In the summer of 1972 I spent two weeks in the village of Klemtu, B.C., where I studied the Heiltsuk language. During this period I collected a vocabulary of over 4000 words. My main informant was Mr. William Freeman. The investigation was financed by the Dutch Organization for the Advancement of Pure Research (Z.W.O.)

The Heiltsuk language, which belongs to the Northern (Kwakiutlic) branch of the Wakashan language family, is spoken in two exclusively Indian villages, Bella Bella and Klemtu, situated on islands opposite the Canadian Pacific coast. These villages came into being at the end of the 19th century, when the surviving members of the Heiltsuk (Heyz̓ag) tribes gathered together. Today, various dialects of their language (Heyz̓agľ̲a) can still be distinguished. Part of the Klemtu pronunciation is Tsimshian.

The structure of the Heiltsuk language is largely similar to that of Kwakiutl. Though the language has been innovating in some respects, it also seems to have preserved a number of ancient characteristics. In this communication I shall discuss a few striking features of Heiltsuk phonetics.

Heiltsuk occlusives are plain (b, d, ḷ, g, ɬ, ɬ̓, ɬ̓̓), aspirated (p, t, k, ḵ, ɬ̓, ɬ̓̓), or glottalized (ʔ, ɬ̓, ɬ̓̓). Both plain and, more rarely, glottalized occlusives have voiced allophones, but the voiceless variants are more frequent. Word-initially, glottalized occlusives are more frequent than aspirated ones, and aspirated occlusives are more frequent than plain ones. Laterals and velars are particularly frequent. The fricatives (ʃ, ɬ̓, ɬ̓̓, ʃ̓, ʃ̓, ʃ̓, ʃ) are voiceless. There is no labial fricative, cf. the old loan word šd̓up from English stove. Palatals and velars are plain (g, k, ɬ̓, ɬ̓, ɬ̓̓, ɬ̓̓) or labialized (g̓, k̓, ɬ̓, ɬ̓̓, ɬ̓̓). The labialized phonemes are distinct from clusters of plain phonemes and w̓, cf. e.g. x̣iṣịgal̓ ̓əl̓ ̓ál̓ə̣ 'the other side of the river', g̣aṣịgal̓ ̓əl̓ ̓ál̓ə̣ 'this side of the river', ̣ṃịg̣ẉal̓ ̓ə̣ '1 person (walking outside)', sḳạg̣ẉal̓ ̓ə̣ '6 persons (walking outside)', ṃụg̣ẉal̓ ̓ə̣ '4 persons (walking outside)', ỵuṭx̣ẉal̓ ̓ə̣ '3 persons (walking outside)', ̣ệỵkẉə̣ 'to win', ạ̃ẉə̣ẉ 'knife for scraping the inner bark of a tree'. The affricates (z, ʃ, ʃ̓) are distinct from clusters of occlusive and fricative,
cf. e.g. tsə́ 'to push', tsə́t 'to push away', tsə́ 'to warm oneself at the stove'. The lateral occlusives are distinct from clusters of occlusive and l, cf. e.g. mátlá 'to fly', mákə́ 'to wave one's hand', máklə́ 'to lead a person by the hand'. Heiltsuk resonants are plain (m, n, l, v, w) or glottalic (m̩, n̩, l̩, v̩, w̩). Apparently, glottalic resonants are not opposed to clusters of glottal stop and resonant. I write ʔ for the glottal stop except before word-initial vowel, where it is automatic.

In contradistinction to Kw'akiutl, where no consonant clusters occur at the beginning of a word, initial clusters are frequent in Heiltsuk, cf. e.g. v̩sə́gə́lə́wát 'to pull a boat up a rocky shore', t̩də́ 'octopus', t̩gə́m 'human being', t̩txə́n 'owl', t̩txə́tu 'bulging eyes', q̩xə́ 'to have sexual intercourse', q̩kə́ 'not fit', k̩kə́ 'to be amazed', t̩x̩qə́wə́ 'brains', t̩x̩q̩ə́gə́ 'to jump over s.th.' These clusters have apparently come into existence by the loss of short vowels. This loss has also led to the existence of vowelless words, cf. e.g. ʔnx 'native crab apple', ʔntə́ 'snot', ʔlə́ 'dead', ʔx̩xə́ 'cross-piece of a canoe'. The latter word is kə́xə́s in the neighbouring Haisla language. For the Klemtu word ʔq̩ə́ 'eye' most Bella Bella speakers have q̩̝ə́. Instead of the Bella Bella word t̩pə́ 'flash-light' Klemtu speakers use s̩bə́y̩ú, cf. s̩pə́ 'to flash', t̩pə́ 'to press'. (Cf. also s̩bə́y̩ú 'spear' from kə́ 'to spear'. The suffix -k is a passive nominalizing formative.) Medial clusters are also frequent, cf. e.g. k̩x̩q̩ə́ 'bald hair', w̩x̩̝x̩x̩sə́gə́lə́ 'to pack s.th. on one's back and carry it up to the woods'. Lateral clusters are characteristic of this language, cf. e.g. máklə́ 'to lead a person by the hand', mállə́ 'to swim', mállə́ 'to stir', k̩l̩y̩á 'still-born'. For word-final clusters cf. e.g. l̩gə́ 'sun-dried berries', l̩gə́ 'brave', d̩gə́ 'deadfall', n̩k̩ 'night'. (Such forms are frequent because -k̩ is an alternant of the suffix -k, cf. l̩gə́ 'to spread berries on a surface', d̩gə́ 'to make a deadfall'.)

The most salient feature of Heiltsuk phonetics is the presence of phonemic pitch. Vowels and syllabic resonants are high (') or low ('). Stress is automatic and falls on the first high-pitched syllable of a word, if any. The large majority of words contain at least one high-pitched syllable, but this is not necessarily so, cf. e.g. t̩x̩b̩k̩ə́n̩gə́ 'I pretend'. The tone of a suffix depends not only on the suffix itself but also on the preceding stem, and, what is more, not only on the pitch contour of the preceding stem.
The verbs wáxwáx̱a 'to smoke', mísmí̱sá 'to eat meat', and myáxmyáx̱a 'to eat salmon' are on the surface identical formations. But they have a different influence on the tone of the personal suffixes: wáxwáx̱ánúg̱a 'I smoke' and mísmí̱sánúg̱a 'I eat meat' versus myáxmyáx̱ánúg̱a 'I eat salmon'. The future tense suffix -χ-, which precedes the personal suffixes, lowers the tone of the preceding syllable: wáxwáx̱ánúg̱a 'I shall smoke' and mísmí̱sánúg̱a 'I shall eat meat' versus myáxmyáx̱ánúg̱a 'I shall eat salmon'. Cf. also wáxwáx̱ánuc 'we (incl.) shall smoke' and mísmí̱sánuc 'we (incl.) shall eat meat' versus myáxmyáx̱ánuc 'we (incl.) shall eat salmon'. Another example of pitch lowering before the suffix -χ- is éybxíx̱ánúg̱a 'I shall pretend to be good' as opposed to éybxíx̱ánúg̱a 'I pretend to be good' (cf. éykg 'good'). On the other hand, the pitch of a suffix also depends on the suffix itself: dúglá 'to see, look' versus dúg̱a 'to see, visit'.

The interrelation between the pitch contour of a word and the phonemic shape of its constituent parts is clearly observable in the case of numerals. Heiltsuk, like other languages of the North-West Pacific Coast, uses different sets of numerals in counting objects of different kinds, at least in counting from one to six. There are also corresponding forms for 'many'. I have registered 42 sets of numerals. The number is expressed by the stem, and the kind of object counted by the suffix, e.g. máč̱x̱, máč̱x̱, yúdu úx̱, máč̱x̱, dêynám̱x̱ '1, 2, 3, 4, many (sticks, trees, logs, bottles, cigarettes, fishing nets)', má̱x̱, má̱x̱x̱a, yútx̱a, máwíx̱a, dêynám̱x̱ '1, 2, 3, 4, many (dishes, pots, cups, glasses)', má̱x̱, má̱x̱x̱a, yútx̱a, máwíx̱a, dêynám̱x̱ '1, 2, 3, 4, many (flat objects, haliouts, sheets of paper)'. The stem of '1' is m̱ṉ- (22x) or y- (18x), depending on the suffix, with a preference for m̱ṉ- in counting objects and for y- in counting events. The proper tone of the stem is revealed by the forms containing the vowelless suffix -xs: má̱x̱a, má̱x̱x̱, yútx̱, má̱x̱, sḵx̱̱, g̱x̱a '1, 2, 3, 4, 5, 6 persons (in a boat)'. The stem '4' lowers the tone of all following syllables, cf. e.g. úpínída, márṯpinída, yútx̱pinída, má̱tpinída '1, 2, 3, 4 days', úpínalalâ, má̱tpínalâ, yútx̱pínalâ, má̱tpínalâ 1st, 2nd, 3rd, 4th day of the month', mác̱ã̱ḻa, mác̱ã̱ḻa, yúduc̱ã̱ḻa, mác̱ã̱ḻa '1, 2, 3, 4 boats (travelling)', úpínúsṯiwa, má̱tpínúsṯiwa, yútx̱pínúsṯiwa, má̱tpínúsṯiwa '1, 2, 3, 4 trips (in the mountains)'. Some suffixes have the same tone as the stem, with the exception of the low pitch after '4': má̱s̱m̱s̱, má̱s̱m̱s̱, yútx̱m̱s̱, má̱s̱m̱s̱ '1, 2, 3, 4 houses', úp̱ṉx̱, má̱p̱ṉx̱, yútx̱p̱ṉx̱, má̱p̱ṉx̱ '1, 2, 3, 4 fathoms'.
úþn, mâþn, yúþpû, mûþn '1st, 2nd, 3rd, 4th day of the week (i.e., Monday, Tuesday, Wednesday, Thursday)'. Other suffixes are marked by a tone opposite to that of the stem: mûþnû, mûssû, yúþmû, mûssû '1, 2, 3, 4 years', mûsnû, mûsû, yúþmû, mûsnû '1, 2, 3, 4 dollars', mûskû, mûkkû, yúþkû, mûkkû, géykû '1, 2, 3, 4, many clothes'. Some suffixes change the tone of '1' into low pitch, like -xxa and -xxa above, whereas others change the tone of '2' into high pitch, cf. mâþwâ '2 persons (walking outside)'. The latter suffix has low pitch after '1', '2', '3', '4', but high pitch after '5' and '6': skâgwâ, ǥâgwâ.

As is clear from the foregoing examples, the phonemic shape of a word form is not always predictable on the basis of its constituent morphemes, cf. e.g. mûþkæk '2 -xxa' versus mûþkæ '2 -xxa' mentioned above. Moreover, the quality of the vowels may depend on their pitch. High ëy and aw often correspond to low ë and û, respectively: mûnkîl, mûnkîlëv, yúþkîlëv, mûkkîl, géykîlëv '1, 2, 3, 4, many blankets', úþnkëtv, mûþnkëtv, mûþnkëtv, mûþnkëtv, yúþnkëtv, yúþnkëtv, yúþnkëtv, yúþnkëtv, yúþnkëtv '1, 2, 3, 4, 7, 8 hundred', úþnkëtv, mûþnkëtv, yúþnkëtv, mûþnkëtv, yúþnkëtv, yúþnkëtv, yúþnkëtv '1, 2, 3, 4, many times setting a fish net', mûnkwë, mûþnkxwë, yúþkwë, mûþkwë '1, 2, 3, 4 times a glass or cup', úþnkxwë, mûþnkxwë, yúþnkxwë, yúþnkxwë, mûþnkxwë, mûþnkxwë, mûþnkxwë, mûþnkxwë '1, 2, 3, 4, many trips (behind the village)'. However, this is not always so, cf. ëy in mûncêvëla, mûncêvëla, yûduçêvëla, mûcêvëla '1, 2, 3, 4 o'clock'. Cf. also ë next to ëy in mûnîl, mûnîl, yûduwîl, mûnîl, skâwyn, ǥâwyn, ǥâwyn '1, 2, 3, 4, 5, 6, many persons (in the house)'.

The same complicated situation is encountered in the pitch analysis of demonstrative and possessive suffixes. The suffix -á 'this' lowers the tone of a monosyllabic stem and causes a preceding aspirated consonant to lose its aspiration: gûk 'house', gûkõ 'this house', ge gûkõ 'this house of mine', gûkõ 'house of yours', gûkõz 'this house of his (who is here)', gûkõ 'house of his (who is away)'. The suffix -á 'that' has neither of these effects: gûkêx 'that house', ge gûkêx 'my house', ge gûkêc 'id. (invisible)', gûkêj 'your house', ge gûkê 'that house of mine', gûkêx 'that (invisible) house of his (who is here)'. However, the latter suffix has high pitch before certain other suffixes, cf. gûkêx(c) 'his/her house', gûkõ 'that house of yours', gûkõz 'that house of his (who is here)'. Cf. also gûkêxj 'that house
of his (who is away)', ŭukučús 'that (invisible) house of yours'.

All suffixes have low pitch after certain stems, e.g. ŭukučxis 'beach-house', cf. as ŭukučxisa 'my beach-house', ŭukučxisas 'your beach-house', ŭukučxisasi 'his beach-house'.

The unpredictable alternations in the tone pattern and the absence of tone in the neighbouring non-Wakashan languages (Tsimshian and Bella Coola) suggest that Heiltsuk pitch goes back to the proto-Wakashan period and has been lost in the other languages of the family. I have noted the absence of distinctive tone in the dialect of Rivers Inlet, which is transitional between Bella Bella and Kwakiutl and very close to Haisla. These observations show that typological and genealogical generalizations are unwarranted before the material of the surviving dialects has been properly investigated.

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