

## **On the status of tones in the Suomo dialect of rGyarong**

**Dai Qingxia and Yanmuchu**

Department of Minority Languages and Literatures  
Central Institute for Nationalities, Beijing

**Translated by Randy J. LaPolla**

*Institute of History & Philology, Academia Sinica, Taipei*

rGyarong is an independent language of the Tibeto-Burman branch of Sino-Tibetan. Because it is rich in unique characteristics and preserves many features of Proto-Tibeto-Burman, this language has been the subject of the attention of Chinese and other scholars for quite some time. Whether or not rGyarong has phonemic tones is one question that scholars have focused on particularly. Almost all of these scholars have concluded that tones do not play a significant part in lexical distinctions, and thus classify rGyarong as a non-tonal language, though one where high-pitch lexical items are common. The separation of rGyarong from the tonal Sino-Tibetan languages should be seen as a breakthrough in the study of tone,<sup>1</sup> yet the question of whether or not rGyarong actually has tones, and what role they play in the language still needs to be looked into. This question involves not only the facts of the language, but also some theoretical considerations, such as what standard we use in determining whether or not a language has tones, and how we determine what role the tones play in the language. The question of tone in rGyarong is particularly important for our understanding of the origin and development of tone in Tibeto-Burman.

The data used here are from the rGyarong dialect spoken in Wangjia Zhai, Suomo Xiang, Maerkang County, Sichuan Province, China (hereafter referred to as Suomo).<sup>2</sup>

### **I.**

In Suomo, every syllable has a stable tone. By stable tone we mean that (a) aside from rule-governed sandhi tone changes in certain syllables, the tones cannot be changed; (b) the tones are in general constant across time, occasion, and speaker.

---

<sup>1</sup> See the entry for rGyarong in the *Languages and Writing Systems* volume of *The Great Chinese Encyclopedia* (1988); also "The phonetics and morphology of the Suomo dialect of rGyarong," by Jin Peng, Tang Kerang, Qu Aitang, & Lin Xiangrong (*Yuyan Yanjiu* 1957.2/1958.3); and "On the question of tones in rGyarong," by Lin Xiangrong (*Journal of the Central Institute of Nationalities* 1989.5).

<sup>2</sup> One of the two authors, Yanmuchu, is of the rGyarong nationality, and grew up with the Suomo dialect of rGyarong as his mother tongue. He later learned to speak Chinese. He is now a teacher in the Aba Prefecture of Sichuan.

There are two main tones in Suomo, a high level (55) tone and a falling (51) tone. These tones occur in both monosyllabic and polysyllabic words. Besides these, there is also a mid level (33) tone and a mid rising (24) tone, both of which occur only in polysyllabic words. The former appears on prefixes, but is otherwise mainly a sandhi tone; the latter is used to express a certain grammatical meaning. Taken together, there are then four tones in Suomo, each with its own distribution. Below we will discuss each one individually.

The **high level** tone mainly appears on syllables ending in -p, -t, or -k:

-p: ka <sup>33</sup> rjap <sup>55</sup>	stand	thəp <sup>55</sup>	blink, wink	ksep <sup>55</sup>	stud horse
-t: tɕhət <sup>55</sup>	goat	mət <sup>55</sup>	other	khut <sup>55</sup>	willing
-k: prak <sup>55</sup>	cliff	pak <sup>55</sup>	pig	mak <sup>55</sup>	is not

The high level tone also appears on syllables that end in glottal stop, but since the glottal stop automatically appears on words with non-stop finals in the high tone, there is no need to mark it explicitly. Among these syllables, those that have a nasal before the glottal stop have a slightly lower initial tone, with a slight rise at the end (445). There are also several syllables ending in -l on which the high tone appears:

• *open syllables:*

ɕa <sup>55</sup>	meat	spu <sup>55</sup>	back of a house
tɪ <sup>55</sup>	wheat	ndi <sup>55</sup>	stone wall
wa <sup>55</sup>	goose	ʒgru <sup>55</sup>	boat

• *nasal-final syllables:*

zdɛm <sup>55</sup> (445)	shade	ɕam <sup>55</sup> (445)	iron
tɔn <sup>55</sup> (445)	reason	ka <sup>33</sup> ndɔn <sup>55</sup> (445)	read
kɔŋ <sup>55</sup> (445)	price		

• *lateral-final syllables:*

ka <sup>33</sup> tal <sup>55</sup>	slowpoke, sluggard	ka <sup>33</sup> tɕul <sup>55</sup>	roll
------------------------------------	--------------------	-------------------------------------	------

The **falling** tone mainly appears on open syllables and syllables with a final sonorant (-n, -ŋ, -r, -l) or -s:

• *open syllables:*

tshɛ <sup>51</sup>	salt	mtshɔ <sup>51</sup>	lake	pka <sup>51</sup>	chicken
--------------------	------	---------------------	------	-------------------	---------

-m:

ka <sup>33</sup> sam <sup>51</sup>	three	ti <sup>33</sup> kram <sup>51</sup>	courtyard	tə <sup>33</sup> bəm <sup>51</sup>	pile (CLF)
------------------------------------	-------	-------------------------------------	-----------	------------------------------------	------------

-n:					
smɔn <sup>51</sup>	medicine	spən <sup>51</sup>	thigh		
-ŋ:					
cɕɔŋ <sup>51</sup>	mud wall	bzan <sup>51</sup>	bronze	khun <sup>51</sup>	tiger
-r:					
sɔr <sup>51</sup>	louse	zger <sup>51</sup>	tent	ɕer <sup>51</sup>	east
-s:					
phɔks <sup>51</sup>	salary	ras <sup>51</sup>	cloth	thəks <sup>51</sup>	straight line
-l:					
kɕel <sup>51</sup>	glass	zɔɕ <sup>33</sup> jɔl <sup>51</sup>	corridor	kə <sup>33</sup> rnəl <sup>51</sup>	withered

On syllables ending with -s or -r, the tone contour is actually 551, with the tone being level for all of the syllable except for the final -s or -r, then falling on the final. If there is a vowel immediately preceding the final -s or -r, then a glottal stop is heard between the vowel and the final (i.e. -ʔs or -ʔr), as in spɔs<sup>51</sup> [spɔʔs<sup>55</sup>] 'fragrant' and sɔr<sup>51</sup> [sɔʔr<sup>51</sup>] 'louse'.

The falling tone also appears on a small number of stopped syllables, contrasting with the high level tone, as in the pairs dɔk<sup>55</sup> 'poison' / dɔk<sup>51</sup> 'crisp'; ʔək<sup>55</sup> 'time' / ʔək<sup>51</sup> 'skin on boiled milk'.

The **mid-level** tone mainly appears on the first syllable of bisyllabic words. Some of these are the stable tones of prefixes, and some are the sandhi variants of high-level or falling tones:

tə <sup>33</sup> mɲak <sup>55</sup>	eye	kə <sup>33</sup> rnaks <sup>51</sup>	deep
ta <sup>33</sup> mɲam <sup>55</sup>	deaf person	ka <sup>33</sup> stɔ <sup>51</sup>	straight
mak <sup>55/33</sup> mə <sup>51</sup>	army	ɕtɕa <sup>55/33</sup> tək <sup>55</sup>	eleven
ɕa <sup>55/33</sup> nɪ <sup>51</sup>	fresh meat	ɕe <sup>55/33</sup> wjek <sup>55</sup>	leaf
pka <sup>51/33</sup> tɕu <sup>51</sup>	chicken	smɔn <sup>51/33</sup> bɛ <sup>51</sup>	doctor
ɕam <sup>55/33</sup> ʂtse <sup>51</sup>	rust	khə <sup>51/33</sup> na <sup>55</sup>	dog

The mid-level tone also appears on the first and second syllables of three-syllable compounds:

kha <sup>33</sup> rdai <sup>33</sup> lu <sup>35</sup>	loach	kham <sup>33</sup> tsə <sup>33</sup> rdzɔk <sup>55</sup>	lizard
---	-------	--	--------

The mid-level also appears on the second token of reduplicated words, in this case being the sandhi realization of a high level or falling tone. The pitch contour has a slight fall to it:

ka <sup>33</sup> tɔp <sup>55</sup>	hit	ka <sup>33</sup> na <sup>33</sup> tɔp <sup>55</sup> tɔp <sup>55/33</sup>	hit each other
ka <sup>33</sup> kri <sup>55</sup>	ruin	ka <sup>33</sup> na <sup>33</sup> kri <sup>55</sup> kri <sup>55/33</sup>	always ruin
ka <sup>33</sup> ni <sup>51</sup>	sit	ka <sup>33</sup> na <sup>33</sup> ni <sup>51/55</sup> ni <sup>51/33</sup>	always sit <sup>3</sup>
ka <sup>33</sup> nɔ <sup>51</sup>	rush	ka <sup>33</sup> na <sup>33</sup> nɔ <sup>51/55</sup> nɔ <sup>51/33</sup>	always rushing

The **mid-rising** tone is used mainly for expressing the grammatical category of evidentiality, and so is part of the morphology:

ka <sup>33</sup> ktsəm <sup>51</sup>	close
ka <sup>55</sup> ktsəm <sup>24</sup>	He/she closed it (indirect evidence).
tʂha <sup>55/33</sup> ka <sup>33</sup> lɛt <sup>55</sup>	pour tea
tʂha <sup>55/33</sup> ka <sup>55</sup> lɛt <sup>24</sup>	He/she poured tea (indirect evidence).

Most of the lexicon of Suomo is made up of monosyllabic and disyllabic words, especially the latter. Words consisting of more than two syllables are relatively rare. Because the conditions for the appearance of tones are closely related to syllable structure in Suomo, the possible combinations of syllable/word-type and tone are limited. This situation is not found in languages with richer tone systems. The patterns we find in Suomo are mainly of the following six types:

1. 55	pak <sup>55</sup>	pɿg
	cɕɔ <sup>55</sup>	wooden plate
2. 51	pɔ <sup>51</sup>	bushel
	cɕa <sup>51</sup>	river deer
3. 33 + 55	ka <sup>33</sup> stɔ <sup>55</sup>	hug
	ta <sup>33</sup> rɔ <sup>55</sup>	leader
4. 33 + 51	ka <sup>33</sup> stɔ <sup>51</sup>	straight
	ta <sup>33</sup> rɔ <sup>51</sup>	chest
5. 33 + 33 + 55	ka <sup>33</sup> sa <sup>33</sup> nɿjɔ <sup>55</sup>	slippery
	kə <sup>33</sup> nə <sup>33</sup> pu <sup>55</sup>	soft
6. 33 + 33 + 51	kə <sup>33</sup> nə <sup>33</sup> mɛr <sup>51</sup>	oil
	laŋ <sup>33</sup> bɔ <sup>33</sup> tʂhe <sup>51</sup>	elephant

In complex words of three or more syllables, because the bonding between the syllables is rather loose, the individual morphemes retain their original tones, and do not participate in the patterns listed above:

ta <sup>33</sup> rzap <sup>55</sup>	pha <sup>33</sup> vja <sup>55</sup>	husband and wife
wife	husband	

<sup>3</sup> The first token of a reduplicated falling tone syllable becomes high level. [Ed.]

ndza <sup>33</sup> ti <sup>55</sup> peach	ɕɔk <sup>55</sup> pu <sup>51</sup> tree	peach tree
ba <sup>33</sup> bu <sup>55</sup> bee	nɿjɔ <sup>55</sup> ndzɛ <sup>51</sup> sugar	honey bee
ta <sup>33</sup> zbrɔ <sup>55</sup> kick (n.)	kɛ <sup>33</sup> lɛt <sup>55</sup> let loose	kick (v.)

The Suomo dialect has borrowed more than a few Chinese words. After these words were borrowed into Suomo, they also had stable tones. As with native words, monosyllabic borrowings are divided into two tone categories. Except for a few words from the *shang* (rising) tone category in the Sichuan Mandarin dialect which have the high falling (51) tone in Suomo, the rest are mostly pronounced in the high level tone:

tʂhə <sup>55</sup>	car	ɕaŋ <sup>55</sup>	rural township		
thuən <sup>55</sup>	group	thaŋ <sup>55</sup>	candy		
ʂɛ <sup>55</sup>	society	ɕɛn <sup>55</sup>	county		
tou <sup>55</sup>	bushel	luŋ <sup>55</sup>	peasant/agriculture		
taŋ <sup>51</sup>	political party	xu <sup>51</sup>	rotten	tɕu <sup>51</sup>	liquor/alcohol

Bisyllabic Chinese words borrowed into Suomo generally follow the 33 + 55 pattern, though there are a few which follow the 33 + 51 pattern:

tun <sup>33</sup> kua <sup>55</sup>	winter melon	xuan <sup>33</sup> kua <sup>55</sup>	cucumber
jaŋ <sup>33</sup> ju <sup>55</sup>	potato	xua <sup>33</sup> sən <sup>55</sup>	peanuts
wi <sup>33</sup> tɕin <sup>55</sup>	scarf	tɕhaŋ <sup>33</sup> xu <sup>55</sup>	teapot
phjin <sup>33</sup> tsɿ <sup>55</sup>	bottle	phan <sup>33</sup> tsɿ <sup>55</sup>	plate
xɔ <sup>33</sup> thuŋ <sup>55</sup>	blow a big bamboo tube	paŋ <sup>33</sup> paŋ <sup>55</sup>	stick
ma <sup>33</sup> tʂhə <sup>55</sup>	horse cart	kuŋ <sup>33</sup> tʂaŋ <sup>55</sup>	official seal
ta <sup>33</sup> tɛ <sup>51</sup>	father's older brother		
tsən <sup>33</sup> tɕu <sup>51</sup>	scissors	paŋ <sup>33</sup> tɛŋ <sup>51</sup>	bench

Aside from these patterns, some of the Chinese loanwords follow a pattern which does not exist for native words, 55 + 33:

tsən <sup>55</sup> luŋ <sup>33</sup>	steamer basket	tʂhuan <sup>55</sup> tsɿ <sup>33</sup>	spatula
tshɔu <sup>55</sup> xai <sup>33</sup>	straw sandals	tshaŋ <sup>55</sup> khu <sup>33</sup>	storehouse
ma <sup>55</sup> ɕye <sup>33</sup>	riding boots	pjen <sup>55</sup> tan <sup>33</sup>	carrying pole
tshɔu <sup>55</sup> mou <sup>33</sup>	straw hat	tən <sup>55</sup> luŋ <sup>33</sup>	lantern

## II.

Below we will discuss the semantic function of the tones in Suomo. In Suomo, the tones already have the function of differentiating both lexical and grammatical meaning. We find two situations involving tone. In one class of cases, the tonal difference is the only or the main distinguishing characteristic. There are not many minimal pairs of this type, and those we have collected are mainly bisyllabic forms; monosyllabic contrasts of this type are rare. From a preliminary survey of two thousand common lexical items, we have found only about thirty such minimal pairs:

dɔk <sup>55</sup>	poison	dɔk <sup>51</sup>	crisp
ʒɛk <sup>55</sup>	time	ʒɛk <sup>51</sup>	skin of boiled milk
wɑ <sup>55</sup>	tile	wɑ <sup>51</sup>	correct
tɑ <sup>33</sup> wu <sup>55</sup>	felt	tɑ <sup>33</sup> wu <sup>51</sup>	grandfather
tə <sup>33</sup> mɔ <sup>55</sup>	hunger	tə <sup>33</sup> mɔ <sup>51</sup>	mother
tə <sup>33</sup> lɔ <sup>55</sup>	handle	tə <sup>33</sup> lɔ <sup>51</sup>	milk, breasts
tə <sup>33</sup> pɔ <sup>55</sup>	mugwort	tə <sup>33</sup> pɔ <sup>51</sup>	intestines
tɑ <sup>33</sup> rɔ <sup>55</sup>	leader	tɑ <sup>33</sup> rɔ <sup>51</sup>	chest
tɑ <sup>33</sup> mɲam <sup>55</sup>	deaf person	tɑ <sup>33</sup> mɲam <sup>51</sup>	pain(ful)
kɑ <sup>33</sup> stɔ <sup>55</sup>	hug	kɑ <sup>33</sup> stɔ <sup>51</sup>	straight
kə <sup>33</sup> jɔ <sup>55</sup>	sheep	kə <sup>33</sup> jɔ <sup>51</sup>	light (not heavy)
kə <sup>33</sup> tɕɔr <sup>55</sup>	narrow	kə <sup>33</sup> tɕɔr <sup>51</sup>	sour
kə <sup>33</sup> lɔk <sup>55</sup>	conch	kə <sup>33</sup> lɔk <sup>51</sup>	herder
kɑ <sup>33</sup> pɔ <sup>55</sup>	pinch	kɑ <sup>33</sup> pɔ <sup>51</sup>	burn
kə <sup>33</sup> rɔ <sup>55</sup>	viewer	kə <sup>33</sup> rɔ <sup>51</sup>	(belly) bloated
kɑ <sup>33</sup> lɔ <sup>55</sup>	blind person	kɑ <sup>33</sup> lɔ <sup>51</sup>	get up
kɑ <sup>33</sup> nə <sup>33</sup> su <sup>55</sup>	miss (emotion)	kɑ <sup>33</sup> nə <sup>33</sup> su <sup>51</sup>	be sad
rɪjam <sup>33</sup> tshɔ <sup>55</sup>	(personal name)	rɪjam <sup>33</sup> tshɔ <sup>51</sup>	ocean

Another situation is where the tone bears only part of the burden of distinguishing meaning. In some cases the tone works with other tones to distinguish meaning, in other cases the difference in tone is concomitant with a difference in final consonant. For example, in the pair smɔn<sup>51</sup> 'medicine'/smɔk<sup>55</sup> 'wool', there is a contrast in both tone and final. This type of situation is very common in Suomo.

Aside from distinguishing lexical meaning, the tones in Suomo are also used for grammatical distinctions. Some of the tone changes appear on the prefixes, some of them appear on the root, and some of them appear on both. The following are the main types of tone change:

1. A 55 tone root changes to 24 in the inchoative aspect and 51 in the perfective aspect; the 51 tone stays the same in the inchoative aspect and changes to 24 in the perfective aspect:

ka <sup>33</sup> tʂɔp <sup>55</sup>	sew	ka <sup>33</sup> pɔ <sup>55</sup>	spin (cloth)
tʂɔm <sup>24</sup>	I'm about to sew	pɔŋ <sup>24</sup>	I'm about to spin
na <sup>33</sup> tʂɔm <sup>51</sup>	I already sewed	na <sup>33</sup> pɔŋ <sup>51</sup>	I already spun
ka <sup>33</sup> nɔ <sup>51</sup>	nail (v.)	ka <sup>33</sup> nɪ <sup>51</sup>	sit
nɔŋ <sup>51</sup>	I'm about to nail	nɪŋ <sup>51</sup>	I'm about to sit
na <sup>33</sup> nɔŋ <sup>24</sup>	I already nailed	na <sup>33</sup> nɪŋ <sup>24</sup>	I already sat

2. A 55 tone root changes to 51 in the progressive aspect; the 51 tone changes to 24 in the progressive aspect:

ka <sup>33</sup> tɔp <sup>55</sup>	hit	ka <sup>33</sup> sɔ <sup>55</sup>	think
kɔ <sup>33</sup> tɔm <sup>51</sup>	I'm hitting	kɔ <sup>33</sup> sɔŋ <sup>51</sup>	I'm thinking
tə <sup>33</sup> wɔ <sup>51</sup>	be sick	ka <sup>33</sup> nɪ <sup>51</sup>	sit
kə <sup>33</sup> nə <sup>33</sup> wɔŋ <sup>24</sup>	I'm sick	kɔ <sup>33</sup> nɪŋ <sup>24</sup>	I'm sitting

3. With verbs related to actions performed by organs of the body, a change in tone from 33 to 55 expresses a 3rd person singular actor, the perfective aspect, and an evidential meaning of "not personally observed":

ka <sup>33</sup> mɔt <sup>55</sup>	drink
ka <sup>55</sup> mɔt <sup>24</sup>	He drank (not personally witnessed).
ka <sup>33</sup> na <sup>33</sup> wur <sup>51</sup>	drape on the shoulders
ka <sup>55</sup> na <sup>33</sup> wur <sup>51</sup>	He draped (it) on (his) shoulders (n.p.w.).
ka <sup>33</sup> rma <sup>55</sup>	sleep
ka <sup>55</sup> rma <sup>55</sup>	He slept (n.p.w.).

4. When the actor is 3rd person, the tone of the prefix changes from 33 to 55, and the tone of the verb root changes from 55 to 24:

tʂha <sup>55/33</sup> ka <sup>33</sup> lɛt <sup>55</sup>	pour tea
tea pour	
tʂha <sup>55/33</sup> ka <sup>55</sup> lɛt <sup>24</sup>	(S/he) pour tea
kam <sup>55/33</sup> ka <sup>33</sup> tʂat <sup>55</sup>	close (a/the) door
door close	
kam <sup>55/33</sup> ka <sup>55</sup> tʂat <sup>24</sup>	(S/he) close (a/the) door

5. When a simplex stative verb with a 51 tone becomes a causative verb, the tone changes to 55:

kə <sup>33</sup> c̣ɕhem <sup>51</sup>	small/fine	kə <sup>33</sup> wa <sup>33</sup> c̣ɕhem <sup>55</sup>	make fine
ka <sup>33</sup> ktie <sup>51</sup>	big	ka <sup>33</sup> wa <sup>33</sup> ktie <sup>55</sup>	make big

### III.

From the facts above and a survey of the characteristics of tone systems across Tibeto-Burman, we can now turn to a discussion of the nature of the Suomo tonal system.

Does the Suomo dialect of rGyarong have tones? The answer to this depends on what criteria we use in determining whether a language has tones or not. Generally the main criterion is whether the tones function to distinguish meaning. This is correct, but there are different understandings of what counts as "distinguishing meaning". Suomo has dozens of pairs of lexical items differentiated only by tone, and these of course should count as instances of tone determining meaning. Yet because these pairs are only a small part of the total vocabulary, some scholars feel that the function of the tones in determining meaning is not important, and so the language should not be considered to have tones, but only "customary pitch". Though this may be the case, every syllable in Suomo does have a stable tone; so even if tone is not the only characteristic determining meaning in the majority of Suomo words, the tone is one of the features the dialect uses to distinguish between different syllables. Since every syllable in Suomo has a stable tone, speakers have developed a linguistic feeling for tone; and so if any syllable is pronounced in other than its usual tone, it will create misunderstanding or ambiguity. At the very least the Suomo speaker will know it is not pure Suomo. We feel that whether or not a language has stable tones should be the main factor in determining whether it has tones or not; since after the tones have stabilized, they may be exploited for distinguishing between syllables, and their functional load in distinguishing meaning gradually changes from low to high, from few lexical items to many. This is to say, after the syllables of a language develop fixed tones, that language has already completed the transition from not having tones to having tones. This is a qualitative change. If the syllables do not have fixed tones, or if there are only types of fixed sentence intonation (as in English), then tone in that language cannot have the function of distinguishing meaning, and that type of language must be considered to be at a non-tonal stage.

Although Suomo has already developed tones, that development is still in its early stages. Why do we say this? First, there are two main tones in Suomo, the condition for the split between them being the nature of the syllable as stopped or non-stopped. That is, among the many phonetic features, only the existence or not of a stop consonant final influenced the



split; the other factors have not yet caused a split into other tones. Second, the number of word pairs distinguished solely or mainly by tone is still very small; in the majority of the words in the language tone works along with other phonetic features to distinguish meaning.

From the results of research already completed, we know that the development of tones in Tibeto-Burman was from not having tones to having tones, and from an initial low functional load to a high functional load. Factors involved in the rise of tonal contrasts include whether the syllable has a voiced or unvoiced initial, whether the syllable has a consonant final or not, and whether that final consonant is a stop or not. Among these, the latter is the first to affect a split into tones. For example, in modern Tibetan dialects, the initial development of tones was based on whether the syllable had a stop final or not in Old Tibetan, and those tones then split further according to the voicing of the initial and the presence or not of a consonant final.<sup>4</sup> We find the same developmental pattern in Zaiwa, where the first tonal split was based on the presence or not of a consonant final, then these tones split according to voicing and other factors. That is to say, the rise of tones in Tibeto-Burman was gradual, and occurred in stages, with the first stage being based on the nature of the final.<sup>5</sup> This is a general rule in the development of tones in Tibeto-Burman. The division of the syllables into two stable tone categories according to the nature of the final is the transformation from a non-tone language to a tone language, and establishes a base for the further split of these categories into even more tones. In Suomo we find only the completion of the first stage in the rise of tones (the split according to the nature of the final), so we can say that Suomo is at the earliest stage of tonal development.

Are there limiting factors involved in the Suomo tone system being relatively undeveloped? It would be well for us to look at the sound system of Suomo. Suomo has a rather rich system of initials and finals: 36 consonants combine to form 246 different initials: 36 single-consonant initials, 178 two-consonant initials, and 32 three-consonant initials; 90 different finals (eight monophthong finals, twelve diphthong finals, 70 finals with final consonants). Suomo is also a largely polysyllabic language. Among 1578 commonly used words we have surveyed, only 106 (6.2%) were monosyllabic, the rest being mostly bisyllabic or polysyllabic: 1151 (72%) bisyllabic, 228 (14.4%) trisyllabic, 77 (4.8%) tetrasyllabic, 13 (0.8%) pentasyllabic. From this we can see that the complexity of the initials and finals and the polysyllabicity of the lexicon can be important factors in limiting the rise and development of tones. This can be said to be a

<sup>4</sup> See "A study of the tones of Tibetan," by Hu Tan (*Minzu Yuwen* 1980.1).

<sup>5</sup> See "A study of the tones of Zaiwa," by Dai Qingxia (*Journal of the Central Institute of Nationalities* 1989.1).

universal within Tibeto-Burman. All of the languages within Tibeto-Burman that have complex initials and finals, and are polysyllabic, either have no tone systems or have relatively undeveloped tone systems, such as the Northern Qiang dialects, Amdo Tibetan, Luoba, and Dulong.<sup>6</sup> All of the languages within Tibeto-Burman that have relatively undeveloped systems of initials and finals and are largely monosyllabic have relatively developed tone systems, such as in the Yi-pho (Lolo) and Burmish branch languages. The Gazhuo language of the Yi-pho branch is the Tibeto-Burman language with the greatest number of tones. It has eight: high-level, mid-high-level, mid-level, high-rising, mid-rising, falling-rising, high-falling, and low falling. Yet this language has only 24 initials (all single consonants); there are only voiceless stops and affricates; there are only 17 finals (of which eight are monophthongs, and nine are diphthongs); and there are no consonant finals. There are many monosyllabic words, and the majority of the verbs, adjectives, numerals, and classifiers in the language are monosyllabic.<sup>7</sup>

The rise of tones in Suomo is very likely related to the tendency in Suomo for the originally complex phonetic system to simplify and for some originally polysyllabic words to become monosyllabic. We can see from the following examples that some consonant clusters have loosened up and the initial consonant has split off, becoming a separate syllable with the epenthesis of the transitional vowel -ə, creating variant pronunciations:<sup>8</sup>

stə <sup>51</sup> ~ tɕə <sup>33</sup> tə <sup>51</sup>	this
ka <sup>33</sup> msam <sup>55</sup> ~ ka <sup>33</sup> mə <sup>33</sup> sam <sup>55</sup>	hear
kə <sup>33</sup> mtɕər <sup>51</sup> ~ ka <sup>33</sup> mə <sup>33</sup> tɕər <sup>51</sup>	turn
kə <sup>33</sup> mɕɕa <sup>55</sup> ~ kə <sup>33</sup> mə <sup>33</sup> cɕa <sup>55</sup>	many
ka <sup>33</sup> mtɔ <sup>55</sup> ~ ka <sup>33</sup> mə <sup>33</sup> tɔ <sup>55</sup>	see
ka <sup>33</sup> mtɕɔk <sup>55</sup> ~ ka <sup>33</sup> mə <sup>33</sup> tɕɔk <sup>55</sup>	pointed
kə <sup>33</sup> msak <sup>55</sup> ~ kə <sup>33</sup> mə <sup>33</sup> sak <sup>55</sup>	spirit, energy

Among the young people, some of the consonant cluster initials have been simplified by the loss of the the first consonant:

Old People	Young People	
bzaŋ <sup>51</sup>	zaŋ <sup>51</sup>	aluminum
kə <sup>33</sup> pɕnɔ <sup>51</sup>	kə <sup>33</sup> snɔ <sup>51</sup>	crazy person

<sup>6</sup> See "The tones of Dulong," by Liu Juhuang (*Journal of the Central Institute of Nationalities* 1988.2).

<sup>7</sup> See "A study on the Gazhuo language of the Mongols of Yunnan," by Dai Qingxia, Liu Juhuang, and Fu Ailan (*Yuyan Yanjiu* 1987.1).

<sup>8</sup> Cross-linguistic comparison and the fact that use of the monosyllabic forms is less marked than the bisyllabic forms in Suomo lead us to assume that the monosyllabic forms represent an earlier stage.

ka <sup>33</sup> psket <sup>55</sup>	ka <sup>33</sup> sket <sup>55</sup>	discharge, fire
ka <sup>33</sup> phsrur <sup>51</sup>	ka <sup>33</sup> srur <sup>51</sup>	protect
pkra <sup>33</sup> çes <sup>51</sup>	kra çes <sup>51</sup>	auspicious
raŋ <sup>33</sup> mbjuŋ <sup>51</sup>	raŋ <sup>33</sup> bjuŋ <sup>51</sup>	natural
mbres <sup>51/33</sup> wu <sup>51</sup>	bres <sup>51/33</sup> wu <sup>51</sup>	fruit

Some consonant finals are lost in combinations:

pak <sup>55</sup>	pig	>	pa <sup>55/33</sup> rŋas <sup>51</sup>	wild boar
mak <sup>55</sup>	not	>	ma <sup>55/33</sup> zε-ŋ <sup>51</sup>	not eat
kçel <sup>55</sup>	glass	>	çε <sup>55/33</sup> zɔ <sup>51</sup>	mirror
tə <sup>33</sup> rtsis <sup>51</sup>	number	>	ka <sup>33</sup> wu <sup>33</sup> rtsə <sup>51</sup>	count
kə <sup>33</sup> tshaks <sup>51</sup>	fresh	>	kə <sup>33</sup> jnɔ <sup>55</sup> kə <sup>33</sup> tshak <sup>51/55</sup>	fresh vegetables

Some consonant cluster finals can change to single consonant finals:

phɔks <sup>51</sup>	~	phɔk <sup>55</sup>	salary
tçhɛks <sup>51</sup>	~	tçhek <sup>55</sup>	horse feed
zgrɔks <sup>51</sup>	~	zgrɔk <sup>55</sup>	bracelet
kə <sup>33</sup> rnaks <sup>51</sup>	~	kə <sup>33</sup> rnak <sup>55</sup>	deep
kə <sup>33</sup> wams <sup>51</sup>	~	kə <sup>33</sup> wam <sup>55</sup>	foolish
kə <sup>33</sup> ndzaŋs <sup>51</sup>	~	kə <sup>33</sup> ndzaŋ <sup>55</sup>	careful
sa <sup>33</sup> zbjun <sup>51</sup>	~	sa <sup>33</sup> zbjun <sup>55</sup>	source
tçhɛ <sup>33</sup> jluk <sup>51</sup>	~	tçhɛ <sup>33</sup> jluk <sup>55</sup>	custom

In summary, the system of initials and finals and the simplification of the syllable are important factors in the development of tones. The simpler the system of initials and finals and the simpler the syllabic structure, the greater the functional load of the system of tones.