



The Phonology of Tenango Otomi

Richard C. Blight; Eunice V. Pike

International Journal of American Linguistics, Vol. 42, No. 1. (Jan., 1976), pp. 51-57.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28197601%2942%3A1%3C51%3ATPOTO%3E2.0.CO%3B2-P>

International Journal of American Linguistics is currently published by The University of Chicago Press.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/ucpress.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

The JSTOR Archive is a trusted digital repository providing for long-term preservation and access to leading academic journals and scholarly literature from around the world. The Archive is supported by libraries, scholarly societies, publishers, and foundations. It is an initiative of JSTOR, a not-for-profit organization with a mission to help the scholarly community take advantage of advances in technology. For more information regarding JSTOR, please contact support@jstor.org.

THE PHONOLOGY OF TENANGO OTOMI

RICHARD C. BLIGHT AND EUNICE V. PIKE

SUMMER INSTITUTE OF LINGUISTICS

0. Introduction
1. Consonant contrasts
2. Consonant variants
3. Vowels
4. Distribution
5. Tone
6. Intonation
7. Syllable
8. Phonological word

0. The phonology of Tenango Otomi¹ includes three contrastive lexical tones,² and a prepause syllable which is the domain of intonation. There are nine oral vowels,

¹ There are more than 7,000 speakers of Tenango Otomi centering around the town of Tenango de Doria, Hidalgo, Mexico. Miguel Plata P., about fifty-five years of age, was the principal informant. He is from a nearby town, San Nicolás. Richard C. Blight is responsible for the grammatical data, the vocabulary, and most of the segmental analysis in this article. Eunice V. Pike analyzed the tone and is responsible for the presentation of the materials.

² For a description of other Otomi languages in which contrastive tone is posited, see Donald E. Sinclair and Kenneth L. Pike, "The Tonemes of Mesquital Otomi," *IJAL* 14 (1948):91-98; Henrietta Andrews, "Phonemes and Morphophonemes of Temoayan Otomi," *IJAL* 15 (1949):213-22; Eunice V. Pike, "Tonemic-Intonemic Correlation in Mazahua (Otomi)," *IJAL* 17 (1951):37-41; Joyce Jenkins, "Morphological Phoneme Sequences in Eastern Otomi," *Phonetica* 2 (1958):1-11; and Ethel E. Wallis, "The Word and the Phonological Hierarchy of Mezquital Otomi," *Language* 44 (1968):76-90. For Mezquital Otomi, described as having accent rather than tone, see Frances Lyon and Morris Swadesh, "Two Views of Otomi Prosody," *IJAL* 15 (1949):100-105; and H. Russell Bernard, "Otomi Tones," *Anthropological Linguistics* 8, no. 9 (1966):15-19.

[*IJAL*, vol. 42, no. 1, January 1976, pp. 51-57]

©1976 by The University of Chicago. All rights reserved.

four nasal vowels, and many consonant clusters. The sets of consonant clusters differ in accordance with their distribution in reference to their place in the word: prestress, the stressed syllable, poststress, or at the fusion of stem with a following morpheme.

1. There are eighteen consonants:³ voiceless fortis stops /p, t, k, ʔ/, voiced lenis stops /b, d, g/, voiceless spirants /f (bilabial), s, š, x, h/, voiced fricative /z/, voiced nasals /m, n/, flap /r/, and voiced semi-vowels /w, y/. A voiced lateral /l/ and a voiceless alveopalatal affricate /č/ occur in Spanish loan words: 'lápi *pencil*, 'číbo *goat*.

The bilabials /p, f, b, m, w/ contrast: dá'pǎdǐ *I knew*, dà'ǎǎdǐ *he will know*, dà'fǎdǐ *it will be known*, dà'mǎdǐ *I loved*, dá'wǎhǐ *I plowed*, bǐ'mpǎhə *he was saved*, bǐ'mbǎkwæ *he was angry*. The phoneme /f/ also contrasts with /ph/: 'ǎphǐnǐ *giving off heavy smoke*, 'wǎfánǐ *driver of oxen*.

The alveolars /t, d, s, z, n, r/ and alveopalatals /š, y/ contrast: dá'tógi *I fell*, dà'dógi *he will fall*, dá'sǎgi *I jumped*, dá'šǎdi *I studied*, dà'zǎgi *he will jump*, dà'nòki *he will fatten it*, dá'yǎgi *I was tired*; dá'šǎki *I got scraped*, rǎ'šǎbu *his soap*, ná'má *I am going*, rǎ'mássæ *the worm*. The phoneme /t/ also contrasts with /th/: 'tǎde *adopted child*, 'thǎbe *necklace*.

The flap /r/ occurs in a few morphemes

³ For the reconstruction of Proto-Otomi consonants, see Stanley Newman and Robert Weitlaner, "Central Otomian I: Proto-Otomi Reconstructions," *IJAL* 16 (1950):1-19; and Doris Bartholomew, "Some Revisions of Proto-Otomi Consonants," *IJAL* 26 (1960):317-29.

only, but it occurs frequently because of the morphemes *rà-* *the*, *râ-* *his*, *grâ-* *you are* (*grâ*¹*su* *you are a grandmother*), *drâ-* *I am* (*drâ*¹*su* *I am a grandmother*). The /r/ also occurs in a few other morphemes, for example: ¹*bórga* *lizard*, ¹*nèrbe* *partridge*, ¹*bórto* *button*, ¹*párho* *reddish brown mixture*, *dì*¹*bàrpi* *he changes it*, ²*ì*¹*sòrbì* *it is in vain*, *bì*¹*gòrbì* *it's laying inside*.

The velars /k, g, ʁ/ and the laryngeals /ʔ, h/ contrast: ²*ì*¹*kǎs*²*ì* *he carries*, *bì*¹*gǎs*²*ì* *he carried*, *bì*¹*xǎs*²*ì* *it was carried away*, ²*ì*¹*ǎs*²*ì* *he was stirring (something)*, ²*ì*¹*hǎs*²*ì* *he carries*; *mǎ*¹*ko* *my brother-in-law*, *mǎ*¹*xo* *my mushroom*, *dá*¹*ho* *I killed*, *dá*¹*o* *I was inside*. The phoneme /x/ also contrasts with /kh/: ¹*mǎkhǎ* *priest*, ¹*tǎxǎ* *godfather*. Glottal stop contrasts with the lack of glottal stop, as in: *dì*¹*bàt*²*ì* *it is turning around* versus *dì*¹*bòt*²*ì* *he is turning it around*; *bì*¹*hyùs*²*ì* *he placed it on (something)* versus *bì*¹*hyù*²*s*²*ì* *he increased (something)*.

There is also contrast between the single consonants /s, m, n/ and the clusters /ss, mm, nn/: *rǎ*¹*se* *the stars*, *rǎ*¹*sa*¹*sæ* *the frost*; *rǎ*¹*mǎti* *the beggar*, *rǎ*¹*mmǎti* *his possession*, *dì*¹*òni* *I hoe*, *dì*¹*ònni* *I ask*.

2. The consonant variants are, for the most part, conditioned by their occurrence in relation to the stressed syllable, to /ʔ/, and to other contiguous consonants.

The voiceless fortis stops /p, t, k/ are frequently preaspirated when, as a single consonant, they are initial in a stressed syllable: *rǎ*¹*[hp]*¹*ǎda* *the buzzard*, *rǎ*¹*[ht]*¹*ǎme* *the butterfly*, *dì*¹*[hk]*¹*ót*²*ì* *I lock up*. In other environments, they are not preaspirated, except that when following a vowel, they may be preaspirated in slow speech: ¹*nz*¹*ìpa* *monkey*, ¹*mph*¹*ni* *cuff of a shirt*, *rǎ*¹*thò*²*t*²*ì* *the cornhusk*, ¹*mí*¹*stu* *milkweed silk*, *rǎ*¹*t*²*àbi* *the shovel*, ¹*šò*¹*n*¹*báte* *teacher*. When two voiceless stops occur in sequence, there may be voiceless open transition between the two: ¹*òkto* *cave*.

A sequence in which a consonant is followed by a glottal stop is actualized as a voiceless glottalized contoid: *bì*¹*mǎp*²*íya* *he went then*, ¹*t*²*áfi* *syrup*, ¹*s*²*ǎye* *a jar*, *dì*¹*k*²*íki* *I pull apart*.

A sequence in which glottal stop precedes a voiced lenis stop /b, d/ is frequently actualized as a voiced implosive: *dì*¹*b*²*bòt*²*ì* *he turns around*, *rǎ*¹*b*²*ida* *the guitar*, *rǎ*²*d*²*éde* *the ladder*. (In our data, we have no sequence /ʔg/.)

The voiced lenis stops /b, d, g/ have stop allophones when following nasals: ¹*mbáre* *compadre*, ¹*ndo* *hail*, ¹*ngo* *fiesta*. In other environments, /b, d, g/ vary freely from a lenis stop to a fricative, but the stop is the more frequent: ¹*bórga* *lizard*, *rǎ*¹*d*²*ógwa* *his ankle bone*, *rǎ*¹*z*²*àg* *his ear*, *rǎ*¹*b*²*èya* *his brain*.

When a voiced stop precedes another voiced stop, or /z/, there is voiced open transition between them: ¹*nz*¹*[b*²*d]*¹*e* *supper*, ¹*š*¹*[g*²*z]*¹*u* *coward*.

The voiceless alveolar and alveopalatal spirants /s, š/ have stop onsets when preceding /ʔ/, unless the /ʔ/, in turn, precedes a voiced continuant: ¹*hm*¹*[s*²*]*¹*i* *front teeth*, ¹*zi*¹*[š*²*]*¹*i* *little*; but ²*ì*¹*p*²*ǎ[s*²*]*²*y*²*ás* *they are ashamed*, *dì*¹*p*²*ǎ[s*²*]*²*m*²*às* *I am ashamed*.

The voiceless glottal spirant /h/ has numerous allophones. It is a voiceless nasal of the same point of articulation as a following nasal: ¹*hm*¹*ǎ* *face*, ¹*hn*¹*ni* *town*. It is a voiceless bilabial when preceding /w/ (¹*hw*¹*àda* *box*) and voiceless alveopalatal when preceding /y/ (¹*hy*¹*ádi* *sun*). When /h/ occurs between a nasal and a vowel, it alternates between a voiceless nasal and a voiceless vocoid of the same quality as the following vocoid: ¹*nho* *good*, ¹*n*¹*èmhya* *slanderer*. In other environments, /h/ has the quality of a following vowel: ¹*f*¹*òho* *stomach*, *dì*¹*h*¹*ǎni* *I buy*.

The voiced alveolar nasal /n/ has a velar allophone when preceding /k, g, h, w/ and when preceding the sequences /ʔw/ or /ʔ/

plus vowel: ^lnhàpì *blessing*, ^lngu *house*, ^lnho *good*, ^lnwàdònì *garden*, ^ln[?]wági *a broken bone*, n[?]àì *skunk*.

When preceding oral vowels, the bilabial nasal /m/ has an allophone with a stop release [m^b], and the alveolar nasal /n/ has [n^d]. These allophones with a stop release contrast with a consonant cluster composed of nasal plus stop, in that the stop phoneme which is a part of a consonant cluster is of longer duration than the stop which is a part of a complex allophone [m^b] or [n^d]: ^l[m^b]óhi *plate* versus ^lmbòšita *great-grandfather* versus [?]ì^lmpa *he goes habitually*; nì^l[n^d]e *your mouth* versus nì^lnde *in the afternoon*.

3. There are nine oral vowels /i, e, æ, a, ə, o, u, i, ə/ and four nasal vowels /ĩ, æ̃, ã, ũ/. Of the oral vowels, three are front unrounded: /i/ (high), /e/ (mid), /æ/ (low); three are central-back unrounded: /i/ (high), /ə/ (mid), /a/ (low); three are back rounded: /u/ (high), /o/ (mid), /ə/ (low). Examples of the oral vowels in contrast are: ^lbíte *stinger*, ^lbèt[?]e *roof*, ^lbáto *grand-child*, ^lbáfi *nest*, ^lbòšì *mucus*, ^lbòsæ *a certain tree*, ^lbúšì *chicken*, ^lbìs[?]i *rafter*, ^lbát[?]e *offering*; rà^lye *the rain*, rà^lyæ *the hand*, rà^lya *the infection*, rà^lyóhò *the nausea*, rà^lyo *the dog*, rà^lyə *the ghost*, rà^lyì *the root*; rà^lsə *the star*, rà^lsu *the grandmother*, [?]ì^lso *it falls*; ^lgóne *a dumb person*, ^lgàni *bumblebee*, ^lgónì *it thunders*; ^lbázu *old clothes*, ^lbòšì *carrying cloth*.

The four nasal vowels are: /ĩ/ (high front unrounded), /æ̃/ (low front unrounded), /ã/ (low central unrounded), and /ũ/ (high back rounded). Examples of the nasal vowels contrasting with each other and with oral vowels: rà^lyæ̃hæ *the servant*, rà^lyā *the raw (thing)* rà^lyū *the road*, rà^lšifì *the straw mat*, rà^lšitha *the edible leaf*, ^lyášì *scissors*, ^lyási *cornerpost*, rà^lsu *the grandmother*, [?]ì^lsq̃ *he fears*, ^lwæ̃ *insect*, ^lwæ̃ *frog*, ^lyā *head*, ^lya *liver*.

In a vowel cluster, each vowel is the nucleus of a syllable. Vowel clusters composed of oral vowels end in /i/, whereas those composed of nasal vowels end in /ĩ/. In our data, there are only eight different clusters, namely: æi, ai, oi, əi, ii, æí, aĩ, uĩ. Examples: ^lhwæi *lightning*, ^lxwài *knife*, ^lxìpòi *purple*, ^lhòì *dirt*, ^lfìì *hat*, n[?]àì *skunk*, t[?]àì *corn gruel*, ^lgũì *cloud*.

4. There are many consonant clusters in Tenango Otomi, but the distribution is distinctive in that, except for /št/, none of the clusters which occur in syllables between pause and the first stressed syllable occurs in a stressed syllable. In the same way, only three of the twelve clusters which occur as a result of fusion between a verb stem and a following morpheme occur elsewhere.

Syllables which precede the stressed syllable (that is, those which occur in verb prefixes) have either /b, d, g/ or /š/. The clusters are: /br, dr, dy; gd, gm, gn, gw, gy, gr; šp, št, šk, škwa/. In addition, there is the cluster /nm/. Examples with clusters which occur prestress: brà^lxáp[?]i *it is (distant location)*, drà^lmæfi *I am a worker*, dyó^lmæfihe *we are workers*; gdá^lmàgòp[?]i *I am going there*, gmí^lnxáp[?]iya *you were like that*, gní^lma *you are going*, gwí^lxápi *you do that*, gyó^lmmnængúhíp[?]i *you (pl.) are citizens there*, grá^lmæfi *you are a worker*; špí^lyæp[?]i *he came from there*, štá^lma *I went*, šká^lma *you went*, škwí^lyæhæ *you have come far*; nmí^lnhàgòp[?]iya *I was like that*.

Most consonant clusters which occur in stressed syllables have either /m, n, h/ or /ʔ/. In addition, the clusters /kw, gw, ss, št, xw/ also occur. The clusters with /m, n, h, ʔ/ are: /mb, mm; nd, ng, n[?], ns, nš, nh, nz, nn, nw; hm, hn, hw, hy, th; [?]b, [?]d, [?]w, [?]y, s[?], t[?], k[?]/. Examples with stem-initial clusters: ^lmbáre *compadre*, ^lmmìì *heart*; ^lndàni *cow*, ^lngə *meat*, ^ln[?]àì *skunk*, ^lnsógi *key*, ^lnšū

arrow, ¹no good, ¹nzáfi rifle, ¹nñi a drip, ¹nwáxi beanfield; ¹hmæ tortilla, ¹hnñi town, ¹hwá fish, ¹hyádi sun, ¹thá dried corn-on-the-cob, ¹báši broom, ¹dáni bridge, ¹wæ frog, ¹yu road, ¹s²i tail, ¹t²áfi brown sugar, ¹k²æya snake; ¹kwæ anger, ¹gwæ a small one, ¹ssæ frost, ¹štá hair, ¹xwài machete.

Stem-initial clusters with three or four consonants all have a nasal, namely: /m²m, mhm, n²n, n²w, n²y, mph, nth, nk², nt², ns², nk², nk²w/. Examples: ¹m²màs²i strainer, ¹mhmát²i an argument, ¹n²nášte contagious, ¹n²wági a broken bone, ¹n²yógi tomb, ¹mphò²yæ ring, ¹nthŭs²i chair, ¹nk²hŭ sister (man's), ¹nt²o a cradle, ¹ns²o evil, ²i¹nk²wás²i it is boiling, šá²nk²a it is wet.

Many of the stem-medial clusters of two consonants are the same as those which occur in stem-initial position. In addition, there are other clusters beginning with /s, š, m, n, ʔ/ which do not occur in stem-initial position. Examples: ¹dæspi ember, ¹bíska chicken dropping, ¹ásmínyo police; ¹mmáške blister, ¹fášmi bald person, ¹dəməšáñi rose, ¹ndæšfáni reins, ¹gwášxo pant leg, ¹síšwi you (dual) carry it, ¹dòšyo caterpillar, ¹nsòxtéhe ¹k²àmdápo green foliage, ¹šímhài world; ¹šənbáte teacher, ¹nk²hŭ²mí a cover, ¹dò²ñi egg.

Still other clusters which, in our data, occur in stem-medial position, but which do not occur stem-initially are: /bd, gz, pš, ph, py, kt, ks, kš, kh/. Examples: ¹nzíbde supper, ¹šígzu coward, ¹šípšáhi a water plant, ²i¹šóphñi giving out heavy smoke, ¹hmápya sign, ¹òkto cave, ¹šáksa sliver, ¹òkšíyu nostril, ¹məkhá priest.

Stem-medial clusters of more than two consonants which do not appear in stem-initial position are: /mph, nhn, nk², sth, shn, š²y, št², šxw, xhm, nskw, nshm, nt²y, ʔs², ʔt²/. Examples: ¹támphə rooster, ¹thŭnhñi bench, ¹šínk²æya a fern, ¹k²ásthá green cornfield, ¹zəshñi a certain tree, ¹záš²yo cornstalk, ¹t²ášt²áfi sugar, ¹òšxwa

devil, ¹zəxhmí napkin, ¹dĩnskwa rabbit, ¹ndənshmi cheek, ¹k²ònt²ya back of neck, ¹nt²ò²s²i the spoon, ¹thò²t²i the corn-husk.

When a verb stem is followed by a nonstressed morpheme, there may be fusion of the verb stem with morphemes, such as a following article or possessive pronoun. (The final vowel of the verb stem may be lost and the final consonant of the stem may or may not be changed.) This fusion results in the following consonant clusters: /hm, hn, hy, hr, rk, šr, šy, kr, ky, xm, rp, rb/. In our data, this is the only environment in which the last nine of these clusters occur. Examples: ¹bì²tède she raised, ¹bì²tèhrà ¹bàsi she raised the child, ¹bì²tèhyò ¹bàsi she raised their child, ¹tèrkàmà ¹bàsi she raised my child; ¹bì²hóki he fixed, ¹bì²hókrá ¹ndæ he fixed his yoke, ¹bì²hókyò ¹ndæ he fixed the yokes, ¹dá²hóxmà ¹ndæ I fixed my yoke; ¹bì²zəhə he arrived, ¹bì²zəhrà ¹bàsi the child arrived, ¹bì²zəhyò ¹bàsi the children arrived, ¹bì²zəhmà ¹bàsi my child arrived, ¹bì²zəhnñi ¹bàsi your child arrived; ¹bì²hyášyò ¹mánša he baked the ears of corn, ¹bì²hyášrà ¹mánša he baked the ear of corn; ¹dì²bàrpi he changes it; ¹bì²górbì it's laying inside.

There is a restriction in the distribution of consonants in relation to vowels. That is, in our data, not all consonants precede all vowels. Specifically, in native words, there are the following restrictions: (1) There is no contrast between vowels following /r/. The vocoid is low central and is more nasalized when preceding /m/ and /n/ than in other environments. We have arbitrarily written it as /a/. (2) /w/ does not precede /u, ʉ, o, ə, i, ə/. (3) /m, g, x, h/ do not precede /u/. (4) /f/ does not precede /u, ʉ/. (5) /n/ does not precede /æ, u/. (6) /y/ does not precede /i, i/. (7) /z/ does not precede /e, æ/. (8) /k/ does not precede /æ, i/. (9) /x/ does not precede /æ, ə, u/.

There seems to be lack of contrast of

oral versus nasal vowels in the verb prefixes and the proclitics which precede a noun stem. Some of the verb prefixes are nasalized when preceding /m/, /n/, and nasal vowels, but are oral when preceding non-nasal phonemes. For example: *dí'pède I count* versus *dí'mìtʔi I grab*; *ʔi'sóya he rests* versus *ʔi'núhɨ he wakes up*; *dà'fədi he will take care of* versus *dà'mìtʔi he will grab*; *gà'xòhi I will sweep* versus *gà'núhɨ I will wake up*.

5. Lexical tone contrasts on all syllables except the prepause syllable, and the final syllable of a multisyllable stem. (Intonation is contrastive on the prepause syllable, see 6, and unless modified by intonation, a stem-final syllable has high tone.)

There are three tonemes: high /', low /ʔ/, and upglide /'/. These contrastive tones cause a difference in meaning of lexical items, as in: *dí'túhɨ I sing*, *dí'túhɨ I plant*, *dí'tùtʔi I swallow*; *dí'hùmbɨ I hurry him*, *dí'hùmbɨ I point out*, *dí'ʔəmbɨ I say it to him*; *gá'sógi you left (it)*, *dá'sógi I left (it)*, *dá'sògi I spit*; *dí'hákɨ I am taking*, *dí'hòni I am hunting for*, *dí'həni I am receiving*.

A few examples of minimal tone pairs are: *'múza banana*, *'múza papaya*, *'thúhɨ a growing cornstalk*, *'thúhɨ name*, *dí'hésʔe I sneeze*, *dí'hésʔe I cover*; *'dóʔyo bone*, *'dòʔyo comal*; *rá'ndéhe his fontanel*, *rà'ndéhe the swamp*.

The contrast between two sets of verb prefixes and two sets of noun proclitics is carried by tone: *dá'mìtʔi I grabbed*, *dà'mìtʔi he will grab*; *gá'kótʔi you enclosed (it)*, *gà'kótʔi I will enclose (it)*; *rá'nthũsʔi his chair*, *rà'nthũsʔi the chair*; *yó'ltʔiʃu their daughter*, *yò'ltʔiʃu the daughters*.

On the nonstressed syllables, only the contrast of high versus low tone occurs. That is, the upglide occurs only on stressed syllables: *rá'nzáfi his gun*, *rá'tʔósʔi his bed*, *rá'ldéde his ladder*. There is no con-

trast of tone on a syllable which is preceding pause, since that environment is the domain of contrastive intonation (see 6).

Except for one-syllable stems, a stem-final syllable has a high tone when followed by another morpheme within the word, or when followed by another word: *mà'təmógo my butterfly*, *mà'šitógo my bottle*, *mà'-móhigo my plate*, *rà'nzáfi bì'dógi the rifle fell*.

A one-syllable stem when it occurs prepause does not have contrastive tone, but in other environments some one-syllable stems have low tone, and some have upgliding tone: *'šə fingernail*, *'hyæ mirror*, *'ngu house*, *'yo candle*, *'štə hair*. When followed by another morpheme, the above words have contrastive tone: *mà'-šəgo my fingernail*, *mà'hyægo my mirror*, *mà'ngungo my house*, *mà'yógc my candle*, *mà'štəgo my hair*.

In three-syllable stems, there are the following tone sequences: *'kísásɨ measles*, *'šimòza bowl*, *'dáyámo big toe*, *'gíšfəni a slingshot*, *'tškángu a two-story house*, *'kʔíthèhe whooping cough*.

There are a few four-syllable stems: *'dáfənzàte lion*, *'gónèdəni flower bud*.

When high tone is on a syllable with /i/, it has a slightly higher allotone than when it is with other vowels: *'tiskwa top of foot* versus *'fódi jail*, *'šithæ plank* versus *'ndéhe fontanel*. A stressed high usually has a slight downgliding allotone when the vowel is between voiced consonants: *'xwəngwa shin* versus *'thəhi thread*, *rá'dógwa his ankle* versus *rá'ntʔósʔi his spoon*.

A low tone in a stressed syllable is slightly lower than a nonstressed low. That is, in the following examples, the second syllable is lower than the first: *gà'ʔəmbɨ I will replant*, *rà'sàha the finger*, *dà'ʔyòdi he will ask for*.

An upgliding tone is occasionally actualized as a level pitch which is slightly higher than a low tone: *bì'mæʔsʔi he guarded*

versus $b\dot{i}l\dot{m}\dot{a}^{\text{?}}s^{\text{?}}i$ *he warded off*. The upglide is more perceptible in syllables which are closed with /m, n/ than in open syllables: $g\dot{i}l^{\text{?}}y\dot{a}^{\text{?}}mb\dot{i}$ *you will say to him* versus $r\dot{a}l^{\text{?}}b\dot{a}^{\text{?}}\dot{s}u$ *the peso*.

When in otherwise analogous environments, a vowel with a low tone is longer than a vowel with high tone: $r\dot{a}l^{\text{?}}\dot{s}\dot{i}th\dot{i}$ *his sandal* versus $r\dot{a}l^{\text{?}}\dot{s}\dot{i}th\dot{i}$ *his bamboo*; $d\dot{a}l^{\text{?}}h\dot{a}k\dot{i}$ *I took away* versus $d\dot{a}l^{\text{?}}h\dot{a}k\dot{i}$ *I copied*.

6. Contrastive intonation, signaling the attitude of the speaker, is carried in part by voice quality and by raising or lowering the general pitch with which an utterance, or part of an utterance, is spoken.

Contrastive intonation also occurs on a prepause syllable: (1) A sequence intonation used, for example, when items are listed, glides upward from a pitch about the level of lexical high. (2) A terminal intonation used, for example, at the end of a list, glides downward from midway between lexical high and low. (3) A level pitch (about the same height as lexical high) is used on the prepause syllables much of the time, for example, in a monologue. (4) A raise in key of the last part of a sentence, with upglide on the last syllable to extra-high, indicates surprise. (In the following examples, /1/ is extra-high and /3/ is low.) $^{\text{?}}w\dot{a}l^{\text{?}}h\dot{i}ng\dot{i}$ $l^{\text{?}}p\dot{a}k\dot{i}$ ²⁻¹ *don't you know me?* (5) When signaling emphasis or correction, the prepause syllable has extra stress and length, and it falls from the height of a lexical high to low: $g\dot{o}l^{\text{?}}n\dot{u}g\dot{o}$ ²⁻³ *it's me!* (6) A fall from extra-high to low, with added length and stress, is used when calling: $l^{\text{?}}\dot{s}\dot{u}w\dot{a}$ ¹⁻³ *John!* (7) A fast fall from extra-high is attention getting: $l^{\text{?}}\dot{s}\dot{u}w\dot{a}$ ¹⁻², $b\dot{i}l^{\text{?}}y\dot{a}^{\text{?}}kwa$ ² *John, come here!*

In a sequence of more than one word, even in an unemotional utterance, the prepause syllable frequently is louder than the other syllables. Thus, the prepause

syllable, marked by loudness, is the domain of sentence stress, even while word-stress, marked by length (and occurring on the first syllable of the stem) is retained.

7. Each syllable has one vowel. Even when two vowels occur in sequence, both are syllable nuclei, as in: $l^{\text{?}}f\dot{i}$ *hat*.

There may be one, two, or three consonants between pause and the first vowel. That is, the postpause syllable may be CV, CCV, or CCCV. For example: $l^{\text{?}}h\dot{a}$ *he has*, $l^{\text{?}}th\dot{a}$ *corn*, $l^{\text{?}}nth\dot{a}h\dot{i}$ *rope*.

No consonants precede pause; only vowels occur prepause. The syllable preceding pause may consist of a single vowel, or the final vowel may be preceded by one, two, three, or in a few words, four consonants. For example: $l^{\text{?}}n\dot{a}n\dot{i}$ *lime*, $l^{\text{?}}d\dot{o}^{\text{?}}n\dot{i}$ *egg*, $l^{\text{?}}t\dot{u}nhn\dot{i}$ *war*, $l^{\text{?}}d\dot{i}nskwa$ *rabbit*. The division between word-medial syllables is often indeterminate.

8. The syllable with primary stress is the nucleus of the phonological word. It is the first syllable of a stem: $l^{\text{?}}p\dot{a}hn\dot{i}$ *shirt*, $r\dot{a}l^{\text{?}}p\dot{a}hn\dot{i}$ *the shirt*, $n\dot{a}r\dot{a}l^{\text{?}}p\dot{a}hn\dot{i}$ *this the shirt*, $l^{\text{?}}th\dot{e}be$ *beads*, $m\dot{a}l^{\text{?}}th\dot{e}be$ *my beads*, $m\dot{a}z\dot{i}l^{\text{?}}th\dot{e}be$ *my little beads*, $l^{\text{?}}z\dot{a}f\dot{a}n\dot{i}$ *cornstalk*, $r\dot{a}l^{\text{?}}z\dot{a}f\dot{a}n\dot{i}$ *the cornstalk*, $l^{\text{?}}k\dot{i}s\dot{a}s\dot{i}$ *measles*, $d\dot{i}l^{\text{?}}p\dot{e}de$ *I am counting*.

There are a few four-syllable stems. With these words, primary stress occurs on the first syllable and a secondary stress (unmarked) on the third: $l^{\text{?}}\dot{s}\dot{a}k^{\text{?}}\dot{a}nd\dot{e}he$ *mint herb*, $l^{\text{?}}p\dot{a}sm\dot{a}h\dot{a}^{\text{?}}s^{\text{?}}i$ *a swallow*, $l^{\text{?}}ng\dot{u}n\dot{z}\dot{a}f\dot{a}n\dot{i}$ *house with a cornstalk roof*, $l^{\text{?}}g\dot{o}n\dot{e}d\dot{a}n\dot{i}$ *flower bud*.

A stressed syllable is perceived as slightly louder and slightly longer than other syllables: $g\dot{a}l^{\text{?}}p\dot{a}h\dot{a}$ *I will smell (it)*. Stress may also be marked by the allotones of low tone (see 5) and by allophones of the voiceless stops (see 2).

The borders between words are frequently indefinite. For example, the article

or possessive pronoun of a noun phrase when it follows another noun, or a verb, usually (except in slow speech) clusters with the preceding phonological word: ?i'sa *he eats* + rã'dãpo *the grass* + nãrã'fãnj *this the mule* becomes ?i'sãrã 'dãpónãrã 'fãnj *this the mule eats the grass*; ?i'si *he has* + rã'fãnj *his mule* + rã'bãsj *the child* becomes ?i'sirã 'fãnjrã 'bãsj *the child has his mule*.

Borders between words may also be

indefinite when a verb with a stem-final /i, i, e/ is followed by a noun phrase beginning with morphemes such as rã- *his*, rã- *the*, yó- *their*, or yè- *plural*. The stem-final vowel of the verb may drop: bi'hyãš *he baked* + rã'mãñša *the ear of corn* becomes bi'hyãšrã 'mãñša *he baked the ear of corn*; bi'hyãšyè 'mãñša *he baked ears of corn*; bi'hyãkj *he took (it)* + rã'lãpi *his pencil* becomes bi'hyãkrã 'lãpi *he took his pencil*.

LINKED CITATIONS

- Page 1 of 2 -



You have printed the following article:

The Phonology of Tenango Otomi

Richard C. Blight; Eunice V. Pike

International Journal of American Linguistics, Vol. 42, No. 1. (Jan., 1976), pp. 51-57.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28197601%2942%3A1%3C51%3ATPOTO%3E2.0.CO%3B2-P>

This article references the following linked citations. If you are trying to access articles from an off-campus location, you may be required to first logon via your library web site to access JSTOR. Please visit your library's website or contact a librarian to learn about options for remote access to JSTOR.

[Footnotes]

² **The Tonemes of Mesquital Otomi**

Donald E. Sinclair; Kenneth L. Pike

International Journal of American Linguistics, Vol. 14, No. 2. (Apr., 1948), pp. 91-98.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28194804%2914%3A2%3C91%3ATTOMO%3E2.0.CO%3B2-I>

² **Phonemes and Morphophonemes of Temoayan Otomi**

Henrietta Andrews

International Journal of American Linguistics, Vol. 15, No. 4. (Oct., 1949), pp. 213-222.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28194910%2915%3A4%3C213%3APAMOTO%3E2.0.CO%3B2-O>

² **Tonemic-Intonemic Correlation in Mazahua (Otomi)**

Eunice V. Pike

International Journal of American Linguistics, Vol. 17, No. 1. (Jan., 1951), pp. 37-41.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28195101%2917%3A1%3C37%3ATCIM%28%3E2.0.CO%3B2-W>

² **The Word and the Phonological Hierarchy of Mezquital Otomi**

Ethel E. Wallis

Language, Vol. 44, No. 1. (Mar., 1968), pp. 76-90.

Stable URL:

<http://links.jstor.org/sici?sici=0097-8507%28196803%2944%3A1%3C76%3ATWATPH%3E2.0.CO%3B2-8>

NOTE: *The reference numbering from the original has been maintained in this citation list.*

LINKED CITATIONS

- Page 2 of 2 -



³ **Central Otomian I: Proto-Otomi Reconstructions**

Stanley Newman; Robert Weitlaner

International Journal of American Linguistics, Vol. 16, No. 1. (Jan., 1950), pp. 1-19.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28195001%2916%3A1%3C1%3ACOIPR%3E2.0.CO%3B2-P>

³ **Some Revisions of Proto-Otomi Consonants**

Doris Bartholomew

International Journal of American Linguistics, Vol. 26, No. 4. (Oct., 1960), pp. 317-329.

Stable URL:

<http://links.jstor.org/sici?sici=0020-7071%28196010%2926%3A4%3C317%3ASROPC%3E2.0.CO%3B2-W>