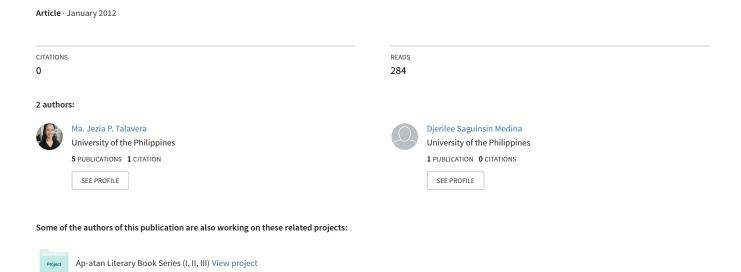
Typological Study of Medial Consonant Clusters in 5 Philippine Languages



Typological Study of Medial Consonant Clusters¹

in 5 Philippine Languages

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Abstract

The medial consonant cluster /?C/ where the glottal stop /?/ is the first member and C (consonant) is the second member, although are not manifested in Tagalog, are evident in a number of Philippine languages. In a diachronic study of Hernandez (1991) results showed that 12 out of 29 languages have retained this phonotactic feature. As a continuation of the study, this paper presented a typological analysis on the phonotactic pattern in five other Philippine languages which were not included in the previous study, namely Kinaray-a, Hiligaynon, Cuyunon, Pangasinense and T'boli. A typological comparative method was used to determine which of the five languages exhibit the /?C/ medial consonant cluster using the 500-word list elicitation and short interviews. Results showed that Kinaray-a, Hiligaynon and Cuyunon exhibit this phonotactic feature. Kinaray-a and Hiligaynon words exhibiting the /?C/ pattern are manifested in a reduplicated monosyllable construction, but is not always the case in other words with such structure. Cuyunon also have native words with the /?C/ pattern, but the glottal stop, as first member of the cluster also seem to function as a replacive sound when some words are rapidly articulated. Based on the data collected there are no /?C/ medial consonant clusters in T'boli and also in Pangasinense, although in some Ilocano varieties this phonotactic pattern can be seen. Finally, Reduplicated monosyllables in Cuyunon, Pangasinense and T'boli, compared to those in Kinaray-a and Hiligaynon, do not exhibit the /?C/ medial consonant cluster.

Keywords: typology, consonant clusters, Philippine languages, phonotactics

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Consonant clusters, although non-native in Tagalog phonology (David, 2011), may be observed in indigenous words of other Philippine languages. Specifically the word-medial phonotactic pattern /?C/, where the glottal stop is the first member and C is any consonant and is the second member is manifested in other Philippine languages. A diachronic study of Hernandez presented 12 languages exhibiting the phonotactic pattern as a retained feature. Such study may be extended by studying other Philippine languages that manifest the medial consonant cluster. Aside from the logical continuity of the new study in the field of comparative phonotactics, the cumulative knowledge it may present can contribute to the field of subgrouping of Philippine languages, which may either be in a diachronic and typological field. This study may also imply the significance of medial consonant clusters that are worthy of a more extensive and separate study and of detailed discussion in Philippine phonotactics, especially in grammatical sketches.

Thus this paper aimed to investigate on the medial consonant clusters of other Philippine languages through a typological approach to determine which language/s also exhibit the /?C/ pattern. The proposed languages were not included in the related study, namely Kinaray-a (Iloilo, Panay)², Cuyunon (Cuyo, Palawan), T'boli (South Cotabato), Hiligaynon (Capiz), and Pangasinense (Pangasinan).

Review of Related Literature

The study on the medial consonant clusters in Philippine languages "Ang Development ng Midyal na Konsonant-Klaster sa mga Wikang Filipino" (Hernandez, 1991) presented 29 Philippine languages that were examined for the diachronic development of the /?C/ pattern. The Comparative Method (Crowley, 1997) was employed in this study and reference to the dictionary of proto-Philippine morphemes made by Paz (Hernandez, 1991) was used to determine if words across the 29 languages exhibited cluster retention or reduction. The medial consonant cluster was represented in the study as /-K¹K²-/ where -K¹ is the protoconsonant /?/ and the K²- is any other consonant. The study further divided the K²- into oral (voiced and voiceless) and nasal sounds.

Pertinent findings showed that there are 12 out of the 29 languages that have retained the /?C/ medial consonant cluster pattern. The rest of the languages, especially Tagalog and Kapampangan have reduced into other forms mostly via metathesis and/or /-K¹/ deletion. Others show consonant gemination like Itawis, Ilokano and Ibanag (Hernandez, 1991).

From these findings the current study adapted the use of "medial consonant cluster" to refer to the consonants where /?/ is the first member of the cluster and /C/ is any consonant that represents second member, hence /?C/.

Related studies in the 5 Philippine languages:

Kinaray-a. A study on the grammar in Kinaray-a (Pandan variety), "Ang Gramatikal Sketch ng Wikang Kinaray-a" (Manueli, 2001) has not presented a detailed discussion on its phonotactics and only considered its word-initial consonant clusters that are mostly manifested in borrowed words i.e. /trʌk/ 'truck'. But there has been initial collected data that there are

indigenous words in Kinaray-a (Iloilo and Antique variety) that exhibit the /?C/ pattern i.e. /nλ?nλ?/ 'pus', /bλ?bλ?/ 'mouth', etc. Interestingly, more indigenous words with this phonotactic feature seem to have a similar-feature syllable structure. In the study of Hernandez this feature was also observed as a reduced feature in the case of /bλ?bλ?/, in reference to the given proto-form *bə?kλ? 'chin' and has undergone total reduplication of the syllable. The final process of reduplication was referred from the study "Reduplicated Monosyllables" (Blust, 1976).

Hiligaynon. The status of the medial glottal stop in Hiligaynon as a medial consonant cluster was not discussed in detail in a reference grammar study made by Wolfenden (1971), and primarily defined the glottal stop /?/ as phonemic in word-final position compared to its null counterpart and also to the glottal fricative /h/ and voiceless velar stop /k/ in word- initial, medial and final positions.

Cuyunon. The glottal stop /?/ in Cuyunon may be found word-initially, intervocalically and also frequently word-finally. It may also be found medially before a consonant thus may be a medial consonant cluster where the glottal stop is the first member and any consonant is the second member of the cluster (De Leon et. al, 2008).

T'boli. There have been studies on the grammar of T'boli and current phonotactics show medial consonant clusters /CC/ but does not permit the glottal stop /?/ as the first member of the cluster and any C as the second member (Forsberg, 1992). The glottal stop in T'boli as discussed may only be found word-initially and intervocalically in predictable environments and word-final in environments that are not predictable. The related study also presented consonant clusters in native T'boli words mostly found word-initially ie /b³'nʌ?vs/ <b'naus> 'to wrap'.

Pangasinense. The language has been used in Hernandez's study (1991) and results show that the medial consonant cluster /-K¹K²-/ has not retained and reduced to other forms. But

initial data collected for the current study show there are words in Pangasinense that exhibit this phonotactic feature ie $/s\Lambda?d\sigma?/$ 'to fetch water'. The current study revisited this language in determining if it has the /?C/ pattern.

Methodology

A typological comparative method (Shibatani and Bynon, 1995) was employed in the study. The focus of the typological approach was the phonotactic feature of medial consonant clusters of the five Philippine languages in question. In this study the medial consonant cluster was represented as /2C/. This approach was used to determine which of the five languages exhibit this phonotactic pattern.

Participant Characteristics

The informants were either native speakers of the specific language or speak it as their second language.

Sampling Procedures

At least three informants were interviewed for each language in the study to achieve eligible and valid results. The selection of subjects was based on the availability of the informants. The elicitation was conducted at UP Diliman for the languages (T'boli and Cuyunon) of the within-subject design and at home for those (Kinaray-a, Hiligaynon and Pangasinense) of the between-subject design.

A. Cuyunon and T'boli

Cuyunon³ informants from the regional organization UP Palawenos were interviewed in their org area while the T'boli informant was consulted at the university premises.

B. Kinaray-a, Hiligaynon and Pangasinense

The informants were interviewed at home; in SJDM, Bulacan for the Kinaray-a and Hiligaynon speakers and in Plaridel, Bulacan for the Pangasinense speakers. Two of the informants for Hiligaynon who have learned it as second language were consulted at UP Diliman.

All the informants were given at least one week to answer the eliciting materials. Short interviews about other native words of the particular language were also conducted during the interview sessions. As per ethical standards, tokens (mainly food) were given as a form of appreciation.

Sample Size, power and precision

Aside from the availability of the participants, linguistic background was also one of the main factors in determining the informants for the five languages of the study. The informants were either a native speaker of the particular language or have learned it as their second/third language. The second criterion was characterized by the informants' relative proficiency of the language; not in the form of systematic learning in school (learned as a subject) but of sociolinguistic exposure to the language.

Research Design

In this typological study, there was a nonrandom assignment of participants and no manipulation of data. The informants are given the 500 word list elicitation materials only. Confirmation of words was also conducted through other informants. Short interviews on other native words and/or translation of Tagalog words to the particular language was employed to expand the data and possibly find more words manifesting the said phonotactic feature that are not originally found in the 500-word list.

Results and Discussions

The following results determined which of the five languages, namely Kinaray-a, Hiligaynon, Cuyunon, Pangasinense and T'boli exhibit the medial consonant cluster /2C/.

Related phonotactic constraints and the status of the glottal stop in word positions were also briefly discussed to determine the possible nature of and/or motives for the medial consonant cluster.

I. Kinaray-a

Aside from the data gathered from the 500 word list, there is a relative amount of native Kinaray-a words that exhibit the /2C/ phonotactic pattern. It could also be noticed that the group of words rather exhibit a same-feature word structure resembling a reduplication of the monosyllable (Blust, 1976).

However there are also words in Kinaray-a based on the data exhibiting this word structure that do not manifest the medial consonant cluster pattern, hence it cannot be evidently concluded that the /?C/ phonotactic feature is *always* manifested by the same-feature word structure.

Still, according to the informants this medial consonant cluster is only manifested in the monosyllabic reduplication-like environment (of certain words) presented in number 1.

. On the other hand, the glottal stop /?/ may also be found word-medially in the medial consonant cluster as the second member based on the data above.

Although such pattern is permitted in the group of words, conventional phonotactics in Kinaray-a constrains this pattern especially when conjugating verbs.

ie

When certain verbs with the medial glottal stop /?/ are conjugated with the goal-focus affix [-ən], there would be a syncopation of the ultimate vowel of the root word and metathesis

of the medial consonant cluster to conform to the general phonotactics in Kinaray-a where glottal stop /?/ cannot be the first member of the cluster.

II. Hiligaynon

Certain Hiligaynon words were found to exhibit the /?C/ pattern. It can also be observed that the phonotactic feature is manifested in the reduplicated monosyllabic environment like in Kinaray-a.

It can also be observed in the data in Hiligaynon that not all words with the same-feature word structure exhibit the /?C/ pattern. Hence it cannot be concluded that such type of word structure always manifests this phonotactic feature.

3.	/'mu s? un/	'excrement'	/'ban ? us/	'rotten'
	/'sa n? v/	'when'	/'lr p? ot/	'short'
	/ maˈla w? aj/	'ugly'	/ maˈta m? is/	'sweet'
	/'bʌ g? ʊ/	'new	/'kɪ s? ʌ/	'once'

The medial glottal stop in Hiligaynon may also be the second member in medial consonant clusters, hence /C?/.

$$['k\Lambda?vn] + [-an]$$

 $[k \wedge 2 \sigma' nan]$ Affixation

['k^?nan] Deletion

['kʌ**n?**an] Metathesis

Finally, Hiligaynon also has morphophonological constraints in medial glottal stops of certain verbs when conjugated with suffixes, because conventional phonotactics does not also generally permit the /?C/ pattern (Wolfenden, 1997: 110).

III. Cuyunon

Table 1: Cuyunon native words exhibiting the /?C/ pattern

Group I:		Group II:	
/ˈtə ʔm əʔ/	'to splash' (tampisaw)	/'m^?sin/	'salty'
/ˈbʊ ʔm ʊʔ/	'a kind of crustacean'	/'k ^?p on/	'yesterday'
/'p^ ?g əd/	'farming tool'	/ˈtʌ ʔl ʊʔ/	'three'

/'da ?l aŋ/ 'long step'	
/tʌlɪʔ'bʌʔlʌʔ/ 'grasshopper'	
/ˈlʊ ʔb ʊʔ/ 'to jump'	

The phonotactic pattern was also manifested in a number of Cuyunon words. Based on the explanations given by the informants, the researchers decided to divide the group of words into two: Group I included the native Cuyunon words that "inherently" or "originally" exhibit the /?C/ pattern, and Group II presented the words where the glottal stop /?/ was not originally the first member of the cluster; rather it seemed to serve as the replacive sound when the words are rapidly articulated. The following table presented the different word structures in Group II:

Table 1.1: Group II Cuyunon Words

	Word Structure I	Word Structure II
[ˈmʌʔsɪn]	'salty'	/'ma?asin/ 'salty'
[ˈkʌ ʔp ʊn]	'yesterday'	/ka' ha pon/ 'yesterday'
[ˈtʌ ʔl ʊʔ]	'three'	/'tʌ tl ʊʔ/ 'three'

It can be noticed that the glottal stop /?/ in the word ['m Λ ?sin] did not legitimately replace any sound but there was probably a weakening and syncopation of the mid-back unrounded vowel / Λ / proceeding the glottal stop /?/ that resulted into the [?C] pattern.

On the other hand it can be observed that the glottal stop /?/ in ['k Λ ?pon] seemed to replace the medial syllable [h Λ], while in ['t Λ ?lo?] the glottal stop /?/ replaced the voiceless dental stop /t/ preceding the lateral liquid /l/.

The words in Structure I presented above are mostly manifested in rapid articulation.

Nevertheless, those in Structure II are also accepted and used according to the informants; hence both structures are in free variation.

Table 1.2: Other Group II Cuyunon Words

Structure I		Structure II	
[ˈbə ʔk ən]	'arm'	/'bə tk ən/	'arm'
['?1 ?1 0g]	'egg'	/'?r tl ug/	'egg'
['tʊl ʌʔ ʔɪʔ d ^j ʌ]	'(something) like that'	/'tʊl ʌd ʔɪʔ d ^j ʌ/	'(something) like that'

The medial glottal stop in Cuyunon may also be an allophone of the voiceless /t/ and voiced /d/ dental stop in certain words to manifest the /?C/ pattern (De Leon et al, 2008).

Table 2: Reduplicated Monosyllables in Cuyunon

Reduplicated Monosyllables ⁴	Gloss
/'baba?/	'chin'
/ kʊˈkʊʔ/	'fingernail'
/ 'nana?/	'pus'

Compared to certain words Kinaray-a and Hiligaynon, the reduplicated monosyllables in Cuyunon does not exhibit the /?C/ medial consonant cluster.

IV. T'boli

There are no native words in T'boli which exhibits the /?C/ consonant cluster. Initial consonant clusters in T'boli are more prominent when it comes to T'boli phonotactics, and the glottal stop, when found word medially, mostly occurs intervocalically (Forsberg, 1992).

1. Initial Consonant Clusters

/ 'bl \text{\text{NMAN}}/	'mosquito'	/ ˈkl ɪlɪŋ/	'wheel'
/ˈ kl əmbəw/	'carabao'	/ ˈkl ɪŋʊ/	'ear'
/'sgoton/	'eggplant'	/' bl otot/	'belly'

2. Medial Glottal Stop

/'b ɛ? ə/	'no'	/'lɪ ʔ əg/	'necklace'
/ b ^ə ˈnʌ ʔ ʊs/	'to wrap'	/ˈbʊ ʔ əl/	'thirsty'
/'? \? \\	'stairs'	/ˈkʊ ʔ əs/	'curly hair'

3. Reduplicated-monosyllabic words

/'toto/ 'breast'

There are certain native words in T'boli resembling the reduplicated monosyllables but do not manifest the /?C/ medial consonant pattern.

V. Pangasinense

1. $/ s_{\Lambda} 2d_{\sigma} ?/$ 'to fetch water'

No native words that exhibit the /?C/ pattern were gathered from the initial 500 word list in Pangasinense. But other data from another variety of Pangasinense (Northern region) presented above were collected and it was found out that there is a native word with the /?C/ phonotactic pattern.

2. Reduplicated-monosyllabic words

/ bʌˈbʌ/	'chin'	/ˈgʊgʊ/	'scratch'
/ koˈko/	'fingernail'	/'gugu/	'woody vine'
/ˈsʊsʊ/	'breast'	/ ˈ gʊgʊ/	'to scratch'

There are also Pangasinense words manifesting the reduplicated-monosyllabic structure but do not exhibit the /?C/ medial consonant cluster.

3.	Ilocano Variety 1	Ilocano Variety 2		
	/g^?wən/	/g \w? ən/	'to draw food out of the pot'	
	/s^ ?w ən/	/sʌwʔən/	'to sav'	

It can also be observed that the glottal stop in Ilocano varieties may indeed be found as the first member in the medial consonant cluster, while in some other varieties the medial consonant cluster /?C/ has metathesized hence /C?/ (Benosa, 2012).

4.	[kuna?]	/kuna k /	'I said; I thought'
	[kʌnɪjʌʔ]	/kʌnɪjʌ k /	'mine; me (oblique)'
	[me?]	/me t /	'also'
	[mʌjʌ ?]	/mʌjʌ t /	'willing; to agree'

In the word-final position, the glottal stop may also be an allophone of the voiceless stops /k/ and /t/ (Benosa, 2012).

Summary and Conclusions

Typological	Analysis of /?C	/ medial conso	onant cluster in 5	FH languages
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Kinaray-a	Hiligaynon	Cuyunon	Pangasinense	T'boli
/?C/	/?C/	/?C/	-/-	-/-

Data gathered from the 500 word list and short interviews from the informants showed that Kinaray-a, Hiligaynon and Cuyunon exhibit the /?C/ medial consonant cluster. The group of words in Kinaray-a and Hiligaynon showed that there seems to be a reduplicated monosyllabic environment in the construction of the words. However there are also other words with this structure that do not manifest the phonotactic pattern, hence it cannot be concluded that this environment wholly constitutes the group of words with the /?C/ medial consonant cluster. This phonotactic phenomenon was only observed in both languages based on the study.

In Cuyunon, on the other hand, the /?C/ pattern was observed not in a reduplicated-monosyllabic type of environment; rather in unpredictable ones. The data were classified into two: 1) the native words which "inherently" have the glottal stop /?/ as the first element of the medial consonant cluster and 2) those in which the glottal stop /?/ seems to replace certain sounds or syllables.

T'boli and Pangasinense, based on the gathered data do not exhibit the /?C/ phonotactic pattern. However in a variety of Pangasinense and those of Ilocano few words were found out to exhibit the medial consonant cluster. Words from Cuyunon, T'boli and Pangasinense manifesting the reduplicated-monosyllabic word structure, compared to Kinaray-a and Hiligaynon, do not exhibit the /?C/ medial consonant cluster.

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Footnotes

¹The (medial) consonant cluster in this study is defined as /?C/ pattern where the glottal stop represents the first element and /C/ the second element of the cluster.

²The study also included the Kinaray-a variety in Antique.

³There was only one native Cuyunon informant interviewed. The case of most of the Cuyunon informants was a little problematic as all of them have admitted that they use and speak in Tagalog more than in Cuyunon, even if they are talking to each other. The main reason was they have been only exposed to the native language during their childhood years and had switched to the dominant language during most of their school years. They know a relative amount of Cuyunon words for the 500-word list but mostly consulted their parents and relatives who are native speakers of the language.

⁴The /nʌnʌʔ/, etc. structure may still be considered as a reduplicated monosyllable that may have resulted from the repetition of the monosyllabic root (Blust, 1976: 108).

Appendix

I. Informant Data

A. Kinaray-a

Profile	Kinaray-a Speakers				
Name	Joanah Talavera	Penelope Parra	Erlinda Parra	Amor Sevillano	
Birthplace	Pototan, Iloilo	Pototan, Iloilo	Angono, Rizal	Antique	
First Language	Kinaray-a	Kinaray-a	Tagalog	Kinaray-a	
Second/Third	Hiligaynon,	Hiligaynon,	Kinaray-a,	Tagalog, English	
Language	Tagalog	Tagalog	Hiligaynon, Tagalog		

B. Cuyunon

Profile	Cuyunon Speakers				
Name	Fe Tria-	Karl Legazpi	Lios	Frances	Angelique
	Fernandez		Amarille	Bacosa	Valones
Birthplace	Cuyo, Palawan	Palawan	Palawan	Palawan	Palawan
First	Cuyunon	Tagalog	Tagalog	Tagalog	Tagalog

Language					
Second/Third	English,	Cuyunon,	Cuyunon	Cuyunon,	Cuyunon
Language	Filipino	Hiligaynon		Agutaynen	

C. T'boli

Profile	T'boli Speakers			
Name	Rhealyn Baay	Merlinda Baay	Romy Baay	
	(Boi Foyfoy Kaong	(Agot Baay)	(Datu Abid Baay)	
	Baay)			
Birthplace	Lake Sebu, South	Lake Sebu, South	Lake Sebu, South	
	Cotabato	Cotabato	Cotabato	
First	T'boli	T'boli	T'boli	
Language				
Second/Third	Ilonggo, Tagalog,	Ilonggo, Tagalog,	Ilonggo, Tagalog,	
Language				

D. Hiligaynon

Profile	Hiligaynon Speakers	

Name	Quennie Minalete	Joanah Talavera	Karl Legazpi	Renzil
	Distura			Lladonet
Birthplace	Capiz	Iloilo	Palawan	Palawan
First	Hiligaynon	Kinaray-a	Tagalog	Tagalog
Language				
Second/Thi	Filipino	Hiligaynon,	Cuyunon,	Cuyunon,
rd		Filipino	Hiligaynon	Hiligaynon
Language				

E. Pangasinense

Profile	Pangasinense Speakers			
Name	Precy Montemayor	-/-	-/-	
Address	Bulacan	Bulacan	Bulacan	
Birthplace	Alaminos City, Pangasinan	San Nicolas, Pangasinan	San Nicolas, Pangasinan	
First Language	Pangasinense	Pangasinense	Pangasinense	
Second/Third Language	Ilocano, Tagalog, English	Tagalog, Ilocano	Tagalog, Ilocano	