Phonological strengthening in Hsiukuluan Amis

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1. Introduction. The Amis language is the largest Austronesian language spoken on Taiwan. There are today about 150,000 members of this ethnic group, which makes it much larger in size than the next aboriginal language of the island. The Formosan languages of Taiwan, including Amis, are generally regarded as having diverged from the parent language quite early. Blust (1992:31) notes that the Austronesian homeland, from both linguistic and archeological evidence, must have been "on or near the island of Taiwan." Though Taiwan might once have been at the center of the Austronesian world, that is no longer the case. Amis, like the other Formosan languages, is losing speakers rapidly, as is evidenced by the fact that the language is spoken today mostly by people over 50 years of age. Still, there are many very good speakers in their native areas on the east side of the island along the coast from Hualien to Taitung and in the inland rift valley running between these two cities. Not surprisingly, previous linguistic work on Amis has mostly focused on history and comparison and includes important contributions by Professor Paul J.-K. Li. Another body of work has come from missionary linguists Edvard Torjeson and Virginia Fey, the former the developer and the latter the propagator of the Amis romanized writing system. The Torjeson script is illustrated in the New Amis Primer. There is also a complete translation of the Bible Fagcalay codad. Selected previous work on Amis would include Wang 1976, Chen 1982, Fey 1986, and He et al 1986.

Amis has a number of dramatic linguist features. Its grammar demonstrates typologically VSO ergative features with mostly prefixes and prepositions. Phonologically, most words begin and end in consonants with a canonical word shape CVC(C)...(C)VC; indeed, most Amis words evidence a shape CV(C)VC...VC. Morphologically, Amis has a very rich inventory of prefixes for several grammatical categories.
2. Sound and word structure. The seventeen contrastive consonants and four contrastive vowels with their conditioned phonetic realizations are displayed in 1.\(^2\)

\[
\begin{align*}
\text{p} [\text{p} \text{p}^\theta] & \quad \text{t} [\text{t} \text{t}^\theta] & \quad \text{k} [\text{k} \text{k}^\theta] & \quad \text{' [\text{' \text{s}^\theta}]
\text{c} [\text{ts} \text{t}^\theta] & \quad \text{f} [\text{f} \text{v}] & \quad \text{s} [\text{s} \text{ʃ}] & \quad \text{x} [\text{x}] & \quad \text{h} [\text{h}]
\text{d} [\text{t}] & \quad \text{w} [\text{w}] & \quad \text{y} [\text{j}] & \quad \text{r} [\text{r}]
\end{align*}
\]

The liquids \(r\) and \(l\) are often not clearly distinguished.

The Amis word is easiest to define in terms of stress, for only one main stress or orthotone per word is allowed. Inflectional markers and prepositions do not carry full stress and are thus best regarded as clitic. Furthermore, reduplication is exempted from the one main stress per syllable rule. Orthotonic words have stress on the ultimate syllable.

Amis typically exhibits words of more than one syllable. To some extent this predilection is the result of morphological inflection or derivation. But the root forms of many content words--nouns and verbs--are themselves polysyllabic in character, even if morphological affixing is ignored. Some examples are:

\[
\begin{align*}
(2) & \quad \text{a. ma-olah `to love'} \\
& \quad \text{b. kakowan-an `I (nom)'} \\
& \quad \text{c. mi-kalat-ay `have bitten'} \\
& \quad \text{d. ma-to`as-ay `ancestor, elder'} \\
& \quad \text{e. tamdaw `person, human'} \\
& \quad \text{f. sapi-kikog `hope chest at a wedding ceremony'}
\end{align*}
\]

Although polysyllable words are the norm, there are nevertheless a few monosyllabic forms in Amis even among the roots of nouns and verbs.

\[
\begin{align*}
(3) & \quad \text{a. pog `hole'} \\
& \quad \text{b. faw `to buy a group'} \\
& \quad \text{c. fek `to hit'} \\
& \quad \text{d. kof `corn'}
\end{align*}
\]
c. pek ‘to hit sharply’
g. kog ‘owl’
d. feg ‘to throw’
h. dok ‘wild strawberry’

Examples of monosyllabic content words in Amis, however appear infrequently. But, among grammatical particles it is easier to find to monosyllabic words, e.g. ho ‘still’, ha politeness particle, and saw rhetorical question particle. The case markers are monosyllabic as well:

(4) a. ko nominative
    b. to accusative
    c. no genitive

Amis is also a language that eschews syllables beginning, ending, or transitioning only in vowels. If there is no consonantal beginning or ending, then a rule applies to introduce a glottal stop. Within words homo-organic glides j and w are similarly introduced near i and o to separate syllables. Nonetheless, the segments w, y, and ? also occur in environments other than those requiring them by rule. That means these three segments have both lexically-specified and rule-generated existence. Some examples of the epenthesis process can be seen in, for example, olah 'love', a glottal is added to cover the initial o-, and in the verb soal ‘to say’, a -w- is epenthesized intervocally [sowal:]. While spaces limits to only this brief discussion of the epenthesis rule, we can note that glides are added between vowels when one of the vowels is /i o/ and glottal stops are added when the vowels are identical or at word boundaries. More examples of the rule are:

(5) a. [ʔiʃe ɾi] < /isiʔ/ ‘to urinate’
    b. [ʔinaʔ] < /ina/ ‘mother’
    c. [ʔamaʔ] < /ama/ ‘father’
    d. [rumaʔ] < /roma/ ‘other’
    e. [natiɾaʔ] < /nacira/ ‘yesterday’
    f. [pitoʔ] < /pito/ ‘seven’
    g. [tusaʔ] < /tosa/ ‘two’
    h. [turuʔ] < /tora/ ‘three’
    i. [limaʔ] < /lima/ ‘five’
j. [ʔotʰur] < /otʰor/ ‘to send’
k. [saʔan/] < /saan/ ‘to say’

The covering of word onset or offset represents a fundamental process in this language whose effects touch many aspect of its phonology. Sometimes alternation among morphologically related words or allegro forms are the only indicators of whether glottal stops are underlying or derived. Chen (1987:25-8) also point this out, citing the example of ama ‘father’, which occasionally appears in construction with the personal article ci to give a compound [tʰijamaʔ] < /ci-ama/. Yet, in isolation, ama becomes [ʔamaʔ]. The appearance of [j] sometimes and [ʔ] others indicates that these changes are rule-governed and not underlying.

For the purposes of covering onset/offset the glides behave as if they were consonants. It is also to be noted that there are no consonant clusters in Amis. When consonants come together, they must be assigned to different syllables. Thus there are only VG-sequences (vowel-glide sequences) and never VGC. That means Amis has forms such as:

(5) a. tamdaw [tamˌlaw] ‘person, human’
b. fafoj [fafoj] ‘pig’
c. kayakay [kajakaj] ‘bridge’
d. cicay [tʰitsaj] ‘one’
e. si’enaw [ʃiʔənaw] ‘cold’
f. ma-cidalay [matʃɪtalaj] ‘to be sunny, have fair weather’
g. fiwfiw [fiwfiw] ‘sound of a gentle breeze’
h. radiw [raɫiw] ‘song’

There are no cases of word shapes such as *[tamˈlaw?]. Therefore, the use /w j/ are consonantal everywhere and are never vocalic satellites of diphthongs as far as the rules of the language are concerned.

3. Stress. Amis also has a nearly inviolable rule of ultimate stress. Every orthotone has is stress prominence on the last syllable. The clitic case markers and personal articles are unstressed and so fail to have this pattern. Another exception to the ultimate stress rule are instances of reduplication and a few