PHONEMIC SYSTEMS OF COLOMBIAN LANGUAGES
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OF COLOMBIAN
LANGUAGES

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Norman
EDITOR'S NOTE

The studies of this monograph are presented as tentative, as Dr. Waterhouse indicates in her introduction. Bibliography and discussion of related languages in the literature are, therefore, omitted. The studies were prepared in a field seminar held in Lomalinda, the base of the Summer Institute of Linguistics operation in Colombia, from February to April 1965 under Dr. Waterhouse's direction.

The papers are data oriented and all cast in the same format for easy comparison. It is hoped that the volume will be useful in shedding light on some of the little-known languages of South America.
INTRODUCTION

This volume is composed of preliminary phonological statements of seven indigenous languages of Colombia, South America. The authors, with one exception, had resided less than a year in the areas where the languages are spoken, hence no claim is made that these papers represent the last word on these languages. Rather, an attempt is here made to present routine structural statements, in a more or less uniform format, of preliminary (but I am convinced solid) data from a group of hitherto little-known languages.

The first two languages described, Tucano and Guanano, are members of the Eastern Tucanoan family, spoken in the Vaupés area. Yucuna and Guajiro are classed as Arawakan, Muinane as Boran, Camsá as Mocoa, Guahibo as Guahibo-Pamigua. Muinane and Yucuna are spoken to the south of the Tucanoan area, Guahibo to the north. The other two are found in the western part of the country, Guajiro in the Guajiro peninsula to the north, Camsá in the Sibundoy valley in the south.

Of interest to area linguistics is the similar six-vowel system found in six of the seven languages, the complex consonantal system of Camsá, and the diversity of suprasegmental systems encountered.

The specific characteristics of each language are presented in a brief note before each paper.

Viola G. Waterhouse
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GUANANO PHONEMICS

Nathan and Carolyn Waltz

Special features of Guanano include a phonemic aspirated stop series, allophonic in Tucano, an affricate /č/ not found in Tucano, and a suprasegmental system composed of a stress-pitch combination rather than separate stress and pitch phonemes as in Tucano. The typical Tucanoan allophones of /r/, and the conditioning of allophones by contiguous oral or nasalized vowels are present in Guanano. The further analysis of higher level units promises to be of interest.

1. Introduction
2. Phoneme chart
3. Consonants
4. Vowels
5. Suprasegmental phonemes
6. Distribution
7. Higher level units
8. Special phonetic characteristics
9. Morphophonemic alternation
1. **Introduction.** Guanano is spoken by approximately eight hundred inhabitants of the lower Vaupés river in the southeastern jungles of Colombia. The language of the Guananos belongs to the Eastern Tucanoan family. The greatest concentration of Guananos is in the village of Villa Fátima located on the Vaupés river about ten miles from the border of Brazil. There are approximately two hundred speakers of Guanano in Villa Fátima. Santa Cruz is second in Guanano population, having approximately eighty inhabitants. The latter is located fifteen miles upriver from Villa Fátima and the same distance downriver from the Colombian town of Mitú. There are twenty Guanano houses located between Santa Cruz and Villa Fátima. Phonetic differences between these two villages are slight. In the phonetics of Villa Fátima there are occurrences of voiced stops which are voiceless in Santa Cruz. This is possibly due to the influence of Desano which is spoken by about one third of the inhabitants of Villa Fátima. A brief comparative study of Desano–Guanano cognates reveals the presence of voicing in the stops of Desano with corresponding voicelessness in Guanano. Most of the language material was given the authors by José Darío, Vicente Moscera, and Américo Valencia. The material was gathered during two field trips made during 1964 and 1965.

The major features of Guanano phonemics are (1) three series of stops, including voiceless aspirated and unaspirated plus a series of voiced stops, (2) voiceless vowels occurring in both nuclear and offglide positions of the syllable, (3) a strong, influential nasalization and (4) an emic stress system.

2. **Phoneme chart.** The phonemes may be charted as follows:
Consonants

<table>
<thead>
<tr>
<th>Stops</th>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirated</td>
<td>ph</td>
<td>th</td>
<td></td>
<td>kh</td>
<td></td>
</tr>
<tr>
<td>Unaspirated</td>
<td>p</td>
<td>t</td>
<td></td>
<td>k</td>
<td></td>
</tr>
<tr>
<td>Voiced</td>
<td>b</td>
<td>d</td>
<td></td>
<td>g</td>
<td></td>
</tr>
<tr>
<td>Sibilants</td>
<td>s</td>
<td>ĉ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flap</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuants</td>
<td>w</td>
<td>y</td>
<td>h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glottal stop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>?</td>
</tr>
</tbody>
</table>

Vowels

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td>ɪ</td>
</tr>
<tr>
<td></td>
<td>u</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>e</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td>o</td>
<td></td>
</tr>
</tbody>
</table>

3. **Consonants.** The striking features of the consonants are (1) three series of stops, (2) influence of vowel features on the voiced stops, continuants, and flap, thus forming their variants, (3) complete symmetry within the stops and continuants with their nasal variants.

The alveolar sibilant /s/ contrasts with the fronted alveopalatal /ʃ/: /sǐ/ [sǐ] 'sun', /CSI/ [tCSI] 'food'. The fronted alveopalatal sibilant (phonetically an alveopalatal grooved affricate which fluctuates to a dental palatalized aspirated stop [tʃh]) contrasts with the voiceless alveolar aspirated stop: /CSI/ [tCSI] 'food', /tʃCSI/ [tCSI] 'I hear'.

The alveolar flap occurs in words like /koro/ [koro] 'rain'. There are few good contrasts with /d/ and /t/, but it seems best handled as a separate phoneme. See discussion in 3.2, 9, and fn. 4.

Continuants occur at the labial /w/, palatal /y/, and glottal /h/ points of articulation. The labial continuant /w/ contrasts with both allophones of the voiced labial stop, [b] and [m]. /wiaha/ [wiaha] 'I carry on the shoulder', /biaha/ [biaha] 'I crawl'; /waha/ [waha] 'to kill', /baha/ [maha] 'a large variety of parrot'. The palatal nasal [n], allophone of the palatal continuant /y/, contrasts with [n], which is an allophone of the voiced alveolar stop [d]: /daha/ [naha] 'I receive', /ya/ [nya] 'I am bad'. The glottal continuant /h/ contrasts with the velar stop /k/ and glottal stop /ʔ/: /bahā/ [mahā] 'a large variety of parrot', /bakā/ [maAkā] 'pueblo'; /bahā/ [mahā] 'a large variety of parrot', /baʔa/ [maʔa] 'path'.

The phonemic status of the glottal stop /ʔ/ is shown by the following contrasts: /siʔdīha/ [siʔ Çünkü] 'I drink', /sidīha/ [sanha] 'I ask for'; /yoʔa/ [yoha] 'I fish', /yoʔa/ [yoʔa] 'I make'.

3.2. Consonant variants. Variation of the consonants ranges from slight changes such as addition of a little fric-
tion to continuants, to considerable changes by addition of nasalization to voiced stops and continuants to form their nasal allophones.

The palatal continuant /y/ has four allophones, three of which are conditioned by stress, the fourth by nasalization. Both the voiced dental palatalized stop [dΥ] and the voiced fronted alveopalatal affricate [dʔ] occur in fluctuation with each other and with the palatal continuant [y] in a stressed syllable preceding a high vowel, /payt/ [padΥ] ~ [padʔ] ~ [payt] 'much'. In nonstressed syllables, especially preceding low vowels, the palatal continuant variant occurs, /yóha/ [yóha] 'I hang'. Contiguous to a nasalized vowel, a palatal nasal variant [n] occurs, /yóhα/ [nóhα] 'I show'.

The alveolar flap /r/ has three allophones, influenced by the vowel qualities of tongue position and nasalization. When following a back or central vowel and preceding a front vowel the tongue makes the flap in a forward motion, and a lateral [ɾ] allophone occurs, /yaʔsáriα/ [yaʔsáliα] 'green (fruit)'. Contiguous to a nasalized vowel it is a nasal flap [n], /soʔáriα/ [soʔáníα] 'red'. The alveolar flap variant [ɾ] occurs elsewhere. The pattern (direction) of influence is shown in Illustration 1.

\[
\begin{array}{ccc}
|   & i & u  \\
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>e &amp;</td>
<td>o</td>
<td></td>
</tr>
</tbody>
</table>
\end{array}
\]

Illustration 1

The glottal stop /ʔ/ occurs intervocalic and precon-
sonantal. Between like vowels it varies from full glottal closure to laryngealization, with perceptible lengthening of the vowel, /wàr̥áha/ [wâ·ha] ~ [wâr̥áha] 'I go'. Before consonants the glottal may also actualize as laryngealization of the vowel, but without length, /wàrkâha/ [wâkâha] ~ [wa·rkâha] 'I get up'.

Nasal variants of the voiced stops occur at the bilabial, alveolar, and velar points of articulation. The nasal variant is conditioned by a contiguous nasalized vowel. When the contiguous vowels are oral the resulting voiced consonant is a stop:

/ba·r̥á/ [ba·r̥á] 'path', /ba·r̥á~/ [ma·r̥á] 'path';
/dáha/ [dáha] 'I send', /dãha/ [ma·hã] 'I catch';

The voiceless fronted alveopalatal aspirated affricate [tʃh] fluctuates to a voiceless dental palatalized aspirated stop [tʃh] in forms such as /çià/ [tʃhãa] ~ [tʃhãa] 'food'.

The labial continuant /w/ has four allophones conditioned by vowels of varying quality and position. When the labial continuant precedes a front vowel, a labial fricative variant occurs, /wiha/ [bĩha] 'I whistle'. The labial continuant has the quality of a high back vowel [u] but somewhat shorter and more restricted, when contiguous to nonfront vowels. When contiguous to a nasalized vowel, corresponding nasalized allophones occur. This pattern is displayed in the matrix of Illustration 2:

oral nasal

| nonfront | w | w |
| front    | b | b |

Illustration 2

¹Due to the influence of Spanish on literate Guanacos, the voiced stops and nasals will be written separately in the practical orthography.
4. **Vowels.** The majority of the consonant variants are a result of vowel influence. The consonants also influence the vowels, resulting in a series of voiceless vowel variants. This mutual effect of vowels and consonants gives the impression that Guanano speech consists of waves of interacting components rather than a succession of consonant and vowel particles. The vowel system shows horizontal symmetry with front, central, and back vowels and vertical symmetry with high and low vowels. Initial vowels have an optional glottal onset.


4.2. **Vowel variants.** Three features treated here as suprasegmental phonemes condition variants of the vowel system of Guanano: stress, length, and nasalization. A fourth type of variant is voicelessness. Voicelessness can occur in the nucleus /CV/ or the off-glide /cvV/ positions of the syllable. If a prestressed syllable begins with a voiceless consonant and that syllable is immediately followed

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by a voiceless consonant, the resulting syllable nucleus is a voiceless vowel, /pitsháka/ [pitsháka] 'fire'. If the pre-stressed syllable has an initial voiced consonant its nucleus is filled by a voiceless vowel followed by the corresponding voiceless vowel, /waco/ [waAtshó] 'green variety of parrot'.

Vowel quality is generally very stable. Only two vowels seem to vary slightly. The low front vowel /ɛ/ fluctuates slightly toward a more close position [e], /díre/ [nǐne] ~ [nĩɛ] 'I said!' The back vowel /u/ fluctuates toward [o] in words such as /kubuḍu/ [kumunu] ~ [komono] 'bench'. The quality of the back vowels is slightly lower than the phonetic norms [u], [o]. The high back /u/ tends toward the more open position of [u] and the low back /o/ tends toward the more open position of [o].

5. Suprasegmental phonemes. Stress and pitch interact to form the stress system. Multiple stress and a pattern of equal pitch run parallel with each other in words such as /túahá/ [túahá] [tu₃a⁶ha³] 'I have strength'. A phonological word is defined as a minimum elicitable form constituting a stress group. High pitch and stress occur simultaneously. High pitch can define the position of stress in a series of nonglide pitches, /waháha/ [waháha] [wa₃háha⁴] 'I row!', and as part of a glide /baáha/ [ba₃a¹ha⁴] 'I swim'.

Multiple stress on three-syllable utterances parallels monotone when the first and last syllables are stressed: /túahá/ [túahá] [tu₃a³ha³] 'I have strength'. If the two stresses occur on the first two syllables leaving the last syllable unstressed, the result is /thúáha/ [thu₂a³ha⁴] 'I stay'.

The basic stress pattern is not phonologically predict-
able, though it is quite regular on the grammatical level.\(^3\) An example of the few minimal contrasts with stress is /θúáha/ [θúáha] 'I stay', /θuáha/ [θuáha] 'I walk with a cane'. There are also stress contrasts between parts of speech but this is predictable by context which would define whether one is using a verb or noun, /báha/ [báha] 'I take out', /báhá/ [mahá] 'a large variety of parrot'; also contrastive are /wá¿i/ [wá¿i] 'I gave', /wa¿f/ [wa¿f] 'fish'.

Length occurs on initial stressed vowels which are phonetically longer than unstressed vowels in similar positions. This phonetic length is variable and appears to be merely a concomitant feature of the stress-pitch pattern.

Nasalization penetrates the utterances of Guanano to form certain consonant variants (see 3.2). It is contrastive on vowels, /bá¿/ [ma¿Asá] 'let's go'; /bá¿/ [ma¿Asá] 'people'.

6. Distribution

6.1. Syllable patterns. The phonemic syllable in Guanano is defined as a unit of potential stress placement. Thus each vowel constitutes the nucleus of a syllable.

The most common syllable pattern is the simple CV. Other patterns are CCV, CV?, and V.

6.2. Single consonants. All single consonants may fill the onset position of CV and CV? syllables. The flap /r/ does not occur stress group initial (see 7). In one Santa

\(^3\) Regular stress occurs on the last syllable of the stem in verbs, nouns, and adjectives, /wa¿ó/ [waAtá¿ó] 'a green variety of parrot'; /wáhá-/ [wáhá-] 'to row'; /bát¿/- [bát¿-] 'hard'. Certain suffixes are always stressed; /tagá/ [tagá] 'come!' (-gá = emphatic imperative); /hágá/ [hágá] 'I'm here', (-há = person marker used to answer the question, 'Are you here?'); /wa¿áraha/ [wa¿áraha] 'I'm not going', (-éra = negative).
Cruz dialect, /g/ also does not occur stress group initial. Only /ʔ/ can occur syllable final.

6.3. Consonant clusters. There is only one consonant cluster within the syllable. [st\textsuperscript{V}] forms the CCV pattern. In Santa Cruz this cluster can occur word initial, /stěha/ [stěha] 'I barricade a stream'. It also occurs word medial, /kőrostě/ [kőrostě] 'rain cloud'. In Villa Fátima the word for 'rain cloud' is /kőroyitě/ [kőroyitě]. Thus variation from the simple CV syllable pattern is due to a dialect change in Santa Cruz. The only consonant cluster between syllables is composed of syllable final [ʔ] plus syllable initial consonant, /waʔkáha/ [waʔkáha] 'I get up!'


6.5. Vowel clusters. Vowel clusters of two and three vowels occur in Guanano. All vowels occur as either first or second member of a two-vowel cluster. Contrastive vowel length is interpreted as a geminate vowel cluster because either vowel can be stressed and because Guanano has diverse vowel clusters. /wáaha/ [wáaha] 'I get wet', /baáha/ [baáha] 'I swim'.

Any vowel but /a/ may be the first member of a cluster of three vowels. The second position of a three-vowel cluster may be filled only by the low central vowel /a/. The third position may only be filled by the high front vowel /i/. A two-vowel cluster may have stress on the initial or the final vowel. There is no variation of stress on the three-vowel cluster since it involves one specific morpheme.

7. Higher level units. The stress group consists of from one to eight syllables. Stress is defined by pitch (see
5). High pitch marks the peak of the stress group. The stress groups may occur in two categories. There is an equal-stress group which has two stresses coinciding with a monotone pitch pattern, /túahá/ [túahá] 'I have strength'. Also there is an unequal-stress group consisting of a primary and secondary stress in that order, /píriaká/ [píriaká] 'tooth'.

The pause group may consist of from one to five stress groups. Pause characterizes the borders of the pause group. All nonfinal stress groups within the pause group have a nondown-glide pitch, either level or up glide. A stress group which occurs pause group final at the end of a grammatical clause has a down glide.

8. Special phonetic characteristics. The word phonetic here refers to acoustic affect on the listener rather than allophonic variation. The most notable phonetic features of Guanano are nasalization, glottal stop varying to laryngealization and emphatic intonation with very high pitch. This emphasis can be accompanied by fortis voiceless stops. Vowels of Guanano are characterized by a voiceless off-glided in prestressed syllables. The movement of Guanano narrative intonation follows a pattern of slow speech with high pitch and length usually followed by rapid, animated speech.

9. Morphophonemic alternation. Nasalization brings about a morphophonemic interchange between phonemes /r/ and /d/. The third person singular verb suffix in the present tense is /-ra/. However, when this occurs immediately after a nasalized vowel, the /-ra/ is actualized as /-da/ [-na]. Nasal influence on the flap /r/ occurs with noun, verb, and adjective endings, though it involves morphophonemic change to /d/ in only a few cases. Due to analogous contrasts and no clear pattern of complementary distribution between the /d/ and the /r/, these are considered
separate phonemes. Thus the [n] allophone of /d/ cannot be considered to be an allophone of the alveolar flap /r/.

This analysis reveals a definite relationship between the alveolar flap /r/ and the alveolar stop /d/. It appears to be due primarily to the influence of Spanish on Guanano that the distinction between these two phonemes is present today. The alveolar consonants [f], [v], [m], [d], [n] are still so closely related in Guanano that it is probable that they were allophones of the same phoneme previous to Spanish influence. This conclusion is based on: (1) fluctuation between the /d/ and /r/ before high vowels, /yahiriaka/ [yahfiriaka] ~ [yahfiaka] 'heart', (2) occurrence of phonologically defined allomorphs on adjective, noun, and verb endings which are often paralleled by allophonic alternation. Compare /yiria/ [n-fia] 'black' ([−fia] = adjective suffix for 'fruits') with soqria [soqfria] 'red' ([−fia] = adjective suffix for 'fruits'); the former is an allomorph and the latter simply an allophonic change from the alveolar flap [f] in certain environments, (3) lack of good contrast between the /d/ and the /r/, (4) limited mutual exclusion between the /d/ and the /r/. The latter never occurs word initial whereas the former does.