

## Some Morphophonemic Processes in Changtongya Jungli

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### Abstract

Changtongya Jungli (CJ henceforth) is a Tibeto-Burman language spoken by the natives of Changtongya village from the Ao tribe of Nagaland. It is a regional colloquial variety of the standardized Jungli (previous orthography was “Chungli”). CJ has been overlooked in linguistic studies as compared to the standard varieties of Jungli and Mongsen (Coupe (2003); Coupe (2004); Temsunungsang (2009); Bruhn (2010); Walling (2017); Aier & Koshy (2024)). The present paper addresses this dearth by providing a systematic morphophonemic analysis of the changes that can be found in comparing standard Jungli to CJ. The research utilises established frameworks on morphophonemic processes such as debuccalization, deletion and deaffrication, to situate it within established working theories in morphophonemics as also evidenced in other languages. Analysing the morphophonemic processes in CJ shows the changes are not random, but follow specific linguistic rules. The study concludes that colloquial varieties have their own systematic linguistic processes just like standardized languages. Dialectal studies such as these add value to one’s perception of “coarse” dialects while also providing many more avenues for research in fields such as historical linguistics for the Ao group of languages and Tibeto-Burman languages in general.

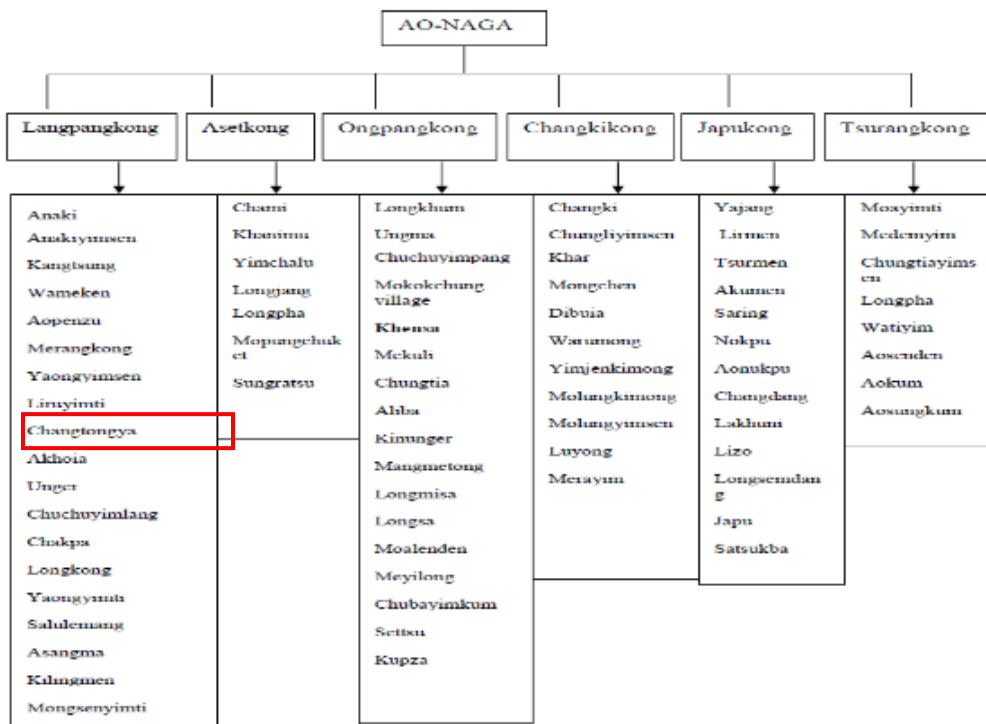
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### 1. INTRODUCTION

The Ao group of languages can be divided into three prominent varieties: Jungli, Mongsen and Changki (Walling: 2017) (Coupe: 2003). Some villages may have both Jungli and Mongsen

speakers, some may have only Mongsen, only Changki, or only Jungli speakers, and Changtongya village is one where only Jungli speakers dwell and where CJ is spoken.

The Ao-Naga Territory is divided into Six ranges: Ongpangkong, Langpangkong, Asetkong, Changkikong (Jangpetkong), Japukong, and Tsürangkong which have a number of villages each and are situated mostly east of the Dikhu river.



**Fig 1: Classification of the various Ao varieties based on the geographical differentiation of the six ranges with Changtongya marked. Figure taken from Walling (2017)**

These ranges are used as a broad marker to categorize the larger dialectal groups of the Ao language i.e. Langpangkong Jungli is quite different from Ongpangkong Jungli etc. CJ is spoken in Changtongya village which is part of the Langpangkong range and hence it is more easily understood by Jungli speakers from the Langpangkong range.

## 2. METHODOLOGY

This study uses a qualitative approach to analyze the morphophonemic processes involved in CJ so as to answer the question within what environments these changes occur.

The data from standard Jungli is primarily based on the Ao Riju’s standardized Jungli which is used for all written purposes within the Ao community. One of the main sources referred to is “Arok Osep” an ASLB (2019) (Ao Riju was previously known as ASLB or Ao Senden Literature Board) edited Jungli dictionary with phonetic transcriptions. The CJ data is from the author’s own repertoire as he is a native of Changtongya, along with inputs from three other native CJ speakers: one male in his early sixties, one female in her early fifties both living in Kohima, and a third male in his forties residing in Changtongya village. Because of the lack of the written form in CJ, the data was collected by oral reproduction of the words telephonically as well as in person and transcribed accordingly.

The research relied upon a framework of previously established theories on morphophonemic processes such as debuccalization, deletion, deaffrication, and vowel harmony, to situate it within established working theories in morphophonemics as also evidenced in other languages of the world.

### Comparison between CJ and Standard Jungli

Although CJ is a variant that is quite close to Standard Jungli, there are still differences between the two that are worth exploring, from phonemic, morphemic, to lexical differences.

**Phonemic Difference:** Quite a few researchers have worked at looking into the phonemes of standard Jungli (Temsunungsang (2009), Bruhn (2010), Coupe (2003)). We shall look at Temsunungsang and Bruhn’s analyses and compare it to the phonemic inventory of CJ. The phonemic inventory of Standard Jungli is as given below:

	<i>Bilabial</i>	<i>Dental/Alveolar</i>	<i>Palatal/Pal-Alv.</i>	<i>Velar</i>	<i>Glottal</i>
<i>Nasal stops</i>	m	n		ŋ	
<i>Oral stops</i>	p	t		k	ʔ
<i>Affricates</i>		ts	tʃ		
<i>Fricatives</i>		s, z			(h)
<i>Approximants</i>	w	l	ɹ	j	

Fig 2: Standard Jungli Consonants. Taken from Bruhn (2010)

But according to Temsunungsang [ʃ] is an allophonic variant of /s/ and occurs before the high front vowel /i/. And hence the phonemic inventory given by Temsunungsang (2009) with the allophonic variants in square brackets is as given below:

<b>Chungli</b>			
p	t	k	ʔ
m	n	ŋ	
s [ʃ]	z		(h) <sup>8</sup>
c [ts]			
r	l		
w	j		

**Fig 3: Phonemic inventory of consonants taken from Temsunungsang (2009)**

The (h) sound is given in brackets in both Bruhn (2010) and Temsunungsang (2009) because they say that although /h/ is not attested in standard Jungli, it is found in several other varieties of Jungli. The /h/ phoneme seems to be mostly found in the Jungli of the Langpangkong range, amongst which CJ is also a part of.

Along with all these phonemes present in standard Jungli, in the consonant inventory of CJ, we see there exists a few other allophones are added, such as [v] allophone of [p], [ʒ] allophone of [tʃ], and [ɽ] allophone of [t], which are not part of the standard Jungli inventory, as seen in CJ words like, [tāvāŋ] ‘mouth’, [təzáj] ‘seed’, and [táɽóʔ] ‘forgiveness’ which all occur in the intervocalic environment under specific conditions which will be discussed in this paper.

When it comes to vowels we see that Bruhn (2010) and Temsunungsang (2009) are in agreement, except for the fact that Temsunungsang uses [u] as an allophonic variant of /ə/. He writes that the high back spread vowel [u] occurs after the consonants [n, s, r, ts] in monosyllabic words (2009)

	<i>Front</i>	<i>Central</i>	<i>Back</i>
<i>High</i>	i		u
<i>Mid</i>		ə	
<i>Low</i>		a	

**Fig 4: Standard Jungli Vowels, from Bruhn (2010)**

Bruhn (2010) writes that the only tautosyllabic diphthongs that appear in Jungli are /ai, au, ui, əi/ which may just be a combination of a vowel and a glide, i.e. /aj, aw, uj, əj/. In CJ there seems to be an additional vowel the mid back rounded vowel /ɔ/.

**Morphemic Difference:** In Standard Jungli the nominative case morpheme is ‘-i’ as seen in sentence: Pa-i ken aten ‘He sang a song’. In CJ, the nominative morpheme is ‘-r’ as seen in the table given below:

STANDARD JUNGLI			CJ		
Pa-i	ken	aten	Pa-r	ken	aten
He-NOM	song	sing.PST	He-NOM	song	sing.PST
‘He sang a song’			‘He sang a song’		

**Table 1: Morphemic difference between Standard Jungli and CJ**

**Lexical difference:** CJ exhibits lexical differences from Standard Jungli such that some lexical words are not necessarily found in Standard Jungli or are different in Standard Jungli, as compared to CJ. Some of these lexical differences between Standard Jungli and Changtongya Jungli are given in the table below:

CJ	POS	Meaning	Standard Jungli
[azúapái]	Adverb	Not so/Not	[másə]
[àli:míla]	Adjective	Too much/ A lot	[tālī:]
[à:kətsà:]	Noun	One who doesn’t know how to work	[à:ŋkū mā:tʃũŋ]
[kúŋá:ɾà:]	Adjective	Huge	[túlù]
[áŋsəkílóp]	Adjective	Short-tempered	[mí:t mā:tʃũŋ]

[húnàʔ]	Conjunction	Even so (or) But	[sā:káʔ]
[másúmájátsó]	Adjective	Terrible	[kàŋā mā:tʃũŋ]
[áʔʃũŋ]	Verb	Wake up (Imperative)	[sàkāŋ]
[ŋáʔũ]	Adjective	Useless	[tàmáʃi]
[álámázóm]	Adjective	Incomparable	[mōmōtōmdáŋtət]
[ʃjūtép]	Verb	become acquainted with	[mōtōtép]

**Table 2: Lexical differences between CJ and Standard Jungli**

All these differences point towards the need for a more in-depth study into the varieties of Jungli such as the present CJ to understand the Jungli language better and also to see the trajectory of language change over geographical differences.

### 3. MORPHOPHONEMIC PROCESSES IN CHANGTONGYA-JUNGLI

Morphophonemics (also known as Morphophonology) “is the branch of linguistics that deals with the phonological representation of morphemes.” (Turin, 2019: 64). In a morphophonemic analysis of a language, we look at variations as something systematic so as to help make “phonological patterns simpler and more general, e.g. with simpler phonotactics and more general principles of realization” (Basbøll, 2015: 831). The present paper strives for such a systematic simplification of the phonological patterns in CJ.

#### 4.1 DEBUCCALIZATION:

“Debuccalization is any sound change or synchronic alternation that turns an oral consonant into a laryngeal consonant ([h], [ɦ], or [ʔ])” (O’Brien: 3). We will look at this process in CJ in relation to the Standard Jungli phonemes /s/ and /k/.

##### Alveolar Fricative to Glottal Fricative: /s/ to /h/

The glottal fricative /h/ is a sound that is not present in Standard Jungli as attested by Temsunungsang (2009) who writes that although /h/ is not attested in the Standard Jungli, it is attested in many Jungli variants, out of which CJ is one. In this type of Debuccalization, the sound produced as /s/ in Standard Jungli is produced as /h/ in CJ, as seen in the table below:

STANDARD JUNGLI	CJ	GLOSS
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[séntúŋ]	[hóntṣ̌]	‘program’
[āsónùk]	[āhōnóʔ]	‘us’
[sénsàkèr]	[hónhàr]	‘poor’
[nīsūŋ]	[nīhṣ̌]	‘human’
[tāsājúr]	[tāhājúr]	‘teacher’
[ásèjùŋà]	[hújà]	‘but’
[sónjĩ]	[hónjĩ]	‘disperse’

**Table 3: Debuccalization of /s/ to /h/ in CJ**

But this does not mean that /s/ always debuccalizes into /h/ in every phonetic environment of CJ. As seen above, Debuccalization of /s/ to /h/ only happens in the word initial and word medial positions as a word cannot end with an /s/ in Jungli. Additionally, it also cannot occur in the environments below:

STANDARD JUNGLI	PRESUMED CJ	ACTUAL CJ	GLOSS
[sū]	*[hū]	[sū]	‘hay’
[súsət]	*[húhət]	[súhət]	‘die by hanging’

**Table 4: Exceptions to /s/ debuccalization**

The Debuccalization of /s/ to /h/ seems not to occur in the environments above because of the presence of the high-back vowel /u/. But in a word like [nīsūŋ] ‘person’, the debuccalization occurs (as seen in Table 3) because the vowel /u/ does not remain the same in CJ, it becomes a /ɔ/, which allows the debuccalization to take place hence we get [nīhṣ̌].

An interesting phenomenon that can be seen in the debuccalization of /s/ is that the rule for debuccalization applies first and only then does the rule for deletion apply if there is any sound that the language needs deleted.

STANDARD JUNGLI	RULE APPLICATION	CJ	GLOSS
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[ásəjùṅàʔ]	Rule 1 Debuccalization□	[áhəjùṅàʔ]	‘even so’
	Rule 2 [a, ə, j] Vowel and Glide Deletion□	[húṅàʔ]	‘even so’
	Final Realization□	[húṅàʔ]	‘even so’

**Table 5: Rule application for debuccalization and deletion**

Therefore, we see in this example that even though /u/ is supposed to prohibit the /s/ from debuccalization into /h/, it is not the original sound that was present, there was a /ə/ which allowed the /s/ to /h/ debuccalization and only after that it was deleted.

Up to now, we have only been looking at debuccalization of /s/ to /h/ as a purely phonological process. But we will also look at it as a morphophonemic process, i.e. to see if debuccalization still takes place beyond the morpheme boundary.

MORPHEME	STANDARD JUNGLI BASE	STANDARD JUNGLI	CJ EQUIVALENT
[mə] ‘NEG’	[sāʃi] ‘fierce’	[məsāʃi] ‘not fierce’	[māhāʃi] ‘not fierce’
[mə] ‘NEG’	[sájú] ‘show’	[məsájú] ‘not show’	[māhājù] ‘not show’
[mə] ‘NEG’	[səmtāṅ] ‘visit’	[məsəmtāṅ] ‘not visit’	[māhəmtā̃] ‘not visit’
[mə] ‘NEG’	[səṅʃi] ‘disperse’	[məsəṅʃi] ‘not disperse’	[māhəṅʃi] ‘not disperse’
[mə] ‘NEG’	[səktāṅ] ‘break into half’	[məsəktāṅ] ‘not break into half’	[māhāṅʃá] ‘not break into half’

**Table 6: /s/ debuccalization as a morphophonemic process**

Velar Stop to Glottal Stop: /k/ to /ʔ/

Another type of debuccalization that we see in CJ is the /k/ to glottal stop /ʔ/ change from Standard Jungli to CJ. Some instances of this happening can be seen in the example words given below:

STANDARD JUNGLI	CJ	GLOSS
[tánók]	[tánóʔ]	‘soft’
[āsónùk]	[āhōnóʔ]	‘us’
[párnùk]	[párnóʔ]	‘them’
[tátúk]	[táróʔ]	‘forgiveness’
[ínjàk]	[ínjáʔ]	‘do’
[tátsók]	[tátsóʔ]	‘hot’
[tónók]	[tónóʔ]	‘eye’
[jítúk]	[jíróʔ]	‘wash’
[ápúk]	[ávóʔ]	‘burst’

**Table 7: /k/ debuccalization in CJ**

This process occurs only in the coda/word-final position, because we will see that when /k/ appears elsewhere, such as in onset positions, it does not debuccalize, as seen below:

STANDARD JUNGLI	PRESUMED CJ	ACTUAL CJ	GLOSS
[kùŋkī]	*[ʔùŋkī] *[ʔùŋʔī] *[kùŋʔī]	[kùŋkī]	‘Piano’ OR A musical instrument
[kūrāŋ]	*[ʔūrāŋ]	[kūrā̃]	‘hat/cap’
[kúsà]	*[ʔúhà]	[kúhá]	‘break’
[kəm]	*[ʔəm]	[kəm]	‘year’

**Table 8: Environments where /k/ debuccalization cannot occur**

In Temsunungsang (2009), we see him talking about a similar change of the velar stop into the glottal stop in another variety of Jungli spoken in Ungma village:

STANDARD JUNGLI	UNGMA VARIETY	GLOSS
[ámàk]	[ámàʔ]	‘attack’
[ákúk]	[ákóʔ]	‘win’

**Table 9: /k/ to /ʔ/ debuccalization in Ungma Jungli**

#### 4.2 DELETION

Now when we look at /k/ to /ʔ/ debuccalization from a morphophonemic lens, we see something interesting, i.e. deletion happening which is quite similar to the coda-K deletion as also seen in Kurtöp (Hyslop, 2014: 49) another Tibeto-Burman language. What makes this interesting is that the debuccalization seems to be happening first for the deletion to take place, meaning that when a morpheme is added to a word ending in a debuccalized glottal stop, it no longer appears in the word final position, and since we know that the /k/ debuccalization only occurs in the word final position, this glottal stop is deleted to adhere to CJ’s phonotactics. This process is in line with the debuccalization and deletion rule application sequence as discussed in Table 5 of /s/ to /h/ debuccalization. The process is illustrated below:

STANDARD JUNGLI	RULE APPLICATION	CJ	GLOSS
[ínjàk]	RULE 1: Debuccalization □	[ínjáʔ]	‘do’
[ínjàk] + [ər] [ínjàkər]	RULE 2: Deletion□	[ínjáʔ] + [ər] *[ínjáʔər] □ [ínjàr]	‘do’ + PROG
[ínjàkər]	Final Realization□	[ínjàr]	‘do’ + PROG

**Table 10: Rule application of /k/ to /ʔ/ Debuccalization and deletion**

#### 4.3 DEAFFRICATION:

Deaffrication is a phonological process where an affricate changes into a Fricative, i.e. it loses its stop feature. Kiparsky (1968: 197- 198) writes the rule for deaffrication as such:

$$\text{DEAFFRICATION: } \left[ \begin{array}{l} + \text{voiced} \\ - \text{grave} \\ + \text{strident} \end{array} \right] \rightarrow [+ \text{continuant}] \quad \begin{array}{l} d\check{z} \rightarrow \check{z} \\ dz \rightarrow z \end{array}$$

Although this data is for Polish, one can extend it to CJ as well where /tʃ/ loses its stop feature and /ʃ/ becomes voiced to /ʒ/ perhaps for easier coarticulation with the vowel sounds before and after the affricate.

STANDARD JUNGLI	CJ	GLOSS
[ātʃāŋ]	[āzā̃]	‘cross’
[tátʃák]	[tózá̃]	‘seed’
[àtʃòm]	[àzòm]	‘needle’
[ātʃòm]	[āzòm]	‘drink’
[átʃùk]	[ázóʔ]	‘walking stick’
[mìtʃàŋ]	[mìzā̃]	‘charcoal’
[tátʃák]	[tózáʔ]	‘face’
[tātʃūŋ]	[tāzō̃]	‘good’
[tátʃák]	[tázáʔ]	‘deaf’
[ātʃòm]	[āzòm]	‘step on’

**Table 11: Deaffrication of /tʃ/ in CJ**

One thing we can notice about the above examples is that the deaffrication takes place only when the affricate occurs in the intervocalic position in the word medial position. Otherwise, it does not take place.

STANDARD JUNGLI	PRESUMED CJ	ACTUAL CJ	GLOSS
[tʃāŋtʃā]	*[zāŋzā]	[tʃāŋtʃā]	‘clear’

**Table 12: Deaffrication only happens in the intervocalic/word medial position**

When we add a morpheme to this same word so as to provide the intervocalic environment, we see that the deaffrication process takes place. This is illustrated below with the word [tʃāŋtʃā] as well as other similar words.

MORPHEME AFFIX	STANDARD JUNGLI BASE	STANDARD JUNGLI	CJ EQUIVALENT
[mə]- NEG	[tʃãŋtʃã] 'clear'	[mətʃãŋtʃã] 'not clear'	[mətʃãŋtʃã] 'not clear'
[mə]- NEG	[tʃánàʔ] 'dirty'	[mətʃánàʔ] 'not dirty'	[mətʃánàʔ] 'not dirty'
[mə]- NEG	[tʃãʃĩ] 'sad'	[mətʃãʃĩ] 'not sad'	[mətʃãʃĩ] 'not sad'
[mə]- NEG	[tʃúktən] 'jump'	[mətʃúktən] 'not jump'	[mətʃúktən] 'not jump'
[mə]- NEG	[tʃǝmpĩ] 'speak'	[mətʃǝmpĩ] 'not speak'	[mətʃǝmpĩ] 'not speak'
[mə]- NEG	[tʃákrəp] 'shatter'	[mətʃákrəp] 'not shatter'	[mətʃákrəp] 'not shatter'

**Table 13: Deaffrication in CJ as a morphophonemic process**

We see therefore that deaffrication is not merely a phonological process but a morphophonemic one. It should be noted that the affricate /tʃ/ does not occur in the word final/coda position so we are unable to check the effects of a suffix morpheme on the phonology.

Now, even though we have seen that deaffrication occurs in the intervocalic position, it is to be noted that it does not occur in all intervocalic positions. The presence of the high front vowel /i/ seems to be blocking the deaffrication /tʃ/ to /ʒ/ from taking place, as can be seen in the examples given in the table below. The example of [itʃip] specifically is of interest because it shows that even in borrowed words, if the phonological conditions are not met then the change does not take place.

STANDARD JUNGLI	PRESUMED CJ EQUIVALENT	ACTUAL CJ EQUIVALENT	GLOSS
[mītʃĩ]	*[mīʒĩ]	[mītʃĩ]	'because of'

[t̪ɪʃɪr̩à]	*[t̪ɪʒɪr̩à]	[t̪ɪʃɪr̩à]	‘sharp’
[t̪əp̪əŋm̪ət̪ɪ]	*[t̪əv̪əŋm̪ɪʒɪ]	[t̪əv̪əŋm̪ɪʃɪ]	‘lips’
[t̪ɪʃɪʃɪ]	*[t̪ɪʒɪʒɪ]	[t̪ɪʃɪʃɪ]	‘true’
[ɪt̪ɪʃɪp]	*[ɪʒɪʃɪp]	[ɪt̪ɪʃɪp]	‘Egypt’

**Table 14: Deaffrication being blocked by /i/**

#### 4. DISCUSSION

When we try to understand the morphophonemic processes and the consequent phonological changes that take place, we see that it is more often than not the phonetic environment that influences the change, with certain phonemes like /i/ or /u/ blocking the morphophonemic process from taking place.

For this paper, we began by asking why these certain morphophonemic processes occur in CJ (and not in standard Jungli). Proponents of Lexical diffusion opine that phonological changes in a language occur over time and “gradually extends its scope of operation to a larger and larger portion of the lexicon, until all relevant items have been transformed by the process. A phonological innovation may turn out to be ultimately regular, i.e. to affect all relevant lexical items, given the time to complete its course.” (Chen & Wang, 1975: 256) Building upon this theory we also look at works (Halle & Keyser, 1967) that discuss gradual sound change being only through socio-geographical means in that change passes from person to person, from one social category/locality into another (102-103). Bringing both these studies together, we can perhaps postulate the morphophonemic changes in CJ being a socio-geographical change over time. The geographical location of Changtongya being separated from Molungkimong (The Molungkimong variety being the basis of standard Jungli) due to internal migration over a few centuries, we can assume that the phonological rules that constrained standard Jungli “peters out toward the end of its life span, or is thwarted by another rule competing for the same lexemes.” (Chen & Wang, 1975: 256) This “another rule” would mean the rules/constraints acting upon Changtongya Jungli. Evidence in support of the geographical distance changing the sounds in CJ can be seen in the neighbouring villages of Changtongya, namely Yaongyimsen, Akhoya etc. having very similar morphophonemic patterns in their speech to that of CJ. They are similar to the point that most Ao speakers aren’t able to tell the speech of these villages apart from CJ speech, other than the

speakers from these villages. Although it is to be noted that these are only preliminary attempts at trying to understand these sound changes.

### 5. CONCLUSION:

We summarize our findings of the various morphophonemic processes in CJ in the table given below:

MORPHOPHONEMIC PROCESS	PHONOLOGICAL ENVIRONMENT	EXCEPTIONS
Debuccalization: i) /s/ to /h/ ii) /k/ to /ʔ/	i) Before vowels ii) In the word final/Coda-position	Does not occur before /u/ and diphthongs.
Deaffrication: /tʃ/ to /ʒ/	Whenever /tʃ/ is in the intervocalic position.	Does not occur between two high front vowels *i_i
Deletion	Debuccalized Coda-ʔ is deleted in the word medial position, i.e. whenever a morpheme is added to a root ending in /ʔ/	

**Table 15: Morphophonemic processes in CJ**

### ABBREVIATIONS:

FUT: Future Tense

NEG: Negation

NOM: Nominalizer

PLU: Plural marker

## BIBLIOGRAPHY:

- Aier, W. & Koshy, A. (2024). Poetic Mongsen: History, Culture and Language. *Language in India* Vol. 24:3 March 2024. ISSN 1930-2940
- Aronoff, M. & Fudeman, K. (2011). *What is Morphology?* (2<sup>nd</sup> ed.). United Kingdom: Wiley-Blackwell.
- ASLB (2019). *Arok Osep* (Jungli Dictionary). Kohima: N. V. Press, Kohima.
- Basbøll, H. (2015). Morphophonology. *International Encyclopedia of the Social & Behavioral Sciences* (2nd edn.) Volume 15. 826–833.
- Bruhn, D. (2010). *Unearthing the roots: Ao and Proto-Tibeto-Burman – The Rimes* University of California, Berkeley: UC Press.
- Chen, Y. M., & Wang, W. S. Y. (1975). Sound Change: Actuation and Implementation. *Language*, vol 51, no. 2, 255-281. New York: Linguistic Society of America.
- Coupe, A. R. (2003). *A phonetic and phonological description of Ao: a Tibeto-Burman language of Nagaland, north-east India*. Canberra: Pacific Linguistics.
- Coupe, A. R. (2004). *The Mongsen Dialect of Ao: a language of Nagaland*. Unpublished PhD dissertation, La Trobe University.
- Coupe, A. R. (2007). *A grammar of Mongsen Ao*. Berlin: Mouton De Gruyter.
- Halle, M., & Keyser, S. J. (1967). Les changements phonétiques conçus comme changements de règles. *Langages* 8. 97-111.
- Hyslop, G. (2014). An Overview of Kurtöp Morphophonemics. *Journal of Bhutan Studies*, Vol. 31, Winter 2014.
- Kiparsky, P. (1968). Linguistic universals and linguistic change. *Universals in linguistic theory*, ed. by Emmon Bach and Robert T. Harms, 170-202. New York: Holt, Rinehart & Winston.
- O'Brien, J. (2012). *An Experimental Approach to Debuccalization and Supplementary Gestures*. [PhD thesis, Linguistics, University of California Santa Cruz, US]
- Temsunungsang, T. (2009). *Aspects of the Prosodic Phonology of Ao: An Inter-Dialectal Study*. [PhD thesis, School of Language Sciences, the English and Foreign Languages University, India]
- Turin, M. (2019). Revisiting the morphophonology of Thangmi: a Tibeto-Burman language of Nepal. *Gipan*. 4. 63-79.
- Walling, A. (2017). *The Morpho-Phonological interface in Khensa-Mongsen (Ao): A Descriptive Study*. [PhD thesis, School of Language Sciences, The English and Foreign Languages University, India]