

## THE GLOTTAL STOP IN KÂTE

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### O. INTRODUCTION

The Kâte language, which is spoken in the Finschhafen hinterland, Marobe District, is one of the better recorded languages of Papua New Guinea.<sup>1</sup> European contact with the Kâte people dates from 1885 and linguistic studies were begun by the first missionary, J. Flierl, who arrived at Finschhafen on July 12, 1886.

Research carried out by the writer indicates that in the days immediately preceding European contact, the Kâte people recognized at least five dialects of their language. The Lutheran Mission, however, chose to promote a single dialect, the Wemo (Wena) dialect, in its church and school programmes, and as a result there are few speakers of the other dialects living today. The five dialects are: (1) Wana 'where?'. This was the southernmost dialect and is represented by the villages of Kiwisawa, Tirimara, Gurunkor and Kamaua. (2) Wamorâ 'why?' (see Pilhofer, 1927-8, 1928-9) is represented by villagers of Zafilio, Merikeo, Kwenliki, Aimolau, Badzuluo, Gwinlankor, Uluar, Nanduo, Kaungko and Bolingbongen. (3) Mâgobineng 'we are saying it' (see Pilhofer, op.cit.; alternatively known as Bamotâ 'why?') was spoken west of Bonga village, and the sole speaker today is Mose of Bonga village. (4) Parec, now extinct, was spoken in Sosoninko and Sililio villages. (5) Wemo 'what?' (also known as Wena; see Pilhofer 1933:13) is spoken by villagers of Fior, Leko, Balangko, Sisi, Jivevaneng, Tareko, Katika, Masangko, Mararuo, Moreng and Kamaua. Due to its promotion by the missionaries, it is also spoken by all the people living in the larger Kâte area.

Early published linguistic studies included word lists from several areas (Schellong, 1890; Zöllner, 1890, 1891; Schmidt, 1900-02) and a brief description of the Kai grammar (Kâte, Wemo dialect - see Grube, 1895). The transcriptions in these early works only approximate the spoken vernacular forms, and nothing was written which could be said to represent a glottal stop. Once the decision was made to promote the Wemo dialect, the other dialects were largely neglected (but see Pilhofer, 1927-8, 1928-9). Literature was developed in Wemo Kâte and the glottal stop symbol c was in use by 1911 (Keysser, 1911). By 1919 (Dempwolff, 1919; Keysser, 1919; Schnabel, 1919) the Kâte orthography was

established, and since then the glottal stop has been represented by the symbol c.

The establishment of this orthography predates modern linguistic developments, and no claims have been made that it reflects the phonemes of the language. Nor have claims been made that spelling conventions, e.g., use of hyphens and spaces, reflect higher phonological units such as the word or stress group. Thus, dictionary entries (Keysser, 1925; Flierl and Strauss, to appear) such as becâsic 'horse' (from bec 'pig' and âsic 'carry') should not be regarded as indicating that the glottal stop occurs intervocalically within the phonological word. Neither have all loan words been identified in the dictionaries, and words such as bacu 'seacoast' should be regarded with suspicion. This study concerns the phonemic interpretation of the glottal stop in the various dialects of Kâte as well as its historical development.

## 1. DEVELOPMENT

Both diachronic and synchronic evidence support the conclusion that the glottal stop developed from a neutralization of the phonemic contrast among the stops occurring in the syllable-final position.

The diachronic evidence indicates that this neutralization occurred in a very early stage in the development of the present daughter languages from a proto-Huon Peninsula language. The twenty-one languages of the Huon Peninsula group may be divided into two subgroups: the Western subgroup including languages with syllables closed by p, t, k, m, n, or ŋ, and the Eastern subgroup including languages with syllables closed primarily by the glottal stop or velar nasal ŋ.

For most of these eight languages the morphophonemic processes associated with the glottal stop indicate which phoneme was neutralized to become the glottal stop. In these languages the final glottal stop is replaced by a phoneme from a set which includes w, r, and h when a vowel initial suffix is added. For example, in the Dedua language the following roots occur: sac 'blood', qac 'name', and kerec 'fat'. When the possession-marking suffix -a 'his, her, its' is added, the forms become sawa 'its blood', qara 'its name', and kereha 'its fat'.

Cognates of these Dedua forms occur in many of the languages of the Western subgroup and these cognates end in a final p, t, or k. When vowel initial suffixes are added, morphophonemic processes identical to those in Dedua are operative, i.e., the final p, t, or k is replaced respectively by w, r, or h. For example, in the Tobo language the cognate

forms are sap 'blood', qat 'name', and kalak 'fat'. When -a 'his, her, its' is suffixed, the resulting forms are sawa 'its blood', qara 'its name' and kalaha 'its fat'.

It is through the operation of these morphophonemic processes that one finds the historical trace which identifies the particular phoneme which occurred in the proto-language prior to the development of neutralization. Glottal stops which are replaced by w, r, or h may be identified with \*p, \*t, or \*k respectively.

Some languages lack vowel initial suffixes in certain word classes with the result that the morphophonemic processes do not operate within these classes. However, because the neutralization occurred at an early stage of the historical development of these languages, the nature of the proto-stop can be determined from examining cognate forms. Thus the glottal stop in Kâte motec 'boy', motecticne 'his boy' has resulted from the neutralization of \*k, the evidence of this being preserved in Dedua medac 'boy', medaha 'his boy'.

## 2. INTERPRETATION

After early disagreement over the number and extent of the Kâte dialects by Flierl (Grube, 1895:83) and Zöllner (1891:443), later writers, C. Keysser and G. Pilhofer, clarified the issue. In his dictionary, Keysser (1925:VII) stated that the Kâte people numbered about 4,000 and their language embraced several dialects, of which the Wena (Wemo) dialect was selected by the mission as the medium in their churches and schools. Regarding the Wamorâ dialect, Keysser (1929:11) stated that "near the vicinity of the station [Sattelberg] were two highly divergent dialects [Wena and Wamorâ] so that the missionary who had learned only one was scarcely able to understand a word of the other". In his Kâte grammar, Pilhofer (1933:13) mentioned that the Wena people were distinguished from the related Wana people and were also known as the Wemo people. From these comments by Keysser and Pilhofer, one may reasonably conclude that the missionaries had a good understanding of Wemo and probably also of Wana, but that their understanding of Wamorâ, and probably also of Parec and Mâgobineng, was extremely limited. This is interesting because the glottal stop in Wemo and Wana is not phonemic; but it is on the basis of these dialects that the missionaries chose to symbolize it with a separate symbol, namely c.<sup>2</sup> In the dialects of Parec, Wamorâ, and Mâgobineng, on the other hand, the glottal stop is phonemic.<sup>3</sup> The phonemic status of the glottal stop in these other dialects is due to the morphophonemic processes not operating upon it.

### 2.1 Wemo and Wana<sup>4</sup>

Most of the suffixes in these two dialects begin with consonants, and apparently only

one vowel initial suffix occurs following closed syllables. That suffix is the intransitive verbalizer {-e} -e ~ -a. When it occurs suffixed to roots ending in a glottal stop, the morphophonemic processes either replace the glottal stop with w or r, or delete it. In the following examples the adjectival form marked by -ne is followed by the intransitive verb stem: c → w as in piticne 'little', pitiwa- 'to diminish'; zozocne 'slender', zozowe- 'to become thin'; c → r as in sâqocne 'bad', sâqare- 'to become bad'; jomicne 'smooth', jomire- 'to be smooth'. It is likely that where one would expect the glottal stop to be replaced by h, instead it is lost. For example, tatamac 'glow', tamae- 'to glow'; urucne 'soft', urue- 'to be soft'. There are a number of words which have variant forms, one of which evidences a loss of the h between vowels as in the following: sahec, sæc 'vine, creeper', and bihuc, biuc 'flesh'. This conjecture may be verified by further research if cognate forms showing a correspondence of \*k are found in related languages.

In these two dialects the glottal stop is in complementary distribution with the other voiceless stop phones [p<sup>h</sup>], [t<sup>h</sup>], and [k<sup>h</sup>] which occur only syllable initially. On the basis of symmetry, however, the writer suggests that the glottal stop be considered an allophone of the phoneme /k/. Note that the other phoneme occurring in syllable final position is /ŋ/ and that this phoneme represents the neutralization of the contrast between m, n, and ŋ in that position. Thus, the development of neutralization at the syllable final position affected both the stop and the nasal series. Because the nasal series is not subject to morphophonemic changes and because there is a tendency toward assimilation of nasals to the point of articulation of the following voiced stops, no synchronic evidence to support this claim of neutralization of nasals has been found. Diachronic evidence does exist, and in the examples which follow the Selepet form is followed by the Kâte form: n → ŋ as in den, dâŋ 'word', tin, tâŋ 'wood borer'; m → ŋ as in tem, reŋ 'carrying pole', balam, bârŋ 'flame', kulem, qârŋ 'mark', and himbim, sambâŋ 'sky'. As the neutralization of nasals resulted in syllables being closed by the velar nasal phoneme /ŋ/, so it may be interpreted that the neutralization of stops resulted in syllables being closed by the glottal stop allophone of the velar stop phoneme /k/.

## 2.2 Parec, Wamora, and Mâgobineng

In these three dialects the glottal stop has phonemic status due to the fact that the morphophonemic processes relating to syllable final stops do not apply in some word classes.<sup>5</sup> Thus, when vowel initial suffixes are added to forms ending in a glottal stop, the glottal stop is not replaced, but rather it occurs intervocalically and contrasts with the other stop

phones [p<sup>h</sup>], [f<sup>h</sup>], and [k<sup>h</sup>] in that position. In Parec and Wamorâ the morphophonemic processes do not apply when vowel initial nominal suffixes are added, and in Mâgobineng they do not apply when vowel initial verbal suffixes are added. Examples follow:

	WEMO	PAREC	WAMORÂ	MÂGOBINENG
'it is enough'	<u>sâc-kekac</u>	<u>sâc-qakac</u>	<u>sâc-qagac</u>	<u>sec-agac</u>
'its wing'	<u>fakac-ticne</u>	<u>fakac-inâ</u>	<u>fagac-inâ</u>	<u>fagac-ticnâ</u>

Although such a limited environment does not result in a large number of contrasts, nevertheless the contrasts do occur and glottal stop does have phonemic status. A few examples of voiceless stops occurring in the intervocalic position follow: for Parec as in hâpi 'eyebrows', wate 'kind of snake', katuc 'retaliation', and naki 'temple'; for Wamorâ as in ipac 'kind of shrub', tâpâ 'lid', materj 'inheritance', bote 'beads', and wikicne 'its seedling'; and for Mâgobineng as in sipac 'chip', mata 'spoon', and bikucnâ 'its flesh'.

#### NOTES

1. Research in the Kâte and related languages has been carried out from 1964 to the present while the writer has been under the auspices of the Summer Institute of Linguistics. Research during 1967-1970 was also supported by the Australian National University. Additional support has also been provided by Grant #2602 of the Wenner-Gren Foundation and by the Papua New Guinea Research Fund of the Summer Institute of Linguistics (P. N. G. Branch). The Kâte language is a Papuan language belonging to the Huon Peninsula group (see McElhanon, 1970). For its wider affiliations see McElhanon and Voorhoeve, 1970.
2. The missionaries did devise a phonemic orthography for the Wemo vowel system, namely, /i/ [i], /e/ [e, ε], /a/ [a], /â/ [ɔ], /o/ [o], and /u/ [u]. However, they overdifferentiated the affricate /dz/ and symbolized it with z [ts] intervocalically and ʒ [dz] elsewhere. Other symbols used are: p, t, k, b, d, g, q [kp], ɣ [gb], m, n, ŋ, l or r, w, f, s, j [ɣ], and h.

3. It does not appear likely that the missionaries chose to symbolize the Wemo glottal stop with a separate symbol on the basis of its phonemic status in the other dialects. If such were the case, one would also expect them to have symbolized /dz/ with a single symbol, since in most of the other dialects [ dz ] occurs rather than [ ts ], and indeed, J. Flierl, Zöller and Schellong did not distinguish [ ts ] in their transcriptions.
4. The Wana dialect is very similar to the Wemo dialect. The remarks made here apply to the Wemo dialect, but it is expected that the collection of additional data in the Wana dialect will reveal that it does not differ from the Wemo dialect in this respect.
5. Different morphophonemic processes applying to different root classes has been reported for another language of the Huon Peninsula group, namely Nabak (see Fabian, Fabian and Peck, 1971).

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