OUTLINES OF THE
PHONOLOGY OF THE GOKANA DIALECT
OF OGONI

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1. Gokana is one of the main dialects of the language spoken by the people usually termed Ogoni. This name, they believe, was originally given to them by the Kalabari people further to the south, but has been adopted both by the tribe itself and its neighbours.

The Ogoni live almost completely in Ogoni Division of Port Harcourt Province, Eastern Nigeria, in an area between, approximately, latitudes 4° 05′ and 4° 20′ North and longitudes 7° 10′ and 7° 30′ East. The divisional headquarters is the town of Bori, some 25 miles east-south-east of Port Harcourt. At the last census, the population of the whole Division was 156,717. Allowing for the presence of small numbers of different tribes, one may estimate the Ogoni people as numbering something of the order of 130,000.

The three dialects, or probably groups of dialects, among the Ogoni are Kana, spoken to the north and east of Bori, Tai, the smallest group, spoken to the north-west of Bori, and Gokana, spoken to the south. The dialect described in this paper was elicited from two informants from the village of Bodo (bóódɔɔ), some 8 miles to the south-east of Bori, and in the Gokana area.[1]

2. The phonemes of Gokana are consonants, vowels, and a nasal resonant. There is a further element, as yet of indeterminate status but provisionally classed as a juncture. The consonants are voiceless and voiced plosives of five orders, voiceless and voiced fricatives of three orders, voiced nasals of two orders, and one order of voiced liquid.

3. The voiceless plosives are p, t, c, k, kp. All are realised by unaspirated, moderately fortis allophones.

p is bilabial: píí 'silence', pɛɛ 'jump', pó 'wing', pũ̃m 'brain',

t is alveolar: taa 'three', té 'tree', tɔ 'house', tù 'take'.

c is palatal. Considerable individual variation appears to exist. One informant uses a palatalised [k] regularly in all positions; the other ranges between this and a dorso-palatal [c] with a slightly affricated release, the latter regularly before front vowels and occasionally before back vowels. Examples: cáà 'stranger', cɛ̌ 'grieve', cɔ̀ 'spoil', cṹṹ 'testicle'.

k is velar: kà 'mother', ké 'egg', kɔ̀ 'cockroach', koò 'horn', kú 'tree-trunk'.

kp is labiovelar: kpá̃ 'shout', kpé 'metal, bicycle', kpɔ̀ 'cut'.

The voiced plosives are b, d, ɟ, g, gb. In pre-vocalic position, all are realised by voiced, unaspirated, moderately fortis allophones. In post-vocalic word-final position, the allophones of b, g are characterised by non-release of the occlusion and by rapid decrescendo voicing.

b is bilabial: bá 'hand', boo 'rain', bùrà 'think', pɔ̀bkà 'big', dìb 'hit', òb 'ten'.

d is alveolar: dáá 'sleep', dee 'day', dí 'dirty', dodoo 'red flower'.

ɟ is palatal. As with c individual variants range from a palatalised [g] to a dorso-palatal [ɟ] with slightly affricated release. Examples: ɟáa 'fur', ɟà 'get moving, go', ɟɔ́ 'wealth', ɟù 'rub'.

g is velar. In more colloquial speech occasional free variants occur. Thus, between oral vowels in bɔgè 'much' a pre-velar fricative [ɣ] with light friction may occur, and between the nasal vowels in ĩ̀tɛ́gɛ̃ 'sit down' a velar nasal [ŋ] has been noted. Examples: gã́ 'mouth', gè 'cutlass', gò 'eagle', gù 'mountain', bég 'long'.

gb is labiovelar: gbá 'mud', gbè 'small antelope', gbɪ̃̀ 'look for', gbɔ̀ 'those'.

4. The voiceless fricatives are f, s.

f is labio-dental: fá 'guts', fé 'foam', fɪ̃̀nɪ̃̀ 'monkey', fò 'sow', fùl 'cut'.

s is alveolar: sãã 'sand', sì 'go', seè 'when', sɛ̀ 'perhaps', pàsãã 'leaf'.

The voiced fricatives are v, z, j.

v is labio-dental. Before nasalised vowels, v is realised as a nasalised fricative with very slight friction, before other vowels as an oral fricative with moderate friction. Examples: vã̀n '(to) dry fish', vɛ́ɛ̃ 'back', vĩ́n 'child'; va 'wife', víl 'grass', bɔví '(to) tie', vùù 'glutton'.

z is alveolar: ze 'sole of shoe', zɛ̀ '(to) peel', zɔ̀ 'follow', zɔví 'swim'.

j is palatal. Before nasalised vowels j is realised as a nasalised, prepalatal fricative, with very slight and often inaudible friction. j does not seem to occur in other positions. Examples: jã̀ã́ló '(to) hurt', jɛ̀ɛ̃ 'heavy', jĩ́ɛ̃ 'heart', jɔ̃ɔ̃nɛ̃ 'follow'.

5. The voiced nasals are m, n. In post-vocalic, word-final position, the allophones of these nasals are characterised by rapid decrescendo voicing.

m is bilabial: mã́ 'milk', mɪ̃́ɪ̃́ 'blood', mɛ̃n 'neck', mṹṹ 'water', bɛ̀m 'rotten', dɔ́m 'husband'.

n is alveolar: nɛ̀ 'give', nɪ̃́ɪ̃́ 'this', nɔ̃m 'animal', mɛ́nɛ́ 'rich man, chief', bɔ̃n 'village', nɛ̃n 'person'.

6. The voiced liquid is l. It has two main allophones. Medially between vowels within the morpheme, and finally in the morpheme before a following vowel in the same word, l is most frequently realised as [r], a voiced, post-alveolar trill, very short and light, or a voiced, post-alveolar flap. Examples: bele = [berē] 'we', bìla = [bìrā] 'black', kpùlu = [kpùrū] 'short', kpùgúlú-ló = [kpùgúrúló] 'round', (ì) kil-ì = [(ì) kīrì] '(we) go', from the verb kìl = [kìl] 'go'. (In these last examples the hyphens indicate intra-word morpheme boundaries.) In other positions, that is in morpheme-initial position, in morpheme-medial position before or after a consonant, or in morpheme-final position, before a consonant or at the end of a word, l is realised as a voiced alveolar lateral [l]. Examples: lè 'right', ló 'salt', ɛ̀blóló '(to) taste', ból-té 'fruit' (the hyphen indicating a morpheme boundary), ól 'farm', víl 'grass'.

In some cases, l intervocalically within the morpheme is realised as [l]. The occurrence of [r] or [l] seems to reflect partly individual and partly word differences. One informant uses [r] in almost all cases, but regularly in olo 'thou', bolo 'you', ɔ̀ɔ̀lɛ̀ 'six', and occasionally in other words, bele 'we' for instance, he uses [r]. The second informant uses [l] much more frequently, regularly in all the words cited immediately above, and often in teelá 'run', bìla 'black', káála 'sky', etc. In some words, however, bali 'God', àlàbà 'seven', fèlè 'beard', etc. he uses [r] only. The informants also state that neighbouring villages differ in the use of [l] and [r] in these words. All this suggests that the phonological system of the dialect is in process of change at this point.

7. The vowel phonemes are seven oral and five nasal. The former are i, e, ɛ, a, ɔ, o, u. They are realised by short voiced vocoids, save that a sequence of two same vowels within the syllable is realised as a single long voiced vocoid.

i is unrounded, front, and close. Before another vowel in the same word, i is facultatively realised as a diphthong, with a light palatal semivowel as its second element. Examples: ki 'market', dìb 'hit', toví 'sharp', gbei 'sun', víl 'grass', iɛ́ = [ĭɛ́] or [ĭjɛ́] 'have, possess', tìl 'tin', díila 'arrow'.

e is unrounded, front, and half-close: bele 'we', fé 'foam', kéi 'smoke', egè '(to) complete', kèlè 'drum', féé 'calabash', ee 'what?'.

ɛ is unrounded, front, and half-open: ɛ̀ verbal particle, ɛlɛ 'he', gɛ̀ 'cutlass', gbɛá 'remain', naàvàɛ́ 'how', bɛɛ 'cheek', cɛ̀ɛ̀lɛ̀ 'sweat', ɛ́ɛ́ 'white'.

a is unrounded, central to front, and open: bá 'hand', àlàbà 'seven', kàkà 'correct', kpáté 'bark of tree', gbàbá 'between', àà 'go', dáa 'tooth', aataa 'eight'.

ɔ is rounded, back, and half-open: kɔ̀ 'cockroach', bɔ̀i 'of you', bɔ̀gɛ́ 'much', kpɔ́gɔ́lɔ́ 'chain', ɔɔ 'stream, pool', kɔ̀ɔ̀ 'said', fɔɔlɔ 'wind'.

o is rounded, back, and half-close: pó 'wing', lò '(to) talk', gbógó 'dog', èblóló '(to) taste', òb 'ten', kóò 'friend', kpóó 'bone', dodoo 'red flower'.

u is rounded, back, and close: ú 'death', dù 'come', kulù 'tortoise', ùb 'dig', vùù 'glutton', bùùlù 'dust', uuli 'blow (with mouth)'.

8. The nasal vowels are ĩ, ɛ̃, ã, ɔ̃, ũ. These have realisations similar to those of the corresponding oral vowels, but with the addition of a component of nasality.

ĩ: kĩ 'housefly', nĩ 'elephant', bĩ́ɔ́ 'nose', gbĩ́nĩ́nĩ́ 'thin', fĩĩ 'mouse', mĩ́ĩ́mĩ́ĩ́ 'red'.

ɛ̃: ɛ́ 'moon', gɛ̃̀ 'down', dɛ̃m 'stone', ɛ̃nɛ̃ 'one', dɛ̃ɛ̃ 'eye', jɛ̃́ɛ̃́nɛ̃́ 'ant'.

ã: bã́ 'cooking pot', dã̀ 'hear', tã́nĩ̀ 'four', nã́ĩ̀ 'thus', ãã 'new', kã́ã́kãã 'dry'.

ɔ̃: kɔ̃̀ 'leaves', nɔ̃̀ 'eczema', dɔ̃́m 'husband', bɔ̃nãlɔ́ 'meeting', pĩɔ̃̀ 'lung', dɔ̃́ɔ̃́ 'fat', tɔ̃̀tɔ̃̀ɔ̃̀ 'many'.

ũ; dũ̀ 'tail', nũ 'thing', pṹm 'brains', kũnũkɛ̃̀ 'ground', mṹṹ 'water', bṹṹnṹ 'lip'.

9. The nasal resonant is M. In initial position in the word, single M is realised as a tone-bearing, voiced, nasal contoid homorganic with the allophone of the following consonant. (M does not occur single in word-initial position before a vowel.) Examples: Mmá = [m̄má] 'full', Mda = [n̄dā] 'I', Ṃnɔ̃m = [ńnɔ̃m] 'bird', Ṃkɛ̄m = [ŋ́kɛ̄m] 'small', Ṃváá = [ŋ́váá] 'woman'. Doubled, and in all other positions, M is realised as a tone-bearing, voiced, bilabial nasal: MM̀ = [m̄m̀] 'in', zɔM = [zɔ̄m̄] 'followed me', nɔ̃M = [nɔ̃̄m̄] 'imitated me' (cf. nɔ̃m = [nɔ̃̄m] 'animal'), jãàMló = [ɲãàm̄ló] ('where [ɲ] represents nasalised [j] §4) 'hurts me'.

10. The provisionally termed juncture is ʔ. This is realised by closure of the glottis and sharp, but not aspirated, onset to the following phoneme, which is always V or M. (Here and in the following, V will be used as a cover symbol for any vowel phoneme and C for any consonant.)

The status of ʔ is difficult to determine. Its occurrences are at least partly predictable, and partly, it seems, facultative.

ʔ occurs:

(a) almost regularly at word boundaries between two V or between V and M with different tones: bàʔíbáló 'they appointed (cf. bài bɔví 'they will tie'), bànĩ̀ʔínáʔɛ̃nɛ̃kàʔɔɔ 'they had reached one river', vaáʔà 'and he', tãàⁿɛ̃̀ʔMM̀ kɔ̀l 'went into forest';

(b) frequently in careful speech, but less so in more rapid colloquial, at word boundaries between two V or between V and M with the same tones: kulùʔàʔíná 'tortoise he went', nɛ̀ʔɛɛ 'with him', à nãã̀ʔMM̀ 'he said "yes"';

(c) regularly internally in the word in a few cases. Those noted are sɔ̃ɔ̃ʔea 'yesterday',

ɔɔʔɔɔló 'fatigue', lóʔMMnɛ̃ 'evening', loʔee 'why' — all of which are possibly covert fossilised phrases; niʔɛi 'today' — which is perhaps a contracted form, cf. níí 'this'; and àʔa '(to) yawn' — which seems to be monomorphemic but may well be imitative.

In the cases under (a) and (b) above, where ʔ does not occur, it is replaced by the simple type of syllable boundary (§12 below).

11. Tone is significant. There are three tones, low ˋ, mid ˉ (but unmarked in the phonemic transcriptions in this article), and high ˊ. One of these occurs with each V or M.

In the cases of V or M in sequence within the word, the successive tones are realised as single long tones or as gliding tones rising or falling between the tone levels associated with the separate V or M in the sequence. Examples:

bà eat	ba crocodile	bá hand
dɛ̌m make	dɛ̃m rock	dɛ́m tongue
bè (to) fence	be home	bé (to) fight
bée name	beè if	béè (I) fight
càà give	caa yam	cáá falsehood
cáá stranger	vaá and	gbei sun
bǐɔ́ nose	mǐɔ́ worm	mǐɔ́á that worm
MM̀ in	MM̀M = [m̃m̀m̃] no, not	íMbáló appointed me

12. The syllable is most conveniently taken to be a unit in the structure of the word. Syllable boundaries (marked in the examples below by hyphens) occur

(a) at the beginning and end of a word;
(b) within the word

    (i) between any two C in sequence: pɔb-kà 'big', èb-ló-ló '(to) taste', dú-dǔm-tɔ 'knee', dɔ́m-bí-è 'priest';

    (ii) after any V followed by CV or CV . . . : ɛ̃-nɛ̃ 'one', gbɛ̃-lɛ̃ 'large', nàǎ-nǐ 'sun', pà-sãã 'leaf', zɔ̀-kpá-ló 'sickness';

    (iii) between M and any V or C: zɔ-M 'follows me', M-da 'I', vá-M̀-bá-ná 'cat';

    (iv) between V and any different V in sequence: lá-o 'cow', kì-ɛ̃ 'left', ãà-ɛ̃ 'where', kìì-á-kɛ̃ '(to) return', kǐ-ɛ́ɛ̃ 'until';

    (v) between second and third of three same V or three M in sequence: mɛ̃ɛ̃ŋɛ̃ 'who', MM̀-M 'no, not'.

Syllable boundaries are often marked between, and occasionally within, words by the occurrence of ʔ (§10 above). Where ʔ does not occur, syllable boundaries are sometimes marked by a slight, but in slow speech clearly perceptible, diminuendo-crescendo fluctuation in the force of phonation.

13. The theoretically possible types of syllable structure are, accordingly:

-V-	-VV-	-CV-	-CVV-
-VC*-	-VVC*-	-CVC*-	-CVVC*-
-M-	-MM-.		

(The sequence VV here is of course always of two same V; for C*, see (a) below.)

Of these possible structures, -VVC*- does not occur in my material, and -CVVC*- occurs only once, in what is very likely a loanword: bĩĩn 'beans'.

A few restrictions on occurrences of phonemes within the syllable can be stated.

(a) Syllable-final C, marked C*, is one of b, g, m, n, l only: pɔb 'big', bég 'long', dɔ́m 'husband', nɛ̃n 'person', ól 'farm'.

(b) When C or C* is m or n, tautosyllabic V is one of ĩ, ɛ̃, ã, ɔ̃, ũ only: nĩ́ 'vein', nɛ̃̀ 'and', nãã 'do', nɔ̃́ɔ̃ 'oil', mṹṹ 'water', ãn 'room', dɛ́m 'tongue', tɔ̃́m 'work', pṹm 'brains', ùmã̀ '(to) hoe', dɔ̀ɔ̀mã̀ 'set (trap)'.

(c) When C is m or n, tautosyllabic C* is m or n only: mɔ̃n 'voice', nɛ̃n 'person', nɔ̃m 'animal'.

(d) When C is l, tautosyllabic C* is l only: lɔ̀l '(to) finish'.

14. My informants, admittedly literate in English, had little hesitation in delimiting a further unit in their utterances. This may be termed the word.

The word does not coincide with the morpheme; words clearly of one morpheme, e.g. té 'tree', vòò 'five', and of more than one morpheme, e.g. (with hyphens to mark morpheme boundaries) súú-té 'seed', má-láo 'milk', dùùlà-bá-deè-tɔ́ 'advice' (literally, 'pull-hand-hole(?)-ear'), all occur. On the other hand, all analysed words contain at least one morpheme, and no case has been found in which the sequence of phonemes representing a morpheme is interrupted by a word boundary.

The word shows two phonological unifying features. First, it is the unit within which tones on adjacent V or M are realised as single long tones or glides (cf. §11 above). Thus in mṹṹ-ã́ 'that water', where the hyphen marks both a syllable and a morpheme boundary, the single long high tone of the first VV is continued across the syllable boundary to extend over the final V. Again, in mĩ́-ɔ̃-ã́ 'that worm', where the first hyphen marks a syllable boundary and the second marks both a syllable and a morpheme boundary, the tones are realised as a smooth glide from a high tone crest on the first V through a mid tone trough on the second V and back up to a high tone crest on the third V. Similarly, in pɔ̀síĩM 'frightens me', the tone realisation glides smoothly from the long high tone crest on the last two V to the mid tone level of the adjacent nasal resonant.

Secondly, the word is the unit within which sequences of adjacent V are either all oral or all nasal. E.g. oral vowels in sequence: béàídú 'about', naàvaɛ 'how', kììákɛ̃ '(to) return'; and nasal vowels in sequence: ãã̀ɛ̃ 'where', kĩ́ɛ̃̀ɛ̃ 'until', tájíɛ̃ 'forget'. Further, the words above, mṹṹ-ã́ 'that water', and mĩ́ɔ̃-ã́ 'that worm', may be compared with kpɛ̀ɛ̀-á 'that leopard', and dee-á 'that day'; in the former the anaphoric demonstrative is represented by ã́ in position adjacent to nasal vowels and in the latter by á in position adjacent to oral vowels.

It might be noted at this point that if, as above (§10 (c)), forms such as sɔ̃́ɔ̃Ɂea 'yesterday', and niɁei 'today' are classed as words, then Ɂ is in these forms separating a sequence of nasal vowels from a sequence of oral vowels within the word, a function which is elsewhere performed by consonants.

15. The word in Gokana may be either monosyllabic or multisyllabic.

The monosyllabic word consists of one syllable of any of the structures listed in §13 above, with the exceptions of VVC* and of M. Examples:

V: ɔ̃́ '(to) drink', à 'he';

VV: ɔɔ 'stream', óó 'navel';

CV: bé 'fight', gbó 'people';

CVV: nɔ̃́ɔ̃ '(palm) oil', taa 'three';

VC*: ùl 'blow (of wind)', ɔ̃n 'abuse';

CVC*: tub 'twenty', bɔ̃n 'village';

CVVC*: bĩ̀ĩn 'beans';

MM: MM̀ 'in'.

The multisyllabic word is constructed out of a sequence of syllables, of any number from two to five, the maximum so far found. The favourite syllable structure in this class of word is CV, the only structure which seems able to occur without restrictions in any and all positions in a sequence of syllables forming a multisyllabic word. Examples (the hyphens here and in the following marking syllable boundaries):

CV-CV: nãké 'also', tánì 'four';

CV-CV-CV: págbálà 'man', gbíníní 'thin';

CV-CV-CV-CV: kalakolo 'trap', kpùgúlúló 'round';

CV-CV-CV-CV-CV: kpɔgɔlɔtogó 'fat-head' (a nickname).

Syllables of other structure may occur in any position in the sequence, but the material available suggests that certain restrictions apply with regard to their frequency or succession. The following statements apply to this material; some seem likely to have more general applicability.

(a) No word has more than three V in sequence, i.e. words of syllable sequences V-V, V-V-V, VV-V, CV-V-V, CVV-V occur, but not, e.g., V-V-V-V, CVV-VV, etc. Examples: iɛ́ 'have', àí 'he' + future particle; eàí 'he' + future and relative particles, ãàɛ̃ 'where?', sòiá 'that spear'; zɔɔ̀ɛ̃ '(I) follow him'.

(b) No word has more than one syllable of the structure VC*, and such syllable must be in final position in the word or be followed by a syllable with initial C (§12 (b)). Examples: bĩɔ̃m 'nail', èblóló '(to) taste'. (Syllables of this structure are relatively infrequent in the language.)

(c) No word has more than one syllable of the structure M or more than one of the structure MM, and in no case is either of these syllables followed by a syllable with initial V. Examples: Ḿváá́ 'woman', váM̀báná́ 'cat', pɔ̀sííM 'frightens me', MM̀ 'in', loʔMM̀nɛ̃ 'evening', MM̀M 'no, not'.

Even with these restrictions, the possible combinations of syllables in the word in Gokana are extensive. A small selection of words is added in exemplification: CVV-CV: bùùlù 'dust'; CVV-CVV: káákãã 'dry'; CVV-CVV-CV: ɟáàkáála 'star' (= 'fish of sky'); CV-CVV-CVV: kɔ̀láádee 'every day'; CVC*-CVV: tɛ̃nnãã 'set about'; CV-CVC*-CV: dúdŭmtɔ 'knee'; V-CV-CVC*: ɛ̃nɛ̀kũm 'one'; V-CV: ɔví 'burn'; V-CV-CV-CV: élábànà 'wait for'; VV-CVV: ííɟoo 'coconut palm'; VV-CVV-CV: ĩ́ĩníĩté́ '(you) sit'; CV-CV-CVC*: gbɛlɛpɔ̀b 'large'; CVC*-CVC*: kɛ̃mbug 'few'.