Itunyoso Trique

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Itunyoso Trique /itunˈjoso ˈtɾiki/ is an Oto-Manguean language (Mixtecan branch) spoken in the town of San Martín Itunyoso, Oaxaca, Mexico. It is one of three Trique languages, all of which are spoken in Oaxaca, Mexico. According to the 2005 census (INEGI 2005), there are 1,345 inhabitants in the town, virtually all of whom speak Itunyoso Trique as a native language. However, this number does not reflect the total number of speakers, as approximately 30%–50% of the population lives outside of San Martín Itunyoso at any given time.[1] The population of the nearby town of Concepción Itunyoso, with a population of 261 (ibid.), is considered to speak the same dialect. The remaining populations of speakers are found in Oaxaca City, Mexico City, and the United States.

Unless otherwise noted, the generalizations, acoustic measurements, and statistics in this paper are based on the work of DiCanio (2008) and the lexical data is taken from a vocabulary of 1,650 Trique words, compiled by the author. The acoustic data used for measuring vowel formants was taken from field recordings of three male speakers, made in 2004, during lexical elicitation. The transcriptions of the text 'North Wind and the Sun' are based on the recording of a male speaker, age 27, made in 2009. Throughout this paper, tone is marked using Chao tone letters, where 5 indicates the highest level and 1 the lowest. It should be noted that the tone transcription used here is different from the Americanist tradition with four levels and the tone height inversely correlated with numbering.

[1] The latest estimate by the *Ethnologue* (Lewis 2009) is 2,000 speakers, but the figures in the text are based on a 1983 census.

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Consonants

	Bilabial	Dental	Alveolar	Post-alveolar	Retroflex	Palatal	Velar	Labialized velar	Glottal
Plosive	p*	t tː					k kː	k^{w} k^{w}ː	ʔ
Pre-nasalized plosive			nd				ŋɡ	ŋɡ^{w}	
Affricate		ts		tʃ tʃː	ʈʂ ʈʂː				
Nasal	m mː		n nː						
Pre-stopped nasal						cn			
Tap			ɾ						
Fricative	β βː	s		ʃ					h
Approximant						j jː			
Lateral approximant			l lː**						

*Rare in native words **Occurs in only a few words

The distribution of sound contrasts in Itunyoso Trique is governed by its system of final syllable prominence. All contrasts in the language surface in the final syllable of roots, but only a subset are contrastive in non-final syllables. Moreover, the consonant length contrast is restricted to the onset position of monosyllabic roots. The unusual distribution of this length contrast derives from a historical process of pre-tonic vowel deletion in certain disyllabic roots (DiCanio 2009).

Morphological words in Itunyoso Trique may have between one and three syllables. Only two possible codas are permitted, /ʔ h/, which may only surface in word-final position. The only permitted onset clusters are /ɡj/ and those of the shape /s/+C, /ʃ/+C, or /r/+C. Most clusters occur only in word-initial position, while /ɡj/ occurs only word-medially. Spanish loanwords with clusters similar to those found in Trique are borrowed without phonological mutation.

All consonants shown in the consonant table above may occur in word-initial position, with the exception of the glottal consonants. The consonant /ʔ/ surfaces only intervocalically in the onset of the final syllable or as a final syllable coda. The consonant /h/ surfaces only as a final syllable coda. There are nine different places of articulation in Itunyoso Trique, but for most manners of articulation, only three places are contrastive. The following examples illustrate the place contrasts:

/p/	páháj	pa^{4}ʔah^{4}	'infant'	/m/	man	mə̃^{3}	'that, there'
/t/	tàhàj	ta^{2}ʔah^{2}	'half (mass N)'	/n/	nan	nə̃^{3}	'this, here'
/k/	kàhànj	kə̃^{2}ʔə̃h^{2}	'four'	/nd/	nduj	nduh^{3}	'zit, acne'
/k^{w}/	kwahàj	k^{w}a^{3}ʔah^{2}	'steam house'	/ŋɡ/	nga	ŋɡa^{3}	'cloud'
/ʔ/	yàhàn	jə̃^{2}ʔə̃^{2}	'important'	/ŋɡ^{w}/	tungwa	tu^{3}ŋɡ^{w}a^{3}	'San Juan Mixtepec'
/cn/	cnákinj	cna^{4}kĩh^{3}	'opossum'				
/ts/	tsin	tsĩ^{3}	'droplet'	/β/	bin	βĩ^{3}	'to be (+N)'
/tʃ/	chi	tʃi^{3}	'ancestor'	/h/	baj	βah^{3}	'to go'
/ʈʂ/	chrinj	ʈʂĩh^{3}	'spiny plant'	/l/	lakaj	la^{3}kah^{3}	'skinny'
/s/	síj	sih^{4}	'to arrive, to fit'	/j/	yakoh	ja^{3}koʔ^{3}	'forest'
/ʃ/	xi	ʃi^{3}	'big'	/ɾ/	rakaj	ɾa^{3}kah^{3}	'iguana'

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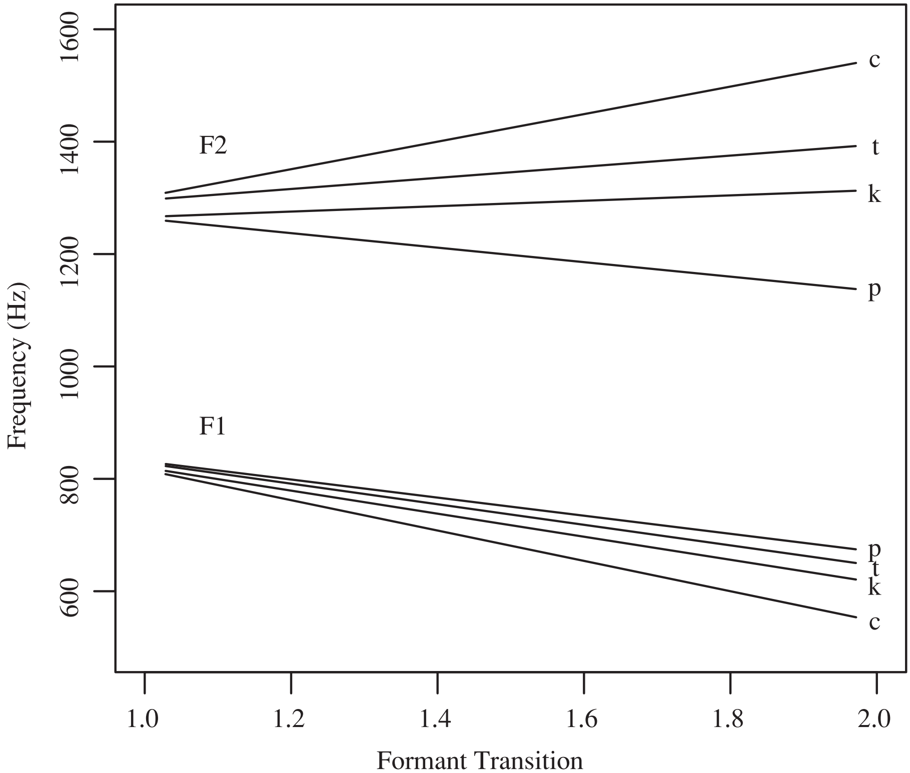

Figure 1 VC formant transition; vowel /a/ from middle of vowel (1) to end (2).

There is a marginally functional contrast in the language between a set of voiced fricatives and intervocalic stops. Due to its rarity, this contrast is not shown in the inventory table above. The fricatives [ð ɣ $ɣ^{w}$] each occur intervocalically in one native word: [$ɾu^{3}ðaʔ^{3}$] 'grinding stone leg', [$ka^{3}ɣaʔ^{3}$] 'metal, bottle, synthetic implement', and [$a^{3}ɣ^{w}ah^{4}$] 'to yell, vocalize'. These fricatives also surface in Spanish loanwords.

The glottal stop /ʔ/ is realized as short duration creak with significant pitch perturbation when it occurs intervocalically. In coda position, it is realized with complete glottal closure. The glottal fricative /h/ only occurs in word-final coda position. In isolated words, /h/ is realized with a short period of voiced glottal frication prior to devoicing. When followed by any word in a sentential context (either having an initial voiceless or voiced consonant), devoicing never occurs. In such contexts /h/ surfaces as either a voiced glottal fricative [ɦ] or as breathy phonation gradually phased over the duration of the rime.

The pre-stopped nasal consonant /cn/ also occurs in a limited set of words in Itunyoso Trique. This sound is notable for its nasal plosion. The stop portion is alveopalatal while the latter nasal portion is alveolar. After alveolar contact, the tongue body is lowered along with the velum, causing an audible burst release through the nasal cavity. Voicing of the nasal portion begins immediately after this release (DiCanio 2007). Evidence for the place of articulation for this consonant is found by comparing the VC formant transitions from a preceding vowel to the following consonant. Figure 1 shows F1 and F2 transitions from the midpoint to the end for the vowel /a/ which precede four different places of articulation: /p t c k/. F2 is highest in the VC transition for the pre-stopped nasal, indicating that the place of articulation of the stop portion is retracted with respect to the dental stop.

In word-initial position, the rhotic /ɾ/ varies in its production as either an alveolar tap [ɾ], a voiced alveolar trill [r], or a voiceless alveolar trill [r̥]. Occasionally, it is also produced as a retroflex flap [ɽ]. Among these, the alveolar tap variant is most frequent. A voiceless variant (an alveolar tap or trill) regularly occurs when /ɾ/ surfaces in a cluster, e.g. [r̥kʷe³tʃaʔ²] 'roofing tile', [jːah³ r̥ma³u³] 'begonia flower'. Word-medially, the rhotic is never devoiced, but varies in its articulation between a tap and a trill.

Many consonants in Itunyoso Trique have contrastive length, yet this contrast is restricted to the word-initial position of monosyllabic roots. The length contrast occurs among stops, nasals, affricates, approximants, and the bilabial fricative,[2] with two exceptions: there is no contrast between long and short voiceless bilabial stops and between long and short dental affricates. Distinct from phonemically-contrastive consonant length is a general prosodic pattern where consonants in the onset position of final syllables are longer than those in non-final syllables (see section 'Stress', below). The following examples show the singleton–geminate contrast:

/t/	tanh	tə̃ʔ³	'corncob'	/tː/	ttanj	tːə̃h³	'spine'
/k/	kànj	kə̃h¹	'naked'	/kː/	kkanj	kːə̃h³	'sandal'
/kʷ/	kwej	kʷeh³	'jump.3SG.PERF'	/kʷː/	kkwej	kʷːeh³	'pus'
/m/	man	mə̃³	'that, there'	/mː/	mmànj	mːə̃h²	'fat, large'
/n/	nan	nə̃³	'this, here'	/nː/	nnanj	nːə̃h³	'bag'
/tʃ/	chunh	tʃũʔ³	'San Martín Itunyoso'	/tʃː/	cchuj	tʃːuh³	'egg'
/ʈʂ/	chrun	ʈʂũ³	'tree'	/ʈʂː/	cchrùn	ʈʂːũ²	'scholar'
/β/	béj	βeh⁴	'to beat.INTR'	/βː/	bbéj	βːeh³⁵	'straw mat'
/j/	yun	jũ³	'palm (plant)'	/jː/	yyu	jːu³	'pennyroyal'
/l/	líi	li⁴³	'small'	/lː/	llíj	lːih⁴	'child'

Duration is the most robust phonetic correlate distinguishing geminate and singleton consonants. To illustrate this, durational measurements of singleton and geminate stops (/t k kʷ/), affricates (/tʃ ʈʂ/), and sonorants (/j β/) were made. Eight speakers (four male, four female) were recorded producing five repetitions of 40 words contrasting these consonant types. Each word was produced in the middle of a carrier sentence /ni⁴ja⁴³ __ nə̃³/ 'I see ___ here'. Quantitative measurements of preaspiration, closure duration, burst duration, and VOT were made for obstruents, while a single measure of consonant duration was made for sonorants.

The measures were statistically analyzed using a repeated measures ANOVA with subject as the error term. The duration measurements are shown in Figure 2. For obstruents, the main effects of closure duration ($F(1,7) = 25.13$, $p < .01$), the presence of preaspiration ($G^2 = 320.8$, $p < .001^{***}$), and VOT ($F(1,7) = 8.56$, $p < .05$) were significant, but the effect of burst duration was not. Singleton stops have a closure duration of 82 ms, while geminates have a closure duration of 138 ms. The closure duration of singleton affricates is 59 ms, while it is 77 ms for geminates. The affricate series is further distinguished by differences in frication duration, where singleton affricates have an average frication duration of 58 ms, while geminates have an average duration of 95 ms. The geminate stops and affricates are often preceded (68% of the time) by a short period of preaspiration, with an average duration of 37 ms. The average durational difference between the singleton and geminate obstruents is between 115 ms and 201 ms (1:1.75). Among the sonorants, the average durational difference is between 96 ms and 169 ms (1:1.76).[3] This difference was also significant ($F(1,7) = 55.9$, $p < .001$). The durational ratio between singletons and geminates in Itunyoso Trique is comparable to that found for other languages with contrastive consonant length (Ham

[2] Phonologically, this fricative patterns like an approximant, which reflects its historical origin (see DiCanio 2008).

[3] See Maddieson (2008) for more details on the phonetics of the geminate glides in Trique.

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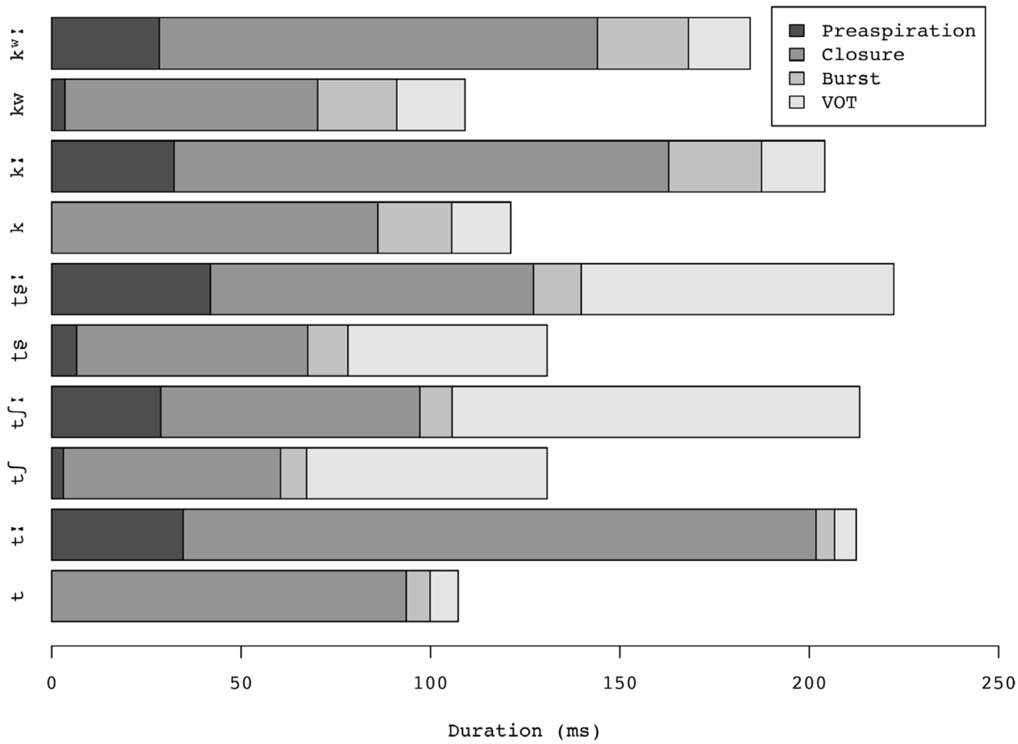

Figure 2 Contrastive word-initial consonant length.

2001). While both the singleton and geminate obstruents are voiceless, the former may undergo a process of coarticulatory voicing in faster speech contexts, while the latter does not.[4]

Apart from the general pattern of maximal constrast in final syllables, another general pattern in the phonology involves the distribution of labial consonants and vowels. First, no consonant with a labial feature, /p β βː m mː kw kwː ŋɡw ʔβ ʔm/, may occur in the same syllable as a vowel with a labial feature, /o u ũ/. The pattern was first observed within Chicahuaxtla Trique, as noted by Longacre (1957) and Silverman (1993, 2002). Silverman (2002) explains the phonetic underpinnings of the development of labialized velar stops, /kw gw/, in Trique. He argues that labialization spread rightward from labial vowels preceding a velar stop, e.g. /CukV/, onto the stop itself. Examining Longacre's Chicahuaxtla Trique wordlist, he notes that labialized segments are quite limited in their distribution. Silverman (1993) also convincingly argues for a related constraint on labiality in Trique: only one labialized consonant may occur per word. Both of these patterns are found in Itunyoso Trique. While labialized vowels may be present heterosyllabically in a word with a labial consonant, only one labial consonant may occur. There are no apparent exceptions to this pattern. A more extensive discussion of these patterns is found in DiCanio (2008).

[4] The presence of this process is reflected in a visible difference between the narrow and broad transcriptions of the recorded passage. The narrow transcription includes voicing diacritics while the broad transcription does not.

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Glottalized consonants

	Bilabial	Alveolar	Palatal	Velar
Pre-nasalized plosive		ˀnd		ˀŋg
Nasal	ˀm	ˀn		
Trill		ˀr̥*		
Fricative	ˀβ			
Approximant			ˀj	
Lateral approximant		ˀl		

*Occurs in one lexical item

Glottalized consonants in Itunyoso Trique only surface in the onset position of word-final syllables. While all eight glottalized consonants in Itunyoso Trique surface word-medially in polysyllabic words, only the three most frequent ones, /ˀβ ˀn ˀj/, surface in word-initial position (in monosyllables). Glottalization always precedes and overlaps the initial portion of the consonant. All the glottalized consonants maintain voicing throughout their duration, with the exception of /ˀr̥/, which is always devoiced. Representative examples of glottalized consonants are as follows:

/ˀβ/	chuhba	tʃu^{3ʔ}βa^{3}	‘flea’	hbì	ˀβi^{1}	‘raw (plant, fruit)’
/ˀn/	ahníj	a^{3ʔ}nih^{4}	‘to send’	hnah	ˀnaʔ^{3}	‘to come’
/ˀj/	ahyoh	a^{3ʔ}joh^{3}	‘tomorrow’	hyaàn	ˀjə̃^{31}	‘scar’
/ˀm/	ahmij	a^{3ʔ}mih^{3}	‘to speak’			
/ˀnd/	kuhndih	ku^{3ʔ}ndiʔ^{3}	‘cactus fruit’			
/ˀŋg/	ahngaa	a^{3ʔ}ŋga^{32}	‘to be born’			
/ˀl/	tohlo	to^{3ʔ}lo^{3}	‘rooster’			
/ˀr̥/	nìhruaa	ni^{2ʔ}r̥u^{3}a^{32}	‘much, a lot’			

For related dialects of Trique, Hollenbach (1977, 1984) and Longacre (1957) state that glottalized sonorants are sequences of a glottal stop followed by a consonant. However, there is reasonable evidence for considering them as single units for all Trique languages. Most consonant clusters occur word-INITIALLY in Trique, yet glottalized consonants are restricted to FINAL syllables. If we considered glottalized consonants to be sequences, we would, first, have to stipulate why they are restricted to final syllables and do not uniformly occur in word-initial position. Secondly, a two-segment analysis does not offer a principled explanation of why obstruents or geminate consonants are not permitted in /ʔ/ + C clusters. In such an analysis, one would have to stipulate that only singleton sonorants occur with glottal stops in a cluster. Thirdly, the Trique dialects differ with respect to the types of unambiguous clusters that are permitted. Yet, differences in the inventory of cluster types never affect the inventory of the glottalized consonants. These arguments suggest that glottalized consonants are better treated as undecomposable, complex segments rather than as sequences.

Vowels

	Front		Central		Back	
	Oral	Nasal	Oral	Nasal	Oral	Nasal
Close	i	ĩ			u	ũ
Close-mid	e			ə̃	o	
Open			a			

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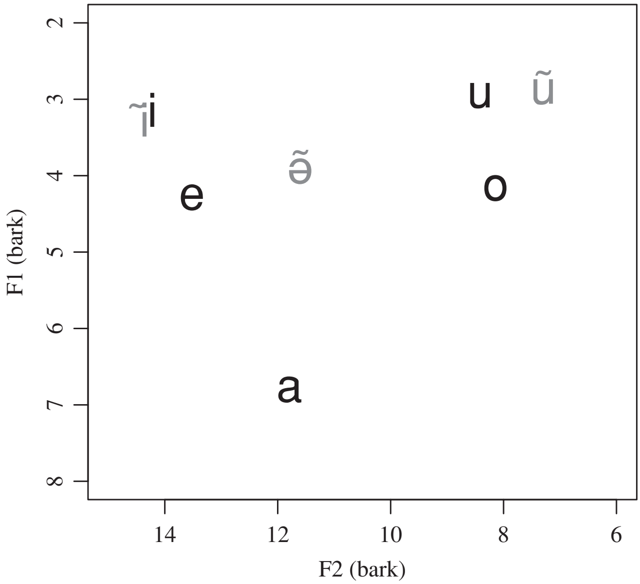

Figure 3 Vowel chart.

There are five oral vowels and three nasal vowels in Itunyoso Trique. Nasal vowels have a restricted distribution whereby they only surface in final syllables. The vowel /o/ also has a restricted distribution whereby it only surfaces in non-final syllables if it also surfaces in the final syllable. Such a restriction is also found in Chicahuaxtla Trique (Longacre 1957) and, with a few minor exceptions, in Copala Trique (Hollenbach 1977). Apart from these patterns and the labialization restrictions discussed above, there are no other phonological restrictions on the distribution of Itunyoso Trique vowels. Examples of words distinguishing the vowels are as follows:

/i/	tsii	tsi^{32}	'ear of corn'	/ĩ/	tsin	tsĩ^{3}	'droplet'
/e/	che	tʃe^{3}	'father'	/ə̃/	chàn	tʃə̃^{1}	'eleven'
/a/	chaa	tʃa^{32}	'to eat'	/ũ/	chunh	tʃũʔ^{3}	'San Martín Itunyoso'
/o/	choo	tʃo^{32}	'ceramic cooking plate'				
/u/	chùuj	tʃuh^{13}	'shortened'				

The close front nasal vowel is produced at approximately the same place of articulation as the oral variant. The close back nasal vowel is slightly more retracted than the oral variant, which is already produced with quite narrow dorso-velar constriction. As a result of this substantial narrowing, one occasionally observes the variant [ŋ] or [ɴ] produced in place of a nasalized vowel.

A plot of the oral and nasal vowels in Trique is given in Figure 3. Data for this chart come from an averaged set of formant values from the recordings of three male speakers producing two words in isolation, three times each, for each vowel contrast.

There are two phonological processes which affect nasalization in Itunyoso Trique. First, in final syllables, there is a process of progressive nasalization, whereby a close vowel is nasalized following a nasal consonant in the onset. As a result, the oral and nasal vowels, /i/ ~ /ĩ/ and /u/ ~ /ũ/, neutralize in this environment. The non-close vowels, /e a o/, do not nasalize in this environment. Secondly, there is a process where nasalization will spread leftward across the word.

Such spreading occurs in any of the following four contexts: (i) with no intervening consonant, e.g. [tʃã³ĩ³] ‘mosquito’; (ii) with an intervening glottal consonant, /ʔ/, e.g. [jũ⁴ʔũh³] ‘woman’; (iii) with an intervening phonological glide, /β j/, e.g. [nã²β̃ĩ³] ‘to become’, [kũ³j̃ũʔ²] ‘Friday’; and (iv) with an intervening glottalized glide, /ˀj ˀβ/, e.g. [kĩ³ˀj̃ə̃h³] ‘party’. Nasalization never spreads across an intervening nasal consonant. As a result of this spreading, it is rare to find /β/ surfacing before a nasal vowel; the consonant has merged with /m/.

Prosodic features

Tone

Itunyoso Trique has nine contrastive tones: four level tones, three falling tones, and two rising tones. All tones contrast in root-final syllables, but only three level tones contrast in penultimate syllables and two in antepenults. Any level or falling tone may surface on final open syllables, whereas the rising tones surface only in final syllables with the coda /h/. All level tones and two of the falling tones also surface in this environment. Only level tones may surface preceding a glottal stop coda. Tonal examples in each final syllable context are:

Tone	Final σ /VV/			Final σ /Vh/			Final σ /Vʔ/		
/4/	bbé	βːe⁴	‘hair’	yánj	jə̃h⁴	‘wax, dirt’	sính	sĩʔ⁴	‘boy’
/3/	nne	nːe³	‘plough’	yanj	jə̃h³	‘paper’	tsih	tsiʔ³	‘moonshine’
/2/	nnè	nːe²	‘to lie.TR’	mmànj	mːə̃h²	‘fat, big’	cchìh	tʃːiʔ²	‘ten’
/1/	nnè	nːe¹	‘naked’	kànj	kə̃h¹	‘naked’	tsìh	tsiʔ¹	‘sweet’
/43/	líi	li⁴³	‘small’	nnáanj	nːə̃h⁴³	‘mother.VOC’			
/32/	nnee	nːe³²	‘water’	nnaanj	nːə̃h³²	‘cigarette’			
/31/	nneè	nːe³¹	‘meat’						
/35/				yoój	joh³⁵	‘forehead’			
/13/				yòoj	joh¹³	‘light (ADJ)’			

All the phonologically level tones are phonetically level, with no significant differences in slope among them. Among the falling tones, there is no significant difference in slope between tones /43/ and /32/, but tone /31/ is realized with a significantly steeper fall in pitch. Tone /31/ is realized with an initial F0 between that of tone /3/ and /2/, but terminates with an F0 below that of tone /1/. Tone /35/ is realized with an initial F0 approximately at the same level as tone /4/; it is phonetically [45]. The remaining contour tones are realized with appoximately the same F0 excursion as indicated by their phonological transcription.

Furthermore, there are some durational differences among the tones. Among the tones surfacing on a long vowel, tone /32/ is realized with the longest duration, while tones /43/ and /1/ are the shortest. The low rising tone /13/ is also significantly longer than the high rising tone /35/. Figures 4 and 5 show a mean pitch trajectory for all the tones in Itunyoso Trique. The data for these plots are average pitch contours from six speakers producing a set of monosyllabic words in sentential contexts (DiCanio 2008).

Apart from the pitch and durational differences, there are some minor differences in voice quality among the tones. Tone /1/ is often produced with slight breathy phonation while tone /2/ is produced with more tense phonation. The presence of coda glottal consonants also cause significant pitch perturbations on most of the tones in the language. This is evident in Figure 5, where the level tones /2/, /3/, and /4/ are realized with a lowering of F0. The details of the set of pitch perturbations induced by glottal consonants is discussed at length in DiCanio (2008).

Stress

Apart from distributional asymmetries in segment types and tone, there are phonetic correlates to the final syllable prominence. Consonants and vowels in final syllables are noticeably longer than those occurring in non-final syllables.

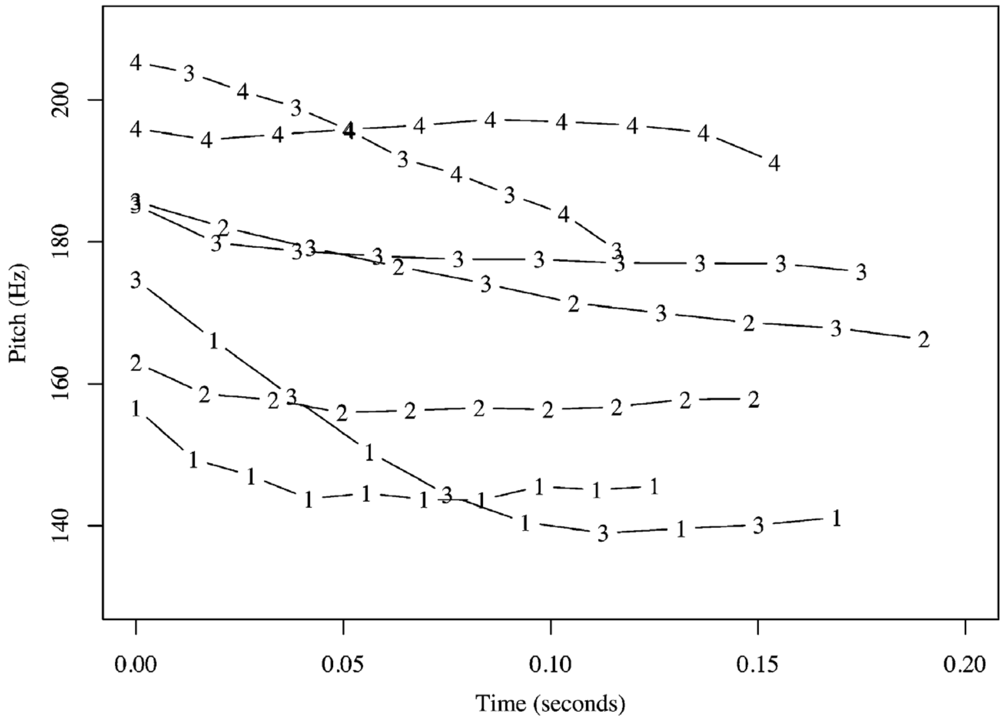

Figure 4 Tones in /VV/ final syllables.

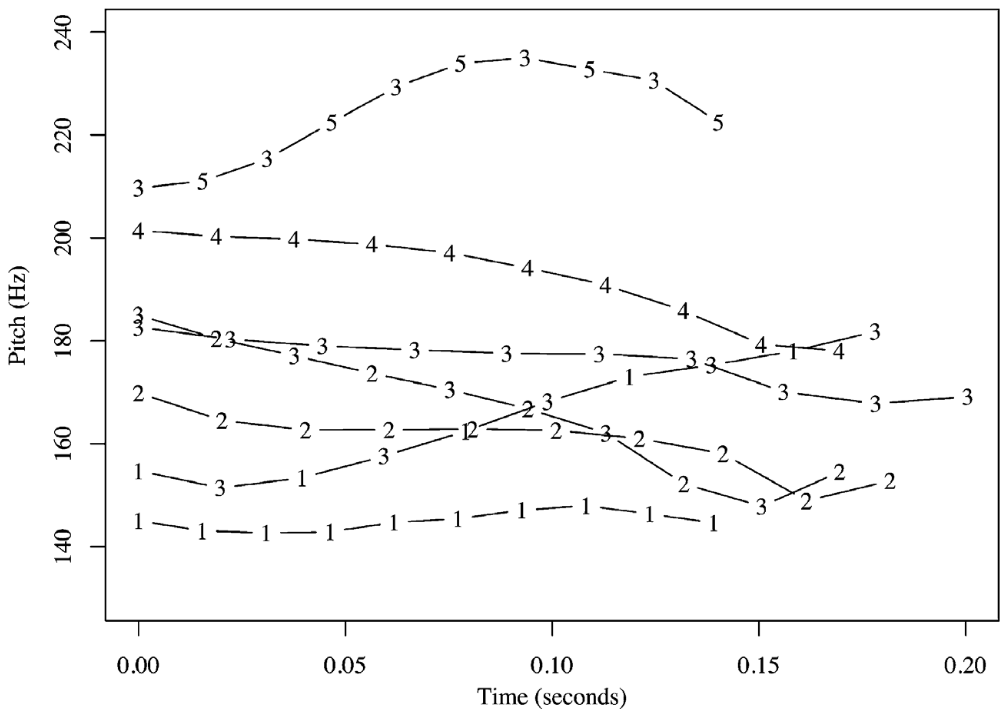

Figure 5 Tones in /Vh/ final syllables.

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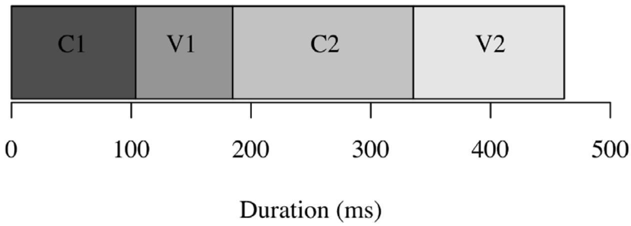

Figure 6 Segment duration in disyllabic words.

To illustrate the stress-related phonetic differences for consonants, durational measurements of the stops /t k/ and the affricate /tʃ/ were made at two different prosodic positions in disyllabic words: the onset of the initial syllable (**C**VCV) and the onset of the final syllable (CV**C**V). Eight speakers (four male, four female) were recorded producing five repetitions of 45 words contrasting in prosodic position. Each word was produced in the middle of a carrier sentence /ni^{4}ja^{43} __ nə̃^{3}/ 'I see ___ here'.

The results from a repeated measures ANOVA on prosodic position with preaspiration duration, closure duration, burst duration, and VOT as factors show significant main effects of prosodic position on preaspiration ($F(1,2) = 122.0$, $p < .01^{**}$), closure duration ($F(1,3) = 20.0$, $p < .05^{*}$), and VOT ($F(1,1) = 1528.1$, $p < .05^{*}$). Word-medial stops and affricates were usually preceded by a short period of preaspiration. This occurred in 595/826 (72%) of all word-final syllable tokens. Such preaspiration was absent in word-initial stops and affricates. The average duration of this preaspiration was 39.5 ms (s.d.19.7 ms). Stops and affricates in word-final syllable position also had slightly longer closure duration (79.1 ms) than when in the onset of the initial syllable (65.6 ms). For the stops, VOT was only marginally longer in word-final position (17.9 ms) than in word-initial position (15.1 ms). For the affricate, frication duration was marginally shorter in word-initial position (63.2 ms) than in word-final position (69.3 ms). The average total duration for obstruents in word-final position was 150.8 ms, while the same obstruents had a total duration of 103.7 ms when surfacing in word-initial position in non-final syllables. The result of this phonetic process is a lengthening of obstruents in final syllables. Since this is the position of stress in Trique, such lengthening can be considered a type of prosodic strengthening (Keating et al. 2000).

Similarly to consonants, vowels in non-final syllables are significantly shorter than those in final syllables. To show this, duration measurements were made of vowels in initial syllables and final syllables in disyllabic words, using a set of 28 disyllabic words, repeated five times by each of the eight speakers (four female, four male). Each word occurred in the same citation context as the consonants which were measured above. A one-factor repeated measures ANOVA with Speaker as an error term found word position (non-final vs. final) to have a significant effect on vowel duration ($F(1,5) = 310.0$, $p < .001^{***}$). In disyllabic roots with open syllables, the average duration of penultimate syllable vowels is 81 ms while the average duration of final syllable vowels is 126 ms. Non-final vowels are approximately two-thirds as long as final vowels. This pattern also holds when the tones on both the non-final and final syllables are identical. For instance, for the elicited words where each syllable has tone level 3, the duration of the non-final vowel is 81 ms while the duration of the final vowel is 128 ms. Vowel duration differences between final and non-final syllables in words in Itunyoso Trique do not simply result from tonal differences on such syllables; rather, they result from a system of final prominence independent from tone.

The stress-related duration differences between consonants are similar to those observed between vowels. In each case, the same segment in a non-final syllable is approximately 50% longer in a final syllable. Figure 6 shows the relative duration of non-final and final syllables in disyllabic words in Trique.

Vowels in monosyllabic words are longer still than those in the final syllable of polysyllabic words, having a mean duration of 168 ms (DiCanio 2008). These durational differences, as well as those observed for final syllables in polysyllabic words, help explain some of the distributional asymmetries in the patterning of tone in Trique concerning contour tones. Since cross-linguistically contour tones surface on more sonorous and longer rimes (Zhang 2004), one might not expect them to surface on the shorter, non-final syllables in Itunyoso Trique.

Transcription of recorded passage

A recording of a male Itunyoso Trique speaker reading the passage 'The North Wind and the Sun' was made in 2009. Three representations of the recording are provided here: a broad transcription, a narrow transcription, and the text in the language's newly developed orthography (DiCanio & Cruz Martínez 2010).

Broad transcription

[na^{3}ne^{1} kːih^{3} ni^{2} kʷi^{3} u^{3}nũʔ^{3} nu^{2}kʷe^{3} nĩʔ^{4} si^{3}si^{2} ũ^{3} ŋgoʔ^{2}-ŋgoʔ^{2} nu^{2}kʷe^{2} nu^{1}kʷah^{3} toh^{3} βa^{32} ja^{3} ka^{4}tʃĩ^{43} ŋgo^{2} jũ^{4}ʔũh^{3} ne^{2}ke^{2} ŋgo^{2} ɾe^{3}to^{32}. nĩ^{2} ka^{3}βi^{3} ka^{3}ʔmĩ^{32} nu^{2}kʷe^{3} ŋga^{13}-nĩ^{2} a^{4}tah^{3} nu^{2}kʷe^{3} si^{3}si^{2} tah^{1} βa^{32} ũ^{3} ŋgoʔ^{2}-ŋgoʔ^{2} nu^{2}kʷeʔ^{2} ki^{3}ʔjah^{4} a^{2}si^{2}-ni^{3}jə̃^{3} ka^{3}ʔne^{3} jũ^{4}ʔũh^{3} tʃa^{1}na^{1} ta^{3} ɾe^{3}to^{32} ne^{2}ke^{2}-ũh^{3} nĩ^{2} βe^{4} ka^{3}βĩ^{3} si^{3}-nu^{1}kʷah^{3} toh^{3} βa^{32}. nĩ^{2} ka^{3}tʃi^{1}ʔi^{1} na^{3}ne^{1} ka^{3}ʔjə̃^{3} ta^{2}-te^{3}ʔe^{3}. ta^{2}sih^{3} ta^{2}-te^{3}ʔe^{3} a^{4}ʔjə̃h^{4} na^{3}ne^{1} ta^{3} sa^{3}ni^{2} ta^{2}-te^{3}ʔe^{3} na^{3}nə̃^{2}ʔə̃^{2} jũ^{4}ʔũh^{3} tʃa^{1}na^{1} ta^{3} mə̃^{3}ʔə̃^{3}-ũh^{3} ŋga^{1} ɾe^{3}to^{32} ne^{2}ke^{2}-ũh^{3}. sa^{3}ni^{2} ta^{3}r̥ku^{2} nih^{2} ka^{3}ʔniʔ^{3} ɾah^{4} na^{3}ne^{1} ta^{3} si^{3} ka^{2}ʔjə̃^{3}. ŋga^{13}-nĩ^{2} kʷi^{3} ki^{3}ʔjah^{4} ta^{2}r̥ə̃^{32} ka^{3}ʔnaʔ^{3} nə̃^{4}. ŋga^{13}-nĩ^{2} ta^{2}-kʷa^{3}kʷə̃ʔ^{3} ka^{4}ʔneɦ^{4}-ũh^{3} ɾe^{3}to^{32} tʃi^{3}ɾaɦ^{5}-ũh^{3} ki^{3}ʔja^{3}. tah^{13} ka^{3}βĩ^{3} ta^{3} ka^{3}ɾa^{3} tʃi^{4}na^{43} na^{3}ne^{1} kːih^{3} ta^{3} si^{3}si^{2} nu^{1}kʷah^{3} toh^{3} kʷi^{3} ɾi^{3}ə̃h^{3}.]

Narrow transcription

[na^{3}ne^{1} kːiɦ^{3} n̤ĩ^{3} kʷi^{3} ũ^{3}nũʔ^{3} nu^{2}kʷe^{3} nĩʔ^{4} s̬i^{3}s̬i^{2} ũ^{3} ŋõ^{2}-ŋõ^{2} nũ^{2}kʷe^{3} nu^{1}kʷaɦ^{3} t̬o^{3} βa^{32} ja^{3} ka^{4}ʃĩ^{43} ŋõ^{2} jũ^{4}ˀũɦ^{3} ne^{2}ke^{2} ŋo^{2} ɽe̝^{3}to^{32}. nĩ^{2} ka^{3}βi^{3} ka^{3}mĩ^{2} nũ^{2}kʷe^{3} ŋga^{13}-nĩ^{3} a^{4}taɦ^{3} nũ^{2}k̬ʷe^{3} si^{3}s̬i^{2} ta^{1} βa^{32} ũ^{3} ŋõʔ^{2}-ŋõ^{2} nũ^{2}k̬ʷeʔ^{2} ki^{3}jaɦ^{4} as^{2}-nĩ^{3}j̃ə̃^{3} ka̰^{3}ne^{3} jũ^{4}ũɦ^{3} tʃa^{1}na^{1} ta^{3} ɾe^{3}to^{32} ne^{2}ʰke^{2}-ũɦ^{3} nĩ^{2} βeʔ^{4} k̬a^{3}β̃ĩ^{3} si^{3}-nu^{1}kʷaɦ^{3} to̤^{3} βa^{32}. nĩ^{2} ka^{3}tʃi^{1} na^{3}ne^{1} ka^{3}ˀjə̃^{3} ⁿda^{2}-te̝^{3}ˀe^{3}. ta^{2}si^{3} ta^{2}-te^{3}e^{3} a^{4}ˀjə̃ɦ^{4} na^{3}ne^{1} t̬a^{3} sa^{3}ni^{2} ta^{1}-te^{3}e^{3} nã^{3}nə̃^{2}ə̃^{2} jũ^{4}ˀũh^{3} tʃa^{1}na^{1} t̬a^{3} mə̃̆^{3}ʔə̃^{3}-ũ^{3} ŋga^{1} re^{3}to^{32} ne^{2}ʰke^{2}-ũ^{3}. sa^{3}ni^{2} t̬a^{3}r̥ku^{2} nĩ^{2} ka^{3}ˀnĩʔ^{3} ɾa^{43} na^{3}ne^{1} ta^{3} s̬i^{3} ka^{2}ˀj̃ə̃^{3}. ŋa^{13}-nĩŋ^{2} kʷi^{3} kḭ^{3}aɦ^{3} ta^{2}rə̃ŋ^{32} ka^{3}naʔ^{3} nə̃^{4}. ŋga^{13}-nĩ^{2} ta^{2}-kʷɔ^{3}kʷə̃ʔ^{3} ka̰^{4}neɦ^{4}-ṳ̃^{3} re^{3}to^{32} tʃi^{3}ɾaɦ^{5}-ṳ̃^{3} ki^{3}ˀa^{3}. ta^{13} ka^{3}mĩ^{3} t̪a^{3} ka^{3}ɾa^{3} tʃi^{3}na^{32} na^{3}ne^{1} kːiɦ^{2} t̪a^{3} si^{3}s̬i^{2} nũ^{1}kʷaɦ^{3} to^{3} kʷi^{3} ɾjə̃ɦ^{3}.]

Orthographic version

Nanè kkij nì kwi ununh nùkwe, níh sisì un ngòh-ngòh nùkwè nùkwaj toj baa, ya káchíin ngò yúhunj nèkè ngò retoo. Nì kabi kahmiin nùkwe, ngàa-nì átaj nùkwe sisì tàj baa un ngòh-ngòh nùkwèh kihyáj àsì-niyan, kahne yúhunj chànà ta retoo nèkè unj, nì bé kabin si-nùkwaj toj baa. Nì kachìhì nanè, kahyan tà-tehe. Tàsij tà-tehe ahyanj nanè ta, sanì tà-tehe nanàhàn yúhunj chànà ta mahan unj ngà retoo nèkè unj. Sanì tarkù nìj, káhníh ráj nanè ta si kàhyan. Ngàa-nì kwi kihyáj tàraan kahnah nán. Ngàa-nì tà-kwakwanh káhnéj unj retoo chiráj unj kihya. Tàaj kabin ta kara chínáa nanè kkij ta, sisì nùkwaj toj kwi riánj.

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