Syllables and Syllabics in Micmac

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Introduction

There are elements in the phonology of Micmac that cannot be explained or accounted for by a simple segmental phonology. One hears, for example, [kel?pil?k] ‘I tie him up’ of which the corresponding imperative form is [klbil] ‘tie (thou) him up!’ In the first case the voicing of the /l/ is arrested and the following bilabial plosive unvoiced. In the second case the voicing is not arrested, but is continued on into the following bilabial plosive which in this case is heard as a [b].

This, in fact, is a totally regular pattern in Micmac in those verbs where a reduced stem is used in the imperative and future forms. In such cases, when the resonants /l,m,n/ occur as the coda of the initial syllable in the independent indicative, the resonant becomes syllabic in the imperative and future forms, which have the reduced form of the stem in which the vowel is eliminated. The resonant thereby takes on the role of the vowel, causing the following obstruent to become intervocalic and therefore voiced, as the following examples will show: [kel?kaq] ‘I hold him down with my weight’, [klgu] ‘hold (thou) him down!’, [kel?taqpil?k] ‘I tie him’, [kldaqpil] ‘tie (thou) him!’. It should of course be realized that the Micmac independent indicative is based on the Proto-Algonquian changed conjunct, whereas the imperative, the future, and certain other forms of the verb, are based upon the unchanged stem, hence the reduction of the vowel in the Micmac imperative forms.

It should also be realized that a simple segmental phonology would, in fact, require us to postulate distinctions of voicing that
are otherwise totally foreign to the language, as indeed they are to all other Algonquian languages. A simple segmental analysis would find that in all these words the plosive follows phonemic /l/ and there is nothing in the context that would justify the voicing difference. The obvious conclusion would consequently be that Micmac, unlike other Algonquian languages, has distinctions of voicing.

A messy alternative is the suggestion that there is some kind of juncture in the imperative form that allows the bilabial to be pronounced as if it were in initial or intervocalic position. One is left, of course, with the problem of explaining why this juncture exists in the imperative and not in the indicative.

There is certainly no justification in the historical phonology for this distinction of voicing. The only insight that the historical phonology gives us is that the vowel alternation in the initial syllable stems from the fact that the indicative comes from the PA changed conjunct (which had a long vowel) while the imperative comes from the unchanged form of the stem (which had a short vowel).

There are two interesting aspects of the synchronic phonology of Micmac, however, that cast light on this problem. The first is that when an obstruent follows a sonorant the voicing is normally arrested, and the obstruent devoiced, so that [kel?pil?k] is an example of this regular phonological rule. The second observation is that when, by contrast, a sonorant follows an obstruent internally in a word, the sonorant becomes syllabic. The word /atlasmit/ 'he rests', for example, has five syllables. We may then interpret [klbil], [klgu] and [kldaqpil] as being phonemically /klpil/, /klku/, /kltaqpil/, wherein the vowel of the initial syllable being lost, the sonorant automatically becomes syllabic, according to the rule that sonorants that follow obstruents are automatically syllabic. It then follows, quite normally, that /p,t,k/ in these words, being intervocalic, between two syllabic elements, would normally be voiced. This proposal, in fact, provides the solution to a large number of stems where an obstruent becomes voiced in similar circumstances.

This solution leads in turn to a resolution of the problem of such pairs as [padaudi] ‘table’ vs. [aw?ti] ‘path’, and [wegaigik] ‘they are angry’ vs. [ey?kik] ‘they are’, where a simple segmental approach would lead to a phonemic distinction between the high vowels /i/ and /u/ and their corresponding semi vowels /y/ and /w/, whereas [y] and [w] are simply the consonantall allophones of /i/ and /u/, the
variation being determined entirely by the structure of the syllable.

Micmac has therefore a set of sonorants /l,m,n,i,u/ that may be either syllabic or non-syllabic, depending on their role or position in the syllable (for details see Hewson 1980, 1985).

**Sonorants in initial syllables**

In the hierarchical structure of the syllable in Micmac, furthermore, we should make a fundamental binary division between the onset and the rhyme (Clements and Keyser 1983:19) since there is evidence that the consonant in the position of coda is clearly subordinate to the nucleus, as diagrammed below:

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  o
 /\  /
C  V
 /\  /
 V  C
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The pattern that we have noted above, for example, where sonorants change their role from non-syllabic to syllabic when the vowel of the initial syllable is lost, affects only the sonorant in the rhyme. A sonorant in the position of syllable onset is not so affected: [enʔtoq] 'he loses it' vs. [ndudew] 'he will lose it', [nebiladl] 'he doctors him' vs. [nʔpil] 'give him medicine!'. In these examples we note that the reduction of /en/, the initial syllable of /entoq/, results in a syllabic [n], which causes voicing of the following /t/ in /ntutew/. The reduction of /ne/, the initial syllable of /nepilatl/, however, results in a non-syllabic [n], distinguished by the glottal catch that occurs before the following /p/, which is unvoiced, the normal requirement in consonant clusters of sonorant plus obstruent. One concludes therefore that the sonorant in the position of syllable coda is a significant element of the rhyme, whereas the initial consonant is quite independent of the syllable nucleus, so that when the nucleus is deleted this initial consonant becomes an extrasyllabic element.

This same alternation is found regularly with the other sonorants, as the following examples show: [tewiet] 'he goes out' vs. [tuiedew]
'he will go out', [wejiet] 'he comes from' vs. [wʔtɕiedew] 'he will come from'. From these regular morphological alternations we can also learn to recognize the different phonological status of sonorants in initial position: their syllabic and non-syllabic forms can be recognized from their phonetic collocations. These same variants can also be recognized elsewhere, for example, in words where morphological alternation is not in question, as in [udan] 'town' vs. [wʔta:qan] 'paddle'. Both of these words, we may conclude, begin with the phoneme /u/, which in the first case appears in its syllabic form, in the second in its non-syllabic form.

We may also note that the possessive prefixes are always non-syllabic, whether they precede consonants or vowels: [nʔti], [kti], [wʔti:l] 'my, thy, his dog', [nunuji], [kunuji], [wunuji] 'my, thy, his head'. There are three things worthy of comment in these examples. First, there is normally a slight prothetic vowel before the initial /k/ in /kti/ 'thy dog' that has traditionally never been written by native speakers, who intuitively recognize it as a purely phonetic element that helps to make the cluster pronounceable. Secondly, the traditional spelling of [wʔti:l] 'his dog' has not been so successful, because the traditional orthography did not distinguish the syllabic and non-syllabic allophones of the high vowels. If one writes simply the vowel u, however, it looks as if the pronunciation should be [udi:l], which is of course incorrect. The solution has been to write the prefix as ug, (as in ugtil) wherein the g represents the combination of the velar release of the [w] and the glottal catch. The simple solution, of course is to write w consistently in all these cases where the high vowel is non-syllabic and segmentally in potential contrast with its syllabic form.

The third comment concerns the Newfoundland pronunciations [nunuji, kunuji, wunuji], which are pronounced as [nun:ji, kun:ji, wun:ji] in Nova Scotia and elsewhere. Given that the word spelled nunji should be pronounced [nunʔci], not [nun:ji], how are we to spell these Nova Scotia pronunciations? The answer in the modern orthographies of Micmac is to write an apostrophe between the sonorant and the following obstruent. In this way the orthography is recognizing those cases where the sonorant is syllabic even after a vowel, a position in which it is normally nonsyllabic.

This means, in short, that there is in Micmac a set of five sonorants /l,m,n,i,u/, three of which are normally consonantal but have
syllabic variants, and two of which are normally vocalic, but have consonantal variants. Because the structure of the syllable is sometimes unpredictable, there are cases where we need to mark the syllabic variants of the the sonorants by writing an apostrophe after them, and to mark the consonantal variants of the vowels by writing \( w \) and \( y \).

**Extrasyllabic Elements**

The fact that the possessive prefixes above are non-syllabic raises fundamental questions about the status of the syllable. From the data above it is obvious that the syllable is an important phonological element in Micmac. It would appear in fact from examples such as \([\text{kélpil'kik}] \) 'I tie them up' that the arrest of voicing is a mark of the syllable boundary. We note also that in \(/\text{kesatkl}/\) 'he likes them (inan.)' the release of the \(/t/\) is normally heard before the articulation of the \(/k/\), whereas in English, for example, only the closure of the \(/t/\) and the release of the \(/k/\) would be heard in such a cluster. The separation thus achieved between the articulation of the two plosives in Micmac is again a distinctive marking of a syllable boundary.

What is even more striking, however, is that these same features persist when words end in a consonant cluster: \([\text{kelpil'k}]\) 'I tie him up', \([\text{kezatk}]\) 'he likes it'. This leads us to conclude that a final consonant cluster at the end of a Micmac word is to be analysed as containing: (a) the coda of the preceding syllable, and (b) a second consonant that can only be interpreted as the onset of a syllable that has no nucleus. In terms of Micmac phonology, therefore, this second consonant has to be considered as an extrasyllabic element (cf. Clements and Keyser 1983:39-40).

The evidence of the possessive formations above indicates that a parallel situation exists for initial clusters. The contrast between \([\text{n'ti]}\) 'my dog' vs. \([\text{ndudew}]\) 'I will lose it' and \([\text{w'ti:l}]\) 'his dog' vs. \([\text{udan}]\) 'town' shows that the initial sonorant can be either syllabic or non-syllabic, and that when it is non-syllabic there is a definite break, in the form of a glottal catch, between the two initial consonants. One concludes, therefore, that the first consonant in words such as \(/\text{nti}/\) is an extra-syllabic element attached to the onset of the initial syllable.
This view is supported by the fact that such words as [əkti] 'thy dog' normally have a prothetic vowel that is purely phonetic, with no phonemic status at all, in order to make them more easily pronounceable. The /k/ is also normally released, so that even without a prothetic vowel it can easily be heard, and it makes sense to interpret this release of the /k/ as a marker of a syllable boundary, clearly marking the role of this /k/ as an extrasyllabic element.

The /sk/ cluster

In order to determine possible consonant clusters we ran a computerized concordance program through a total collected lexicon of some 3,000 words. The results showed that, with one exception, consonant clusters in Micmac do not exceed CC, based on successive CVC sequences, with the clusters occurring at syllable boundaries. It should be pointed out that these CC clusters are not normally reflexes of Proto-Algonquian clusters, since the pre-aspirated, pre-nasalized and pre-glottalized clusters of PA have all been reduced to single consonants (Hewson 1973). In fact the only cluster in modern Micmac that is a reflex of PA clusters is /sk/, reflex of both *Θk and *šk (Hewson 1973:155-6).

It is of great interest, therefore, that the one exception to the CC rule for clusters is that formations such as /Csk/ are permissible (the labialized /kw/ is also common in these sequences), although no /skC/ sequences were recorded. One has therefore such inter-vocalic or final sequences as /mskw/, /nsk/, /qsk/ and /psk/ or /pskw/ as in such words as /amskwes/ 'first', /newinskaːq/ 'forty', /saqskey/ 'board', /qapskul/ 'rapids', /tmaqnapskw/ 'pipestone', all of which are exceptions to what is otherwise a fundamental rule of Micmac phonology: consonant clusters are limited to two elements which normally belong to separate syllables. Furthermore in the word /wskijin/ 'person', reduced form of the verb /weskijinui/ 'I am born', an extrasyllabic consonant [w] is added to an initial cluster, a procedure normally impossible because it would create an initial sequence of two extrasyllabic consonants, a sequence that is never found in either initial or final position.

Heavy and Extra-Heavy Syllables

It is not clear why the /sk/ cluster appears only in syllable initial
position and never in the rhyme. There is one important constraint, however, on syllable weight: extrasyllabic consonants may only be added to the rhyme in heavy syllables, and not to the rhyme of extra heavy syllables. In /kelpilk/ ‘I tie him up’ the final /k/ is an inflection (‘I-him’) that is added to /pil/ a TA final meaning ‘tie’. Phonologically this produces a heavy syllable CVC with an extrasyllabic consonant for a total weight of CVCC. In /pema:lak/ ‘I carry him along’ similar morphological elements are found: /a:l/ is a TA final and /k/ is the same ‘I-him’ inflection as in /kelpilk/. But in this case, and elsewhere, where the syllable is phonologically extra heavy because of the long vowel, an extrasyllabic consonant may not be added to CVVC. Instead a nucleus must be provided and a new syllable created.

Conclusion

The sonorants and the high vowels play different roles in different languages, and their function needs to be examined with great care. Sometimes, for example, one needs to distinguish between true segmental sonorants and the on-glides and off-glides of diphthongs — this is a problem in both French and English, for example. In other languages, such as Micmac, a definable group of sonorants and high vowels will play both syllabic and non-syllabic roles, which may be segmentally predictable or else, as in Micmac, partially predictable. In all such cases the structure of the syllable is involved, and the role that the syllable plays in a given language will be an important determining factor of the data.

The structure of the syllable in Micmac is of interest since it demonstrates the fundamental reality of CV structure: consonants in the rhyme behave differently from those in syllable initial position, and the constraints on extrasyllabicity differ for the two positions. Finally, the independence of the /sk/ cluster shows that /s/, as in many other languages, is not a consonant like the others when one comes to examine the structure of the syllable.

REFERENCES

Clements, George N., and Samuel Jay Keyser

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