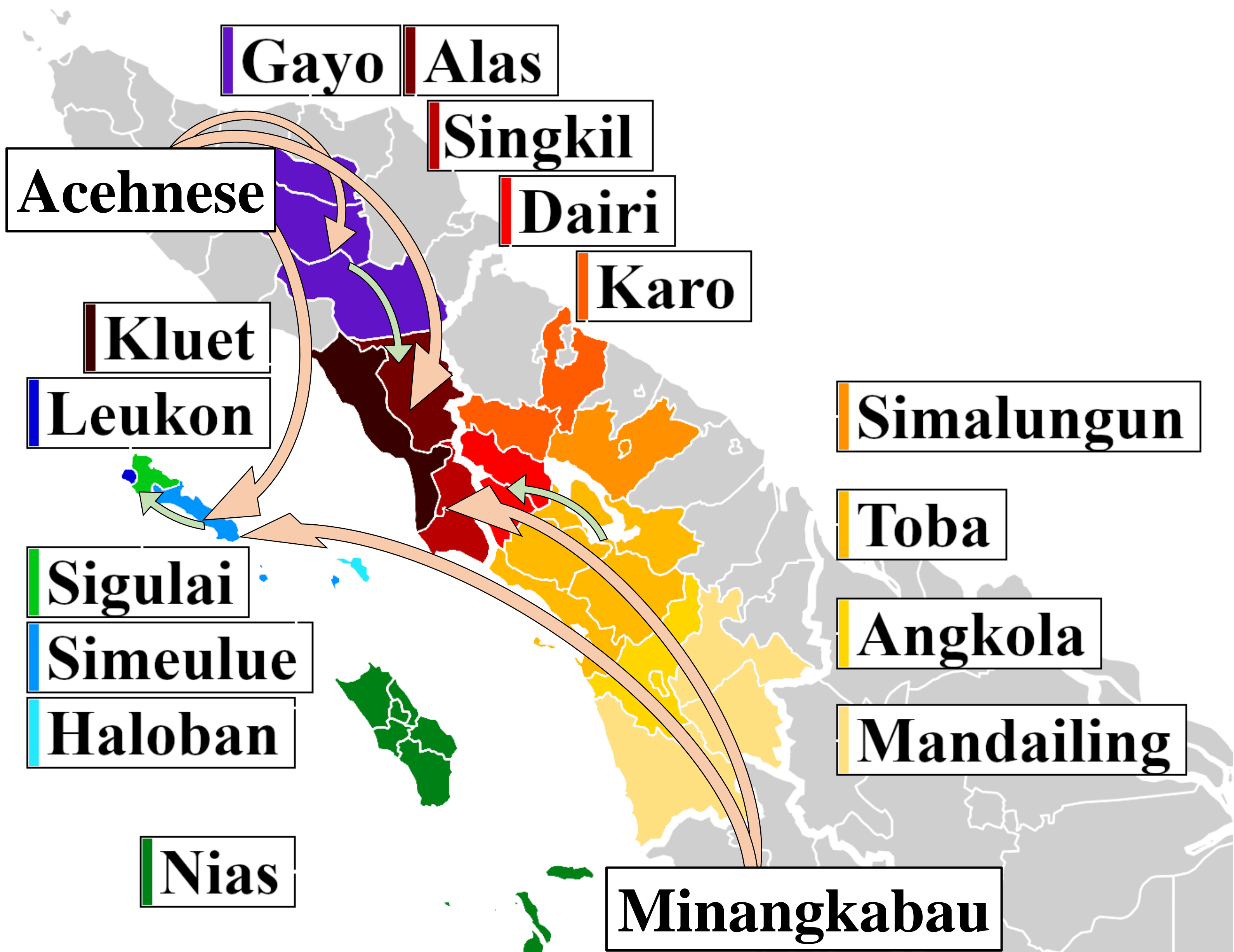# Contact-induced phonological change in the Sumatran languages

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1. Background

Sumatran:
- Austronesian
  - Malayo-Polynesian
    - Sumatran
      - Gayo, Batak, Barrier Islands, Nasal
  (Nothofer 1986; Smith 2017; Billings & McDonnell 2022)
- Several of these have been overlooked in discussions of Sumatran historical phonology, particularly:
  Gayo, Alas, Kluet, Singkil, Leukon, Haloban, Sigulai

Language Contact:
- All Sumatran languages (except Mentawai and Enggano) have been in sustained contact with a **Malayo-Chamic** and/or another **Sumatran** language
- Understanding how contact can induce phonological change can clarify phonological history and loan influence
- **Problem**: Contact effects, especially among related languages, are often complex and very difficult to tease apart

3. Other diffused changes

These types of borrowings are various and widespread:
- **Phonological**:
  - *Areal* /b/, /d/, /g/ → Gayo
  - *Areal* /tʃ/, /dʒ/, /ɲ/ → Northern Batak
  - Minangkabau *a# > o → Kluet
  - Minangkabau !s# → NBI
  - NBI *#wa > o → Sigulai
  - Gayo *#bə > ø → Alas
  - Toba *aya > e → Dairi
- **Lexical**:
  - Acehnese → Gayo, Alas, Kluet, Singkil, NBI
  - Minangkabau → Kluet, Singkil, Dairi, NBI, CBI
  - Toba → Dairi, Karo
  - Simeulue → Sigulai
  - Gayo ↔ Alas

4. What they tell us

Dating changes, migrations, and contact:
- Acehnese *l# > /y/ occurred after arrival of Acehnese speakers in northern Sumatra
- Simeulue nasal-stop cluster reduction happened only after arrival of Sigulai speakers on the island of Simeulue
- While some innovations in Batak may have operated across a dialect chain, others must be areal diffusions

Reconstruction
- PNB pre-penultimate vowels (without further evidence) can only be reconstructed to *ə with apparent contact effects in Dairi from Minangkabau and Toba
- PNBI codas that have since been reduced are evidenced by loans in Sigulai, as in: PMP *paRaw > PNBI *halow (otherwise, NBI evidence points to *halo)

2. Phonological borrowings

Borrowing a *change*: Acehnese *l# > /y/ → Kluet

- Proto-Chamic *l# historically developed into Acehnese /y/
- Through sustained contact, this change spread to neighboring Kluet
- Evidence of *l# > /y/ in Kluet is found even in uniquely Batak lexical items

PC	Aceh.	Gloss	PNB	Alas	Kluet	Gloss	PNB	*r↔*l	*l#>*y	*VV>*V	Kluet	Gloss
*pikul	pikoy	'to carry'	*takal	takal	take	'head'	*tər	—	—	—	toʀ	'fast'
*gatal	gatay	'itch'	*tʃibal	tʃibal	tʃibe	'to place'	*apuy	—	—	*api	api	'fire'
*layar	layuə	'to sail'	*təlur	təluʀ	təri	'egg'	*takal	—	*takay	*take	take	'head'
*ʔular	uluə	'snake'	*layar	layaʀ	ʀaye	'to sail'	*təlur	*tərul	*təruy	*təri	təʀi	'egg'

Borrowing a *structure*: NBI coda consonants → Sigulai

PNBI	Leukon	Simeulue	Sigulai	Gloss
*laŋal	laŋal	laŋar	laŋan	'k.o. bird'
*paraw	halo	halo	halaw	'hoarse'
*sigəm	sixəm		ixəm	'ant'
*undeŋ	ondeŋ	udeŋ	undeŋ	'fishing rod'

- CBI languages (Nias, Sigulai) historically lost coda consonants except in original nasal-stop sequences
- NBI languages (Haloban, Simeulue, Leukon) historically retained coda consonants apart from *r in medial *rC sequences
- From sustained contact with NBI languages, the Sigulai constraint against coda consonants has been lost and loanwords containing codas fully integrated

Borrowing a *constraint*: Minangkabau pre-penultimate !ə → Dairi

- Northern Batak languages historically reduced most pre-penultimate vowels in roots to /ə/ (Southern Batak /a/)
- Minangkabau does not contain /ə/; only /a/, /i/, /u/ are permitted in pre-penultimate syllables
- This constraint has begun to spread to Dairi, affecting even lexical items not attested in Minangkabau

Minangkabau	Dairi	Alas	Toba	Gloss
tʃa(ha)yo	tʃuhaya	tʃəhayə		'ray of light'
salapah	tʃulapah	səlapah	salapa	'tobacco case'
galisah	bu(ə)lisah	bəlisah	balisa	'restless'
	ri(ə)ŋgitfiŋ	ʀəŋgitfiŋ	raggitiŋ	'k.o. wasp'

References

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All sources of lexical data are enumerated and described at the (*early work-in-progress) page for this research project: https://www.e-hsl.com/