Overview

TYPOLOGICALLY UNUSUAL POSTLABIAL RAISING
IN A’INGAE (OR COFÁN, ISO 639-3: con)

1. /ai/ → [ii] / B

a. /ai/ → [ɔi] / B

b. /ai/ → [ɛi] / B

(1) koehefɛ await / sefɛ a / sefɛ [kɔehefɛ]
summer → end -c aus end

where B stands for m, b, p, pʰ, f, v

• Theoretically interesting for two reasons:
  — no obvious phonetic or cognitive motivation,
  — affects different diphthongs differently

• Accounting for the difference between [ii] and [ɔi]:
  — a weighting of feature Insonority constraints such that [ii] and [ɔi]
    are the optimal candidates given input /ai/ and /aɛ/ respectively

• Accounting for the underapplication of postlabial raising to /ai/:
  — Q-Theoretic (Garvin, Lapierre, and Inkelas, 2018; Garvin, Lapierre, Schwarz, et al., 2020; Inkelas et al., 2016; 2017)

  — *the monophthongal a consists of three subsegments (a’a, a’)
  — the a-component of a diphthong — only of two (a’a, a’)

  — NO VOWELIC TARGET OF A DIPHTHONG CORRESPONDS TO FEWER SUBSEGMENTS THAN A MONOPHTHONG

• Assuming each subsegment is subject to Insonority, this predicts:
  — diphthongs might show TETU effects (McCarthy et al., 2004)
  — while monophthongs surface faithfully

PREDICTION BORNE OUT BY A’INGAE POSTLABIAL RISING,
CONTRIBUTING A NOVEL ARGUMENT FOR Q-Theory

Lict diphthongs and /ea, ia/ → [ia], /ae/ → [ai]

A’ingae has the five vowels: i, e, a, o, and seven lict diphthongs [8].

LICT DIPHTHONGS: ai, e, o, ei, ii, ao

All of the A’ingae diphthongs have i or o as their non-syllabic component.

The sequences *[ao], *[ai], *[ii] are not licit diphthongs.

Underlying /ee, ea, /ai/ and /ii/ surface as licit diphthongs [8].

(3) a. /ee/ → [ii]

b. /ee/ → /ii

c. /ai/ → /ii

Analysis of /ee, ia/ → [ii], /ae/ → [ai]

I analyze the diphthongal processes as aimed at averting marked structures. I assume the featural specifications of [8].

(9) LICT, or. LUC: Assign a violation mark for a sequence of two vowels which do not form a licit diphthong in the language.

(10) Identity(Feature), or. IdF: Assign a violation mark each time F(puture) has a different value in the input than in the output.

Postlabial raising

After a non-labial consonant, any diphthong is allowed, including the a-initial ai [æi] and ao [œo] as well as other diphthongs [œi].

(4 a) džui b sai c taoém, taope e. kacõe f. tii

sit pull out nest fluff sun splash

However, A’ingae diphthongs may not appear after a B. Sequences *BaV

Do not appear in roots. In derived environments, they undergo:

POSTLABIAL RAISING: /ai/ → [ii] / B / /ai/ → [ai] / elsewhere

(5) a. /koehefɛ a / sefɛ / sefɛ [pʰaɛʔeʔ]
summer → end -c aus end

(6) a. /nai / / sefɛ / (Secoya)
fruit → end -c aus end

POSTLABIAL RAISING: /ae/ → [æi] / B / /ae/ → [ai] / elsewhere

(7) a. /sefɛ a / b. /tapa / e / c. /sema / d. /pain / e
end -c aus end -c aus end -c aus end -c aus

POSTLABIAL RAISING: /a/ → [ii] / B

(8) a. /sefɛ / b. /tapa / c. /sema / end
breed -c aus end

Analysis of postlabial raising

I propose that postlabial raising reveals a dispreference for sequences of a labial consonant followed by a low vowel [e].

PROBLEM 1: postlabial raising does not affect monophthongs: /Ba/ → [Ba]. Unless something more is said about the difference between monophthongs and diphthongs, “BA targets the two equally. If “BA has a weight high enough to correctly predict diphthongal outputs [æi], it will incorrectly predict the raising of monophthongs after labials, and vice versa [8].

PROBLEM 2: different diphthongs undergo different processes: /Ba/ → [Bi] but /Ba/ → [Bo].

SOLUTION TO PROBLEM 1: capturing postlabial raising seen in diphthongs as well as its underapplication to monophthongs with subsegments of Q-Theory (Inkelas et al., 2016): each segment (Q) consists of subsegments, commonly closure (q’), hold (q”), and release (q’)

— segments (Q) with an articulatory target have identical cues (q), e.g. a = (a’, a’

— internally complex segments (Q) have different cues (q), e.g. a = (t’, t’), hom = (b’, m’)

I model A’ingae diphthongs with four q’s. The first two q’s correspond the the first target of the diphthong: the other two q’s — to the second one, e.g. a = (a’, a’

I assume that changing the feature of a q incurs only 0.5 of an Insonority violation

— predicts that a monophthong may surface faithfully, while the same vowel in a diphthong exhibits a TETU effect; PREDICTION BORNE OUT BY THE A’INGAE POSTLABIAL RISING

SOLUTION TO PROBLEM 2: /ai/ surfaces as [i], but /ae/ surfaces as [œ].

• different outcomes are due to phonological optimization given lict diphthong inventory

• modeled with relative weights of the feature Insonority constraints

Q-Theoretic’s subsegmental representations capture A’ingae postlabial raising

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A Q-Theoretic solution to A’ingae postlabial raising

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