in §3.4), on the quality of the vowel in the penultimate syllable of such a loanword after it has been rendered according to the other Yoruba substitution rules.\(^4\) If the vowel in this syllable is back (labial), the loanword receives u; otherwise, it receives i. Some examples (and a few apparent exceptions) are given below.

1. Final Syllables in i

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>kikidibii</em></td>
<td>Catholic</td>
</tr>
<tr>
<td><em>giburidii</em></td>
<td>Gabriel</td>
</tr>
<tr>
<td><em>fiih</em></td>
<td>Peru</td>
</tr>
<tr>
<td><em>ezibii</em></td>
<td>Egypt</td>
</tr>
<tr>
<td><em>gelisii</em></td>
<td>Genesis</td>
</tr>
<tr>
<td><em>ladi</em></td>
<td>Late</td>
</tr>
<tr>
<td><em>disibii</em></td>
<td>Elizabeth</td>
</tr>
<tr>
<td><em>burid</em></td>
<td>Bread</td>
</tr>
<tr>
<td><em>fii</em></td>
<td>Fork</td>
</tr>
<tr>
<td><em>bibi</em></td>
<td>Bible</td>
</tr>
<tr>
<td><em>fiiyi</em></td>
<td>Phillip</td>
</tr>
<tr>
<td><em>tii</em></td>
<td>Skirt</td>
</tr>
<tr>
<td><em>俺</em></td>
<td>Angel</td>
</tr>
<tr>
<td><em>iideeriikii</em></td>
<td>Electric</td>
</tr>
</tbody>
</table>

\(^1\) The details of this count are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Conformities</th>
<th>Non-conformities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vowel-initial morphemes/words</td>
<td>543</td>
<td>119</td>
</tr>
<tr>
<td>Consonant-initial morphemes/words</td>
<td>252</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>895</td>
<td>157</td>
</tr>
</tbody>
</table>

\(^2\) Rowlands pointed out that consonant clusters are sometimes reduced rather than merely resolved, as in *fii* 'motor road' (derived from string), and final consonants are dropped, as in *fii* 'shilling'; see E. C. Rowlands, *Yoruba and English: A Problem of Coexistence*, *African Language Studies* 4, 208-214 (1963). This appears not to be a common process, however, as evidenced by the paucity of examples. We shall ignore it for the purposes of the present paper.

\(^3\) We are unable to determine whether Rowlands had the same explanation in mind when he said (ibid. p. 209), "a final consonant is either dropped ... or a vowel—i or u is added to it ..."

\(^4\) The term "substitution rules" is borrowed from W. R. Miller, *Spanish Loanwords in Arona: I*, *IILAL* 23, 147-153 (1939). The following substitution equations may or may not be useful for predicting the shapes of new loanwords, but they seem to describe most of the loanwords that are now in the language: 
\[ p = p, b, d, g; f = f; s = s, z; \theta = i; \theta = \xi; l = e, i; v = u; \tau = a, a, u. \] Foreign sounds which have counterparts in Yoruba are reproduced more or less faithfully.
2. Final Syllables in u

adúbū 'hammock'
kbūtu 'court'
bītū 'boot'
sisōtū 'bishop'
ambūlōkū 'envelope'
sectū 'record'
shāhōtū 'Ahad'
sūtū 'ward'
lōtū 'Luke'
śītū 'Saul'
kepātu 'pen'
mādēpē 'map'

The similarity between the pattern of vowel co-occurrence exemplified in §3.1 and the one illustrated here is immediately apparent. There, as here, front (nonlabial) vowels occur with front vowels and back (labial) with back, while the low central vowel occurs with both classes of vowels. Needless to say, since as is the widely held belief, barring certain socio-cultural and psychological variables, loanwords are pronounced in a manner which is predetermined by the structure of the borrowing language, these assimilated loanwords obviously end in the way they do only because the pattern illustrated in §3.1 is already present in the Yoruba language.

3.3. As for the loanwords with consonant clusters, there are two possibilities of which one does not appear to be of great interest for our present purposes: if the first member of a two-term cluster is nasal, this consonant becomes syllabic and thus obviates the necessity for a cluster-breaking vowel. Some examples are:

bambū 'bomb'
šānūsā 'to cancel'

ambūlōkū 'envelope'
pīnūsā 'pencil'

The other more interesting possibility is that clusters in which the first member is oral are resolved with either i or u. Some examples are given below.

dīrū 'driver'
sīlipāsī 'slippers'
bītū 'bread'
bītū 'brick'

fiūrū 'a slope'
tābūtu 'table'
gīrūsātā 'grate'
būkū 'a cook'

It will be observed (§3.4), the incidence of the first member of a vowel sequence exhibit the feature of labial consonants listed in §2 and occur with frontality. We can thus see the system of vowel harmony in a manifestation of §3.4. Apparent exhibiting and because some of these would have expected seems to us to be

būkū and n
bītū and n
fiūrū and n
šešūrū and n

In these cases extended beyond similarly, am

fūkū and no
šēsū and no
šēmū and no
fīpū and no

Of course, this but this, in our opinion. Since some vowel harmony, and the patterns

2 We found only two exceptions to this jerašā (window) frame and kērōsātā 'Christmas'.
It will be observed from these words that, with a few exceptions (discussed below in §3.4), the incidence of these two cluster-breaking vowels is determined by the feature of the first member of the cluster: if the first member is labial, \( u \) occurs; otherwise, \( i \). It thus seems that we have on our hands a case of consonant harmony,\(^1\) in which the feature of the consonant determines that of the vowel, such that the resulting CV sequence exhibits alignment with respect to a particular feature—in the present case, the feature of labiality.\(^2\) But the system of vowel harmony exemplified by the native words listed in §3.1 and by the loanwords given in §3.2, in which front (nonlabial) vowels occur with front vowels and back (labial) vowels with back vowels, is also one of labiality. We can thus see that the system of consonant harmony illustrated here and the system of vowel harmony discussed in the preceding two subsections are in reality manifestations of the same phenomenon.

3.4. Apparent exceptions, some of which can be seen among both the cluster-exhibiting and the consonant-final loanwords given above, seem to be deviant only because some of them—cluster-exhibiting loanwords—display vowel harmony when we would have expected them to exhibit consonant harmony, and others, vice versa. This seems to us to be the best explanation for the fact that one can only say:

\[
\begin{align*}
\text{bílèdè} & \quad \text{and not *búlèdè} \quad \text{‘blade’} \\
\text{bírìdè} & \quad \text{and not *búrìdè} \quad \text{‘brick’} \\
\text{jùrì} & \quad \text{and not *júrì} \quad \text{‘a slope, free’} \\
\text{búkùrù} & \quad \text{and not *búkùrù} \quad \text{‘school’} \\
\end{align*}
\]

In these cases vowel harmony of the variety exemplified in §3.1 appears to have been extended beyond its normal range (the last two syllables).

Similarly, among the consonant-final loanwords, one can only say:

\[
\begin{align*}
\text{jùbù} & \quad \text{and not *jùbù} \quad \text{‘fork’} \\
\text{sùsù} & \quad \text{and not *sùsù} \quad \text{‘church’} \\
\text{jùmù} & \quad \text{and not *jùmù} \quad \text{‘gem’} \\
\text{jùpù} & \quad \text{and not *jùpù} \quad \text{‘jeep’} \\
\end{align*}
\]

Of course, tradition may have played a part in determining the shapes of these words, but this, in our opinion, would be a rather difficult point to prove.

4. Since some of the other languages in the same subfamily as Yoruba also display vowel harmony, a brief comparison between the Yoruba pattern of vowel harmony and the patterns reported for two of these other languages, Twi and Igbo, would seem to

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2 The term gravity is probably less cumbersome than labiality, but we prefer the latter because it refers to labial consonants only, while the former refers to labial as well as velar consonants. On this, see Roman Jakobson, C. Gunnar M. Fast and Morris Halle, Preliminaries to Speech Analysis, Cambridge, Mass., 1963, p. 30.
be in order. The chief principle of vowel harmony in Twi and Igbo is said\(^1\) to operate on relative tongue height and the subordinate principle on frontness (nonlabiality) and backness (labiality), this distinction being based on the fact the first occurs in the stems and the other in the affixes. In Yoruba, however, the most natural distinction seems to be between the pattern (word-final) which obtains in the latter half of words or morphemes and the one (word-initial) which occurs in the first half, whether such words have affixes or not. If this dichotomy is correct, then it is impossible to rank the two patterns. This lack of a clear-cut hierarchy constitutes one major difference between the patterns of vowel harmony in Yoruba and those in Twi and Igbo. Another difference consists in the fact that, although one of the two patterns in Yoruba operates on labiality, like the subordinate pattern in Twi and Igbo, the other pattern does not show any definite arrangement according to tongue height. Thus, the higher-mid vowels, \(\text{o}\) and \(\text{e}\), occur with themselves and with vowels of the same or higher tongue position, whereas the lower-mid vowels, \(\text{a}\) and \(\text{u}\), occur with themselves, with vowels of the same or lower tongue height, and with vowels of the highest tongue position. In the Twi and Igbo main principle, however, which operates on relative tongue height, tense and lax vowels are typically kept unmixed. Finally, Yoruba \(\text{i}\) and \(\text{a}\) are neutral in the sense that they can occur with any vowel. The vowel \(\text{a}\) behaves like this in Twi but not in Igbo.

5. To conclude this brief discussion, it should be noted that while the findings reported here are largely of theoretical interest they may also be of practical value since they contain implicit suggestions for the transliteration of loanwords in Yoruba, thereby contributing to the removal of perennial orthographic inconsistencies.

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\(^2\) Perhaps Yoruba once had a nine-vowel system:

\[
\begin{array}{c}
\text{u} \\
\text{o} \\
\text{a} \\
\text{e} \\
\text{i} \\
\text{u} \\
\text{o} \\
\text{a} \\
\text{e} \\
\text{i} \\
\end{array}
\]

in which lax vowels occurred with lax vowels, tense with tense, and the low central vowel \(\text{a}\) with both groups. The reduction of such a system to a seven-vowel system (as in note 1), probably following the merger of \(\text{u}\) with \(\text{u}\) and of \(\text{u}\) with \(\text{u}\), would explain the somewhat irregular pattern of co-occurrence of some of the modern Yoruba vowels. We owe this suggestion to Dr. Kay Williamsen, University of Ibadan.

0.0. The Dan\(^2\) in and in the adjacent rain forest zone, bu of Dan in the Ivory east, Onoh and G and the south. In G (Côte) in the sout the Kpelle\(^3\) and Mi Dan from the Kor to the Mande-fu\(^4\) c 01. The Dan language.\(^5\) Officially the current design refer to the language.

0.2. The small and vernacular pu script.\(^6\) The or list in Kpelle's Po southern Mandé 400 vocabulary it all the existing pu.

0.3. The mate as part of their re. The study deals -
VOELE HARMONY IN YORUBA*

AYO BAMBDOSE

LADENFOGED describes the pattern of vowel harmony in Yoruba as consisting of two sets of five vowels, i.e.

\[
\begin{array}{ccc}
  & \text{Set 1} & \text{Set 2} \\
  i & u & i \\
  e & a & e \\
  o & a & o \\
\end{array}
\]

This pattern is restricted in two ways: Firstly, there is an overlap of three vowels in each set. Compared with the vowel harmony systems of languages such as Twi and Igbo where there is no overlap at all, or even Igbo where there is an overlap of only one vowel, the Yoruba system is an "incomplete form of vowel harmony". Secondly, this restricted vowel harmony system applies only to nouns of the shapes VCV and CVVC, and even the sets involve further restrictions in the actual occurrence of combinations of vowels. In nouns of VCV shape, for instance, V₁ cannot be a nasalized vowel or u, and in addition to the restriction e, o exclude e, o and vice-versa (which is already indicated in the sets), e, o as V₁ also exclude o as V₂ and o as V₁ also excludes u as V₂. Only the vowels i and a as V₂ can be followed by any vowel.

The above statement of vowel harmony is based on an observation of the vowel system of Standard Yoruba. Evidences from some dialects of Yoruba shows that vowel harmony is not as restricted as the data from Standard Yoruba tend to suggest. A typical feature in languages having a vowel harmony system is the alternation between the pronoun subject forms in harmony with the vowel of the verb. Thus in Igbo, there is an alternation between o and o as in o zu 'he lit' and o zọ 'he lied'. This kind of vowel harmony is to be found in dialects of Yoruba such as Oyo and Egba. In both dialects, the singular pronoun subject series have the vowel o before e, a, o and e before the other vowels. Hence,

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* This article was first presented as a paper at the Seventeenth West African Languages Congress in Lagos, March-April, 1967.


2 Ladefoged, ibid., pp. 37-38.

3 Phonologically, there are seven oral vowels represented as i, e, a, o, u. Two of these vowels (i and u) have two allophones each. Hence they are represented phonetically by two different symbols as follows: i realized as [i] or [i]; u realized as [u] or [u]. The other five vowels are represented phonetically as follows: o [o], e [e], a [a], o [o], o [o].

4 The nasalized vowels are different from the oral ones in the sense that whereas [i], [i] and [a], [a] are phonetic and are therefore represented by only two symbols (i and a respectively) in the phonological transcription, their nasalized counterparts are independent phonemes. Hence their phonological representation as [i], [i], [a], [a] with the phonetic equivalents [i, i, a, a] respectively. The only other nasalized vowel is o [o].
Oyo & Egbado SY (i.e. Standard Yoruba)
mo lo 'I went'
mo jó 'I danced'
o fé 'you want'
o dé 'you arrived'
ó wá 'he came'
ó kú 'he died'

Even in these dialects, this kind of vowel harmony is restricted. It does not extend to the plural pronoun subject where there is no alternation, for instance, in the second person plural pronoun which is e in all cases, e.g. e lo 'you want', e jó 'you danced', e fé 'you want', e dé 'you arrived'.

In some other dialects of Yoruba such as Ijésa, Ekiti and Akíré, the vowel harmony not only applies to the alternation of the second person plural pronoun, but it is extensive even to the point of a difference in vowel system between these dialects and SY.

In Ijésa and Ekiti, there are two harmonizing sets of oral vowels which are phonologically identical with the two sets in SY. But unlike in SY, the vowels i and u have two allophones each:

```
Set 1       Set 2
i [i]  i [i]  o [u]  o [u]
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The conditioning of these allophones as attested in nouns of VCV shape is as follows: [i], [u] before and after /i, e, o, u/ [æ], [æ] before /æ, æ, æ, æ/. (After /u/, the choice of allophone depends on the vowel following /i/ or /u/.)

**Examples**

Ijésa & Ekiti SY

- igi [igí]  'tree'
- òde [ule]  'house'
- igó [igo]  'bottle'
- ìbí [ibi]  'evil'
- ìjù [iùu]  'drum'
- ìpó [iùghó]  'forest'
- èrì [ere]  'load'
- ìbi [ibe]  'hunger'
- ìbi [ibe]  'relations'

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1. My informant for Ijésa is Mr. Adeleku from Ìlàkà, and my informant for Ekiti is Mr. Ajímọjọ from Ìrè-Ékiti.

2. In SY, i, u are phonetically [i] and [u] respectively.

3. Words of VCV shape, i and u cannot occur after e and æ. But where such a sequence occurs in words of more than two syllables, the quality of i or u is determined by the following vowel, e.g. ìrì 'ant', ìkú 'stone', òkè 'and'.

4. An example of such a conditioning is to be found in the word òkò where ò has the allophones [i] and [æ] respectively in òkò 'except money', òkò 'except children'.

5. Unlike in SY, the vowel u may be word-initial in Ijésa and Ekiti.
Although the conditioning of the allophones of /u/ and /i/ as described above is restricted to intra-word vowel sequence, the same conditioning may extend to inter-word vowel sequence. This latter feature is true of a restricted group of items including a few nouns, some verbal items, and some particles. For example, the allophones of /i/ in the nouns igbii 'time' and ibi 'place' are conditioned by the immediately following vowels. Hence we have:

igbii ouru [igbii oru] 'time of heat' = 'dry season'
igbii oru [igbii oru] 'time of harmattan'
ibi eré [ibi oré] 'place of play'
ibi ije [ibi ija] 'place of light'

In some verbal items, e.g. ti 'have', fi 'with', di 'become', si 'into', tu 'again', and a few other particles such as ki, ti, si, the allophone of the vowel is also conditioned by the immediately following vowel. When there are several vowels, the conditioning can only be regressive determined from the point at which the vowel harmony begins to operate. For example,

[i] ì tì ti dé 'he said that he (someone else) had come'
[i] ì tì ti fó 'he said that he (someone else) had gone'
[i] ò dì wèrè 'he became a mad man'
[i] ò dì bádí 'he became an old man'
[u], [i] ò tì ti jò 'it has got burnt again'
[u], [i], [i] ò tì ti bë 'it has burst again'
[i], [i], [i] ì tì tì tì jò 'what is my own business?'
[i] ì tì tì tì jò 'what is your own business?'

Operation of vowel harmony across word or morpheme boundaries is, in fact, very restricted. The typical situation in these dialects (and this is also true of SY) is that the vowel harmony of the nouns does not influence other words in larger constructions. For example, in verb-nominal collocations, the vowel of the verb is not influenced by the initial vowel of the noun. Thus, in ò rì evé 'he saw leaves' and ò rì eje 'he saw fish', the vowel /i/ has the allophone [i]; and in ò ru evé 'he carried leaves' and ò ru eja 'he
carried fish' the vowel not go beyond the noun.

The constrictions of status of the allomorph identical to other nouns losing its own. For example,

ru ìgbá [ru ìgbá] and ru ìgbá [ru ìgbá]

In the contracted form [i] and [i] is the contra-
ji ìtì [ji ìla] 'st'
je ìtì [je ìla] 'ce'

In a phonemic analysis should now be four
Admittedly, the vowel it seems a pity to dis-
tractions, and that the
An analysis that can j
need for the introduct
between words is obli-
phones of /u/ and /i/

ru 'gíbá [gíbá]
r 'gíbá [gíbá]
ji 'là [ji]
ji 'là [ji]

Compared with the
different picture. We
tively, [i] contrasts with
verbs illustrate this
fà 'be white'
fú 'be tight'
vá 'be sharp'
và 'drink'

10 This feature is in fact restricted to very few nouns. Cf. ìgí evé 'tree of leaves' and ìgí ìgbá 'tree in
a fence' where /i/ is both cases is phonetically [i]; or ìrú ìgbá 'a cat's tail', ìrú eje 'a fish tail' where
/u/ is phonetically [u] in both cases.
11 In the case of this pair, there is a possible contrast between di [di] or [di] 'become' and di [di] 'tie'.
Cf. di ìwèrè 'he tied the mad man', ò di bádí 'he tied the old man', and ò di ìwèrè 'he became a mad
man', ò di bádí 'he became an old man'.

12 In verbs, /i/ and /u/

13 The dot in this exam
see the author's article: T
14 This juncture feature
been elided.
carried fish'. The vowel /u/ has the allophone [u]. The fact that vowel harmony does not go beyond the noun is shown more clearly when there is a contraction of verb-nominal collocations where vowels from the two sets shown above co-occur freely, e.g.

\[
\begin{align*}
\text{ọ re ọfọ > ọ tifọ} & \quad \text{he cooked vegetables} \\
\text{ọ fọ ọlẹ > ọ fọlẹ} & \quad \text{he broke (into) the house} \\
\text{ọ gi yẹ > ọ gọyẹ} & \quad \text{he cut feathers} \end{align*}
\]

The contractions of verb-nominal collocations raise a problem about the phonological status of the allophones of /i/ and /u/. In a pair of verb-nominal collocations where an identical noun is differently contracted (one noun retaining its initial vowel and the other noun losing its own), the two allophones of /u/ or /i/ may contrast with each other. For example,

\[
\text{ra ọgbá [ra ọgba] ́ buy calabash} \text{ is contracted } \text{rugbá [rugba]}
\]

and \[
\text{ru ọgbá [ru ọgba] ́ carry calabash} \text{ is contracted } \text{rugbá [rugba]}
\]

In the contracted forms [u] and [a] contrast in a minimal pair. A similar example for [i] and [e] is the contraction:

\[
\begin{align*}
\text{jí ñá [jí ñá] ́ steal okra} & \quad \text{> jílá [jíla]} \\
\text{je ñá [je ñá] ́ eat okra} & \quad \text{> jílá [jíla]}
\end{align*}
\]

In a phonemic analysis, the logical implication of these contrasts is that [u], [a], [i], and [e] should now be four separate phonemes instead of allophones of two phonemes. Admittedly, the vowel contrasts must be accounted for in a phonological analysis; but it seems a pity to disregard the fact that the contrasts are restricted only to these contractions, and that they arise solely on account of the blurring of the word boundary. An analysis that can preserve this boundary should solve the problem, and avoid the need for the introduction of new phonemes. If, for instance, a juncture feature between words is obligatorily inserted in the contractions, the condition of the allophones of /u/ and /i/ will remain unchanged. For example,

\[
\text{ru ọgbá [rugba] ́ carry calabash} \\
\text{rú ọgbá [rugba] ́ buy calabash} \\
\text{ji ọlá [jíla] ́ steal okra} \\
\text{jí ọlá [jíla] ́ eat okra} \]

Compared with the oral vowels, the nasalized vowels in Ijesa and Ekiti present a different picture. Whereas [i], [e] and [u], [o] are allophones of two phonemes respectively, [i] contrasts with [a], and [o] contrasts with [u]. For instance, the following pairs of verbs illustrate this contrast:

\[
\begin{align*}
fì́ ́be white' & \quad rí ́la ngh' \\
ffì́ ́be tight' & \quad rí ́walk' \\
mù́ ́be sharp' & \quad kpí ́end' (Ijesa only) \\
mù́ ́drink' & \quad kpí ́divide'
\end{align*}
\]

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12 In verbs, /i/ and /u/ have only the allophones [i] and [u] respectively.
13 The dot in this example represents the assimilated low tone. For a detailed discussion of this feature, see the author's article: 'The Assimilated Low Tone in Yoruba', *Lingua*, Vol. 11, no. 1, 1966.
14 The juncture feature is represented by an apostrophe inserted at the point where a vowel has been elided.
sù 'sleep'  sì 'bury'
sá 'move away'  sú 'serve'
yì 'go'  yì 'harvest'
yá 'be stunted'  yì 'praise'

An additional indication of the contrast between these verbs is to be found in the alternation of the vowels of the pronoun subject and in the reduplicated noun formation. For example,

fì: ò fì 'it is white',  fìfì [fìfì] 'being white'
fì: ò fì 'it is tight',  fìfì [fìfì] 'being tight'
kí: ò kí 'it ends',  kíkí [kíkí] 'ending'
kí: ò kí 'it divides',  kíkí [kíkí] 'dividing'

The following nouns also illustrate the contrast between the vowels:

úgà [úgà] 'vulture'
iyì [iýì] 'excreta'
ugà [úgà] 'edge' (Ijeṣa only)  ini [i Nin] 'one'

The sets of nasalized vowels grouped according to their potentiality of occurrences in the same word are, therefore:

Set 1  Set 2
i  ù  ù

The combined oral and nasalized sets are:

Set 1  Set 2
i [i]  u [u]  i [i]  u [u]
e  o  e  o
a  ù  a  ù

The following are examples of words showing vowel harmony involving oral and nasalized vowels:

Ijeṣa & Ekiti  SY
ià [ià]  ìà 'bedbug'
òù [òù]  òù 'neck'
úù [úù]  òùèẹ  'squirrel'
òt [òt]  òtì 'wine'
ìí [ìí]  ìí 'maggot'
úì [úì] (Ijeṣa)  ìì 'iron' 15
ùù [ùù] (Ekiti)  ìù 'iron'
eà [éà]  èà 'baboon'
ìò [ìò]  ìò 'gun'  

15 Unlike in SY where nasalized vowels cannot be word-initial, the nasalized vowels ù and ì do occur in this position in Ijeṣa. Cf. this example, and also ìòò 'pounded yam', ọ̀gà 'famine'.

The vowel harmony rules, e.g. òùèẹ 'squirrel' form of vowel harmony in Yoruba where òbi 'kola nuts', ìù 'iron', ìà 'bedbug', òù 'neck', òùèẹ 'squirrel', òtì 'wine', ìí 'maggot', ìì 'iron', Èà 'baboon', ìò 'gun', do not necessarily a

15 For example, lab sòóù 'church'.
16 Cf. Studies of En and Vowel Harmony in Mathematics for the Diploma in En
17 Note however Sì oposition between 'a' Position in Akan Vowel (body of tongue not ret
to be found in the

<table>
<thead>
<tr>
<th>Ijesa &amp; Ekiti</th>
<th>SY</th>
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<tbody>
<tr>
<td>iɡbì</td>
<td>ɪɡbì</td>
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The vowel harmony pattern in SY as well as in the other dialects of Yoruba does not necessarily apply to loan words. For example, English nouns of CVVCV shape when borrowed into Yoruba may have a sequence of vowels which contravenes the vowel harmony rules, e.g. ɪgbi 'photo', ẹjọ 'tailor', ẹsọ 'paper', ọmọ 'motor-car' (all of which have vowel sequences which are not permissible in native words). English nouns of CVVCV shape when borrowed into Yoruba usually have the shape CVVCV where the final V is an ecalli -i or -u. The choice of one or the other of the two vowels depends, to some extent, on the immediately preceding consonant, and also on the preceding vowels. The vowel -i is added to a preceding front vowel and -u to a preceding back vowel, e.g. ẹjọ 'pato', ẹjọ 'ail', ẹjọ 'court', ẹjọ 'all'. Although this is a form of vowel harmony, it is, in fact, not typical of the regular pattern of vowel harmony in Yoruba where front vowels combine freely with back vowels, e.g. SY eei 'danger', ẹbi 'kola nuts', ẹbẹ 'death', ẹbi 'wine'. The typical vowel harmony pattern in Yoruba, as shown in the harmonizing sets of vowels, is not an opposition between front and back, but, in so far as one set of vowels excludes another, an opposition between high and low.

The foregoing study of the vowel harmony patterns of Yoruba shows a development involving an increasing restriction on the operation of vowel harmony, i.e. from the patterns of Ijesa and Ekiti where vowel harmony is very extensive and involves sets of harmonizing vowel qualities with little overlap, to Standard Yoruba where there is a substantial overlap of harmonizing vowel qualities. If the assumption can be made that the more complex pattern represents the older form of the language, the proto-form of the vowel system in Yoruba is probably a nine-vowel system (like that of Igbo) of which the vowel system of present-day Standard Yoruba is only a reduced form.

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11 For example, labial consonants usually have -u added to them, and palatal ones -i. E.g. ẹsọ 'shop', ọọọ 'church'.
TWO VIEWS OF VOWEL HARMONY IN YORUBA

A. OLADELE AWOBULUYI and AYO BAMGOBOSE

BAMGBOOSE I

Perhaps I should begin by restating my aim in the article concerned. Briefly, it is to show, in two dialects of Yoruba, the very interesting system of vowel harmony which involves nine harmonizing vowel qualities, and to suggest that the apparently irregular high/low vowel harmony system of present-day standard Yoruba cannot be fully understood unless it is seen as a survival of a fuller system which continued to be represented in some dialects of Yoruba.

In making the statement that the front/back pattern of vowel harmony is 'not typical', I based my conclusion on the fact that in native Yoruba words of VCV shape, front vowels combine freely with back vowels. I did overlook, however, the fact that in addition to its operation in loan words, the front/back pattern is also found in native words of CVCV shape.

Awobuluyi says (3.1) that the front/back pattern of vowel harmony operates in the last two syllables of non-morphemic non-onomatopoeic polysyllabic nouns and he cites words almost all of V-CVCV shape to prove this contention. If Awobuluyi had looked at words of CV CVV shape, he would have discovered that what is true of the last two syllables of his polysyllabic nouns is also true of disyllabic nouns of CVCV shape, i.e. they exhibit both the high/low and the front/back patterns of vowel harmony. The true picture seems to be that the front/back pattern is a feature of any CV CVV shape, whether in disyllabic words or in a combination involving more than two syllables, i.e. CV CVV(CV), V-CVCV(CV) etc. Even in the English loan words cited by Awobuluyi in 3.2, it is significant that the last two syllables (where the front/back pattern is said to operate) are always of the shape CV CVV or CVCV (the latter shape being derived, of course, from English CVC). In contrast to the above pattern, one finds that the high/low vowel harmony pattern is not a feature of VCV shapes. This is borne out by the examples given in my article and by the initial VCV shape of the polysyllabic words cited by Awobuluyi in Section 3.1 of his article. One may say, therefore, that there are two patterns of vowel harmony: a high/low one which operates in words of VCV and CVCV shapes and a front/back one which operates only in words of CV CVV shape. This is the situation both in standard Yoruba and in the two dialects described in my article.

In Section 4 of his article, Awobuluyi claims that the vowel harmony system of

1 Note from the Editor

The preceding article deals with a similar topic to that treated by Dr. A. Oladele Awobuluyi in Volume VI, Part 1. As the respective authors have expressed views which differ considerably we have taken the somewhat unusual step of soliciting their reactions to each other's statements. An edited version of their comments follows. It falls into two unequal parts and is centered on two main areas of discussion:

1. How many patterns of vowel harmony occur in Yoruba? What is the locus of each pattern? Is any one predominant or most typical?
2. How does vowel harmony operate in loan words?

Readers who may wish to take up various points arising from this presentation are requested to contact the authors (not the Editor) at the following address: Department of Linguistics and Nigerian Languages, University of Ibadan, Ibadan, Nigeria.
Yoruba is typologically different from those of Twi and Igbo because (a) in Yoruba, the most natural distinction seems to be between the pattern (word-final) which obtains in the latter half of words or morphemes and the one (word-initial) which occurs in the first half, and (b) the high/low pattern 'does not show any definite arrangement according to tongue height'. As far as the first point is concerned, I hope I have succeeded in showing that this dichotomy is inaccurate. As for the second point, it seems to me that the crucial test of the high/low vowel harmony pattern in Yoruba is the exclusion of the close set by the open set of vowels. And the only complete set of close and open are e, o and e, o. These sets completely exclude each other just as similar close and open sets do in other languages or even in the dialects of Yoruba described in my paper. In any V-CVCV pattern, if one takes the first two syllables (V-CV) or the last two (CVCV) as single units, there is not a single exception to the high/low harmony. On the other hand, as may be shown in the following examples as well as the figures for exceptions recorded in note 11, the front/back pattern has numerous exceptions (éka'té, 'mouse'; ìdírò, 'beard'; dèpòti, 'box'; oólú, 'goat'; iýí, 'sand'). The high/low pattern operates without exception in nouns of V-CV shape, and there is no front/back restriction. (See words like ée, 'dancer'; ìkú, 'death'; ìtì, 'wine' which contravene the front/back pattern.) One may now ask the question: which is the typical pattern? The one that operates without any exception, or the one that has numerous exceptions? My own feeling is that the obligatory pattern should be considered as the typical one; and this feeling is reinforced by the vowel harmony pattern of dialects of Yoruba which have not only the e, o/e, o restriction but also i, u/f, y. In summary, my arguments for saying that the high/low pattern is predominant are (a) that this pattern is found in words of both VCV and CVCV whereas the front/back pattern is found only in words of CVCV, and (b) that within the limits of the operation of the two patterns, the high/low pattern admits of no exception, whereas the front/back pattern does. My conclusion, therefore, is that there is no justification for considering Yoruba typologically different from the other languages which exhibit the high/low as the principal pattern, and the front/back as a subsidiary pattern.

AWOBULUYI I

Bamgbose's article represents an important contribution to our knowledge and understanding both of standard Yoruba and of some of its dialects. It is very much to be hoped that it will inspire similar studies of the remaining dialects of the language.

I agree that disyllabic words of the shape CVCV display the front/back vowel harmony; a statement to this effect was inadvertently omitted from my paper. Note, however, that extending the front/back harmony to CVCV words is only a matter of detail. My paper does not purport to be (and in fact need not be) exhaustive on this point. The omission does not affect the validity of my statement. One might assume from Bamgbose's comments that he considers the front/back harmony a feature which is exclusively found in CVCV words. If so, this is strange. How would he then explain the co-occurrence of vowels in longer words?

Our exchange of correspondence reveals that Bamgbose appears to believe erroneously, as will be seen in Section 4 of my paper, that my aim is to show that of the two principles of vowel harmony in Yoruba, the front/back is primary, and the high/low...
secondary. In order to disprove this putative claim, he attempts to show that high/low is 'more typical'. Unsurprisingly, this attempt is unsuccessful—for what does it mean to say that the high/low is 'more typical'? (For a critique of Bamgboše's similar use of the term 'important' elsewhere, see my Studies in the Syntax of the Standard Yoruba Verb, p. 7.) He employs a new criterion involving whether a principle has exceptions or not. I find this criterion somewhat irrelevant to the case in point. The questions one should really be asking about these two principles of vowel harmony are not whether or not they have exceptions but: (1) what purpose does each of these principles serve? (2) is one of them obligatory while the other is optional? (3) is one of them more productive than the other? etc.

The answer to the first question is very simple: the two principles of vowel harmony ensure euphony in Yoruba. In other words, the two principles of vowel harmony have the same function. This being the case, one obviously cannot rank them on the basis of function.

The answer to the second question is no: they are both obligatory in the sense that no deviation from them is permitted—where they operate. Again the attempt to rank these two principles in a meaningful manner is frustrated.

I cannot give a categorical answer to the third question. The high/low principle is productive in one construction only, namely, the agentival construction discussed in my 2.2.1. The front/back principle, on the other hand, is fully productive in that, all things being equal, a loan word of the type examined in my paper will always be pronounced as there indicated. Thus, on the simple question of productivity alone, there is reason to favour the front/back over the high/low. A sceptical observer, however, might wish to go beyond the simple question of productivity and consider also the number of items produced. If he did this, he would probably be led to favour the high/low over the front/back. Thus we see again that the issue as to which of these two principles is primary cannot be clearly resolved. It is precisely considerations such as these that led me to conclude in my paper (§4) that 'it is impossible to rank the two patterns'.

Bamgboše is mistaken in thinking that I see the dominant pattern of vowel harmony as based on a front/back opposition. Such an attitude on my part could not be reconciled with the statement quoted at the end of the preceding paragraph. Certain misapprehensions, together with differences of emphasis and approach may give the impression that our papers disagree. In fact, however, far from contradicting each other, they are to a large extent complementary; mine describes Yoruba vowel harmony as it is and Bamgboše's as it was. When the distinction is fully appreciated between the synchronic approach of my paper and diachronic approach of his (as least in so far as his discussion of Standard Yoruba vowel harmony is concerned), many apparent contradictions are resolved into complementary documentation of the same phenomena.

II

AWOBULUYI II

When Bamgboše illustrates the front/back pattern of vowel harmony in standard Yoruba by citing only loan words but later says that this pattern of vowel harmony is

*not typical of the tendency on the p analyses of some l Yoruba Orthograph review of Abraham back pattern of vo such is the case, he this pattern of vo' less ' important ' t.

BAMGBOŠE II

I do not believe excluded from the between loan word of the language ar make separate stat is that the high/lo of loan words of th on 'loan words th of examples such vowels, I think it i such as ' photo', harmony rules of t and Igbo: A Desewords' in Igbo di native words in ti my article) that ' i sequence of vowel

Although I ha this should not be fine piece of work
not typical of the regular pattern of vowel harmony in Yoruba.', one is reminded of the tendency on the part of some linguists to exclude loan words from treatment in their analyses of some languages. (Bangboye himself did not consider loan words in his *Yoruba Orthography*, in spite of Professor Sietsema's earlier plea to the contrary in her review of Abraham's *Dictionary of Modern Yoruba.* Does Bangboye feel that the front/back pattern of vowel harmony is to all intents and purposes not part of Yoruba? If such is the case, how can such a view be reconciled with my own finding—namely, that this pattern of vowel harmony is native to standard Yoruba and is neither more nor less 'important' than the high/low pattern?

**BAMGBOYE II**

I do not believe (as Awobuluyi apparently thinks I do) that loan words should be excluded from the study of a language. However, I do want to make a distinction between loan words which have been completely integrated into the phonological system of the language and those which have not. Many linguists often find it more useful to make separate statements for these two kinds of loan words. In my article, my contention is that the high/low vowel harmony which is typical of native CVCV words is not typical of loan words of the same shape. I see that Awobuluyi in his own article has concentrated on 'loan words that ended in consonants before they entered the language', but in view of examples such as 'driver' and 'free' (given by him in Section 3.3) which end in vowels, I think it is not unfair to cite vowel-final loan words derived from English words such as 'photo', 'tailor', 'motor' which definitely contravene the high/low vowel harmony rules of native CVCV words. This situation is not peculiar to Yoruba. In Green and Igwe: *A Descriptive Grammar of Igbo*, for instance, it is reported that 'borrowed words' in Igbo do not conform to the high/low pattern of vowel harmony typical of native words in that language. In short, I wish to reiterate my contention (as stated in my article) that 'English words of CVCV shape when borrowed into Yoruba may have a sequence of vowels which contravenes the vowel harmony rules.' Although I have commented mainly on points of disagreement with Dr. Awobuluyi, this should not be taken as a reflection on the article as a whole, which I consider a fine piece of work, and on which I congratulate the author.