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# A problem of morphemic alternation 

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## 1.

## INTRODUCTION

The consonants of Inibaloi belong to three distributional classes ${ }^{2}$. Class A consonants occur in word-final, pre-consonantal, and intervocalic positions. Class B consonants occur in word-initial, post-consonantal, and intervocalic positions. Class C consonants occur in all five positions.

| Class A | Class B | Class C |
| :---: | :---: | :---: |
| W | gW | b3 |
| 1 | d | p |
| $\stackrel{r}{r} \sim{ }_{d}$ | \% | m |
| y | ď | n |
| g | k | t |
|  |  | $s$ |
|  |  | ng (9) |

The members of Class C constitute seven consonantal phonemes, and present no problem. On the other hand, if the intervocalic data could be ignored the members of Class $A$ and Class $B$ would be in complementary distribution. Furthermore, in intervocalic positions each consonant of Class $A$ is in allomorphic alternation with the corresponding consonant of Class $B$ as tabulated above. The decision as to whether the members of Class A and Class B constitute 5 or 10 consonantal phonemes clearly rests upon an examination of the data for the intervocalie position.

## 2. SYLLABLE PATTBRN CONDITIONING

It has been observed that the final syllable, intervocalic consonant, occurring when word bases are suffixed with -yu ~ - džu 'your (pl.)' or-řa ~-ša 'their', shows some correlation with the syllable pattern of the word base. Word bases with the patterns VCVCV, VCCV, CVCCV, and CVCVCCV all take the suffix allomorphs with Class A
consonants, whereas word bases with the patterns VCV, VCCVCV, and CVCCVCV all take the suffix allomorphs with Class B consonants. E.g.

| asugwařa | 'their wives' | asugwayu | 'your wives' |
| :--- | :--- | :--- | :--- |
| ulsařa | 'their door' | ulsayu | 'your door' |
| dangkařa | 'their jackfruit' | danglayu | 'your jackfruit' |
| kabaydžuřa | 'their horse' | kabaydžuyu | 'your horse' |
| asuša | 'their dog' | asudžu | 'your dog' |
| espelǐ̌a | 'their pin' | espelidžu | 'your pin' |
| kalsařǎa | 'their road' | kalsařadžu | 'your road' |

However, some word bases of patterns CVCV and CVCVCV take the suffix allomorphs with Class A consonants, and other word bases of the same patterns take the suffix allomorphs with Class B consonants. E.g. sediřa 'their lower legs' but sangiša
'their teeth' dupařa malitaそa
!their faces' but mataka 'their eyes ${ }^{\text {' }}$
'their bags' but katiłiša 'their beds'
Thus, the occurrence of Class A versus Class B consonants in intervecalic position may in certain cases be limited by the syllable pattern of the word base, but not completely conditioned by it. 3. MORPHOLOGICAI CONDITIONING

It has been observed that in the intervocalic position of disyllabic word bases consonants of Class $A$ and Class $B$ occur in an allomorphi alternation which shows some correlation with the affixes attached to
 nan- take the allomorphic form containing a consonant of Class $A$, whereas word bases affixed with man-, mengi-. amgi-, ma-, or ka--an take the allomorphic form containing a consonant of Class B. E.g.

| nanagas | 'he took medicịne' manakas | 'he will take medicine' |
| :--- | :--- | :--- |
| nansagu | 'he combed his own mansaku | 'he will comb his own |
| nanbagu | 'he asked' | manbaka |

kimuyud 'he pulled it' mengigudžud 'he will be the one to pull it'
timařem 'sharpened' matašem 'become sharp'
amuŗ̣as 'he gathered' manbusas 'he will gather'
 ion -in- ${ }^{\text {in-, }}$ some disyllabic word bases take an intervocalic consonant of Class A, while others take a consonant of Class B. E.g. amantiyid 'he is climbing' 'but amantadzab 'he is flying' pansulat ka 'you write' but panbušas ka 'you gather it'
 both intervocalic consonants with contrast of meaning. E.g.

| isulum | 'Will you use it for trappinge' | isudum | 'Use it for trapping!' |
| :---: | :---: | :---: | :---: |
| ibařasmu | -fill you use it for whipping' | ipudsasmu | 'Use it for whipping! ${ }^{\prime}$ |
| ipuyukmu | 'Will yau use it for rubbing' | ipudžukmu |  |

Thus, the occurrence of Class A versus Class B consomants in the intervocalic position of disyllabic word bases may be limited by the presence of certain affixes, but cannot said to be morphologically conditioned. However, for a meaning distinction of this nature which occurs with i--mu abore, it is tempting to suggest the existence of some unrecorded prosodic (suprasegmental) conditioning factor.
4. ALTERNATING DISTRIBUTION

Words containing two or more intervocalic consonants of Classes A and B provide the most suggestive and intriguing evidence of some prosodic conditioning factor. In most cases it is observed that consonants of one class occur in alternate intervocalic positions with consonants of the other class; and this is true for both allomorphic forms of the word base. E.g.
8.

| B A |  | A B |  |
| :---: | :---: | :---: | :---: |
| idagam | 'Will you do it' | ilakam | 'Do it:' |
| ikuyudmu | '习ill you pull it?' | iguď̌udmu | 'Pull it' |
| kiצulan | 'place of thunder' | kagušaban | 'very blind' |
| idulan | 'place of saliva' | Kalasa | 'their blood' |
| sisalentu | 'He will destroy it' | ถıigusa | 'their soup' |
| sedira | 'their lower legs' | ngilasa | 'their ears' |
| asugwara | 'their wives' | tawasa | 'their widow' |
|  |  | pulusa | 'their handles' |
|  |  | agisa | 'their brother' |
| A B A |  |  |  |
| kagaduyan | 'very muddy' | bayǔa | 'their pestles' |
| uYǐ̌iyan | $\begin{aligned} & \text { 'younger } \\ & \text { sibling } \end{aligned}$ |  |  |
| kuwakura | 'their pipes' | $B A B$ |  |
| ařasuřa | 'their ploughs' | badulaki | 'young men' |

In a few words two consonants of the same class occur in successive intervocalic positions. Except for one observed case, both consonants belong to Class B. E.g.

| B B |  | B B A |  |
| :---: | :---: | :---: | :---: |
| kamašidan | 'thickest' | tukukura | 'their hats' |
| makusab | 'become blind' | kakidžewan | 'very woody' |
| kukuša | ```'their fingernails'``` | A B B |  |
| sikưa | 'their elbows' | baludaki | 'young man' |
| espekuša | 'their mirrors' | BAA |  |
|  |  | ka?usiřiyan | 'youngest sibling' |

Many Philippine languages have a prosodic phoneme. It often includes features of both stress and length, and sometimes tone. Frequently such a prosodic phoneme is limited to one occurrence (or sometimes two) within a word. The occurrence of two such prosodic phonemes in two consecutive syllables within a word is relatively
infrequent. If it is posited theit there may be some such unrecorded prosodic phoneme in Inibaloi, then it appears likely that the occurrence of Class A consonants in intervocalic positions would be conditioned by it.
5. STRESS CONDITIONING

For the prosodic features of Inibaloi it has proved difficult to identify contrasts. However, a few stress differences have been observed. E.g.

| imudám | 'Flant it!' | imálam | 'Will you plant it?' |
| :--- | :--- | :--- | :--- |
| ibekám | 'Ask him'' | ibágam | 'Will you ask him' |
| ibȩ̛́m | 'Gear it!' | ibârum | Will you ear it' |
| báludâki | 'young man' | badúlaki' | 'young men' |

In these examples Class $A$ consonants only follow stressed vowels, and, except for one word (baludaki 'young man'), Class B consonants do not follow stressed vowels.

To demonstrate that Class A consonants and the corresponding Class $B$ consonants constitute only five phonemes, the varients being conditioned by stress, two steps are necessary.
(a) First, that stress is contrastive must be established for words containing only Class C consonants in intervocalic positions. Perhaps the most likely place to find such a contrast would be in the imperative - interrogative pairs of verbs affixed with i- -mu in $_{\text {i- }}$-m. If contrastive stress is not established in this type of word, then the possibility should be considered that Class A and Class B contain ten consonantal phonemes, and that in words where they occur in intervocalic positions stress is conditioned by consonantal class and not vice-versa.
(b) Secondly, if phonemic stress is established, then stress must be recorded on a long list of words with Class A and Class B consonents in intervocalic positions, and some stress-conditioning hypothesis be

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shown to describe all of this data accurately,
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6. CONSONANTAL COMPONENTS

If the investigation outlined above should demonstrate that stress (and any other prosodic features) are non-phonemic, being conditioned by a combination of word syllable patterns and consonant classes, two phonemic descriptions are possible. As mentioned in section 1 , the members of Class $A$ and Class $B$ may be described as ten distinct consonantal phonemes.

Alternatively, Class $A$ and Class $B$ may be described as each containing the same five consonantal phonemes, and the members of one class (Class A, say) as each containing a sixth componential phoneme fused with the consonantal phoneme. 5 Under this latter description the allomorphic alternation of "consonants" in intervocalic position would be described as a shift in the placement of the componential phoneme, while the consonantal phonemes remain unchanged. This method of handling the allomorphic alternation would be analogous to the one which would be used if stress should be phonemic.

## FOOTNOTES

1. Inibaloi is spoken by about 40,000 people in Benguet sub-proviñee, Northern Luzon, Philippines. The dialect described here is that spoken around Daclan, Boked. The first author is responsible for the data, and the second for its analysis.
2. For a description of Inibaloi phonemes see David Huey, "Phonemes of the Inibaloi Dialect", Summer Institute of Linguistics, Manila,
 distinct phonemes, but $\underline{k}$ and $g$ as allophones, and $g w$ and $w$ as allophones. The present paper is an attempt at re-analysis on the basis of further data.
3. In another dialect of Inibaloi b does not belong to Class C but to Class A, and Class B contains bw as its correspondent.
4. $\check{\underline{Y}}$ occurs in intervocalic positions and d in word-final and preconsonantal positions. In this present paper the d of wordinitial, post-consonantal and certain other intervocalic positions is regarded as belonging to another phoneme on the grounds of its allomorphic alternation with 1 . These two phonemes overlap phonetically, but there is no ambiguity as to which phoneme any particular phonetic $\underline{\alpha}$ belongs.
5. Orthographically the componential phoneme could be represented by a diacritic. For a componential treatment of a more complex case (which, however, does not affect the phonemic analysis). see: Ethel Wallis, "Simulfixation in Aspect Markers of Mezquital Otomi", Language, 32.453-9 (1956).
