Abugidas II

Lecture 8

March 7, 2022

Today…

- Orthographic depth & historical change
- Other Brahmic scripts
  - Tibetan
  - Burmese
- Diversity & shape

Orthographic Depth

Orthographic depth

- An orthography can be shallow or deep
  - Shallower orthographies show more *surface* phonology: they are easier to pronounce as a learner
  - Deeper orthographies show more *underlying* or *historical* phonology: they are more consistent

- Let's use a familiar writing system to discuss how this works...

Turkish

- Roman alphabet
- Very shallow orthography: what you read is what you say
- Stops devoice in coda position
  - Reflected in orthography

Turkish

Underlying		*Pronounciation*	*Orthography*	
/sanat/	→	[sanat]	⟨sanat⟩	'art'
/sanat-ɯm/	→	[sanatɯm]	⟨sanatım⟩	'my art'

- Morpheme spelled the same when rule doesn't apply

Turkish

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- Morpheme spelled the same when rule doesn't apply

- Morpheme spelled differently to reflect phonological changes

Underlying		*Pronounciation*	*Orthography*	
/kanad/	→	[kanat]	⟨kanat⟩	'wing'
/kanad-ɯm/	→	[kanadɯum]	⟨kanadɯm⟩	'my wing'

Dutch

- Dutch has a deeper orthography
- It has the same phonological rule as Turkish: final stop devoicing
  - *Not* reflected in orthography
- Same morpheme = same spelling

Dutch

Underlying		*Pronounciation*	*Orthography*	
/hart/	→	[hart]	⟨hart⟩	'heart'
/hart-ən/	→	[hartən]	⟨harten⟩	'hearts'

Dutch

Underlying		*Pronounciation*	*Orthography*	
/hart/	→	[hart]	⟨hart⟩	'heart'
/hart-ən/	→	[hartən]	⟨harten⟩	'hearts'

- This is the case even when phonological rules apply:

Underlying		*Surface*	*Orthography*	
/strand/	→	[strant]	⟨strand⟩	'beach'
/strand-ən/	→	[strandən]	⟨stranden⟩	'beaches'

English sound alternations

- Famously deep orthography
- This is due to both sound change and borrowing!

- Sound change in some environments but not others:

⟨nation⟩   ⟨national⟩
/nejʃən/   /næʃənəl/
*⟨neishun⟩   *⟨nashnul⟩

Writing reflecting history

- Compare English spelling of words of Greek origin
  - The Roman alphabet is derived from Greek, but distinct
  - Particular digraphs are used for words of Greek origin
    - /k/ is written as ⟨ch⟩
    - /f/ is written as ⟨ph⟩

	English	Greek	meaning
⟨ch⟩	chaos	χάος	*'space, abyss'*
	chorus	χορός	*'chorus, dance'*
	archeo–	ἀρχή	*'beginning, origin'*
⟨ph⟩	phone	φωνή	*'sound, speech'*
	phobia	φόβος	*'fear'*
	graph–	γραφή	*'writing, drawing'*

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English historical oddities

- Sometimes Greek roots surface in different ways in modern English

English	English	Greek	meaning
helicopter	pterodactyl	πτερόν	*'wing'*

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Ptarmigan – type of grouse with
feathered feet that lives in cold climates

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Greek *pter*– + ??? ↛ ptarmigan

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Greek *pter–* + ??? ⇏ ptarmigan

    ...actually from Scots Gaelic
        ⟨tàrmachan⟩

Pros & Cons

- Shallow orthographies
    - *Advantage*—can read the language without knowing phonological rules
    - *Disadvantage*—sometimes hard to identify a moprheme without knowing how to "reverse" a phonological rule
- Deep orthographies
    - *Advantage*—can easily identify a morpheme; always written the same way
    - *Disdvantage*—must know phonological rules to read correctly (and sometimes people invent fake etymologies!)

Other Brahmic Scripts: Tibetan

Southeast Asia

- Brahmic scripts spread eastward throughout southeast Asia, along with Buddhism
- Other languages have very different structure from Sanskrit (Indo-Aryan)
    - Many still adopted or created graphemes for Sanskrit phonemes they didn't have, to be able to "accurately" write words of Sanskrit origin
    - Language change since Brahmic script adoption led to even greater orthographic depth
- Local æsthetic variations $\rightarrow$ different scripts

Indian cultural influence

Indian subcontinent
Pakistan, India, Sri Lanka, Nepal, Bangladesh,
Bhutan, Maldives

Regions with cultural links to India
Burma, Thailand, Laos, Cambodia, Champa (S. Vietnam)
Malaysia, Singapore, Brunei, Indonesia

Regions with significant Indian cultural influence
Afghanistan, Yunnan Province & Tibet (China),
Phillippines

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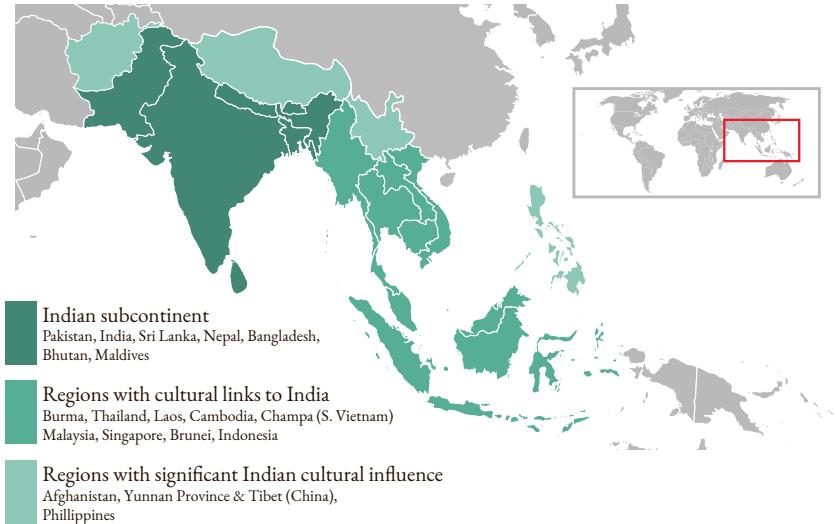
Tibetan

Prajnaparamita (Perfection of Wisdom) manuscript, 13th century. Left figure is the Buddha Shakyamuni on the night of his enlightenment; right figure is the goddess Prajnaparamita, an embodiment of this text. The text is a translation from Sanskrit.
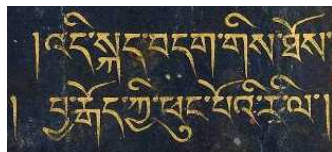
འདི་སྐད་བདག་གིས་ཐོས། ⟨'di skad bdag gis thos...⟩

བྱ་རྒོད་ཀྱི་ཕུང་པོའི་རི་ལ། ⟨bya rgod kyi phung po'i ri la.⟩

Buddhist manuscripts

- Written in Sanskrit, Pāli, or translated into local languages
- Several different formats and writing surfaces
    - Palm leaves or a couple of types of hand-made paper
    - The wide format seen below is very common

Wooden cover of a Tibetan Buddhist manuscript, 13th cent.
Central panel depicts Buddha Shakyamuni on the night of his enlightenment (as on the previous slide).

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Tibetan

- Sino-Tibetan languages
    - 5–8 different languages/dialects
- Written in Tibetan abugida
- The syllable structure of the Tibetan language is (C)V(C)
- Very deep orthography
    - Many of the graphemes in Written Tibetan are no longer pronounced in the modern Tibetan languages

Tibetan script

- Extra consonants for Sanskrit words
- Initial vowels: diacritics on a free initial vowel grapheme
- Consonant conjuncts are stacked vertically
- Raised dot used as syllable separator

ལུང་བསྟན་
⟨lung bstan⟩
/lŭŋ dĕn/
'prophecy'

གྷ	⟨ka⟩	ཁ	⟨kha⟩	⟨ga⟩		⟨nga⟩
ཙ	⟨ca⟩	ཚ	⟨cha⟩	⟨ja⟩		⟨nya⟩
ཌ	⟨ṭa⟩	ཋ	⟨ṭha⟩	⟨ḍa⟩		⟨ṇa⟩
ཏ	⟨ta⟩	ཐ	⟨tha⟩	⟨da⟩		⟨na⟩
པ	⟨pa⟩	ཕ	⟨pha⟩	⟨ba⟩		⟨ma⟩
ཙ	⟨tsa⟩	ཚ	⟨tsha⟩	⟨dza⟩		⟨wa⟩
ཞ	⟨zha⟩	ཟ	⟨za⟩	⟨'a⟩		⟨ya⟩
ར	⟨ra⟩	ལ	⟨la⟩	⟨sha⟩		⟨sa⟩
		ཧ	⟨ha⟩	⟨a⟩		

Tibetan vowel diacritics

	a ā	i ī	u ū	ṛ ṝ	ḷ ḹ	e ai	o au
V	ཨ	ཨི	ཨུ	ཨྲྀ	ཨླྀ	ཨེ	ཨོ
	ཨཱ	ཨཱི	ཨཱུ	ཨཷ	ཨཹ	ཨཻ	ཨཽ
⟨k–⟩	ཀ	ཀི	ཀུ	ཀྲྀ	ཀླྀ	ཀེ	ཀོ
	ཀཱ	ཀཱི	ཀཱུ	ཀཷ	ཀཹ	ཀཻ	ཀཽ

Phonemic representations

གསལ་བྱེད་ ⟨gsal byed⟩ /sɛtʃe/

བསྒྲུབས་ ⟨bsgrubs⟩ /ɖup/

དབྱངས་ ⟨dbyangs⟩ /yaŋ/

- Historical sound changes
  - Simplification of onset clusters → orthographic depth
- Extra graphemes kept for disambiguation

Phonemic representations

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</div>

- Historical sound changes
    - Simplification of onset clusters → orthographic depth
- Extra graphemes kept for disambiguation
- *Compare English:* ⟨knight⟩ /najt/
- *Compare French:* ⟨veuillent⟩ /vœj/

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Tibetan conjuncts

- Conjuncts in Tibetan are stacked
- ⟨r⟩ and ⟨y⟩ have conjunct allographs
    - ⟨r⟩ works like Devanāgarī!

⟨b⟩	�བ	⟨s⟩	ས	⟨bs⟩	⟨sb⟩
⟨r⟩	ར	⟨k⟩	ཀ	⟨rk⟩	⟨kr⟩
⟨d⟩	ད	⟨y⟩	ཡ		⟨dy⟩

Other Brahmic Scripts: Burmese

Burmese language

- Tibeto-Burman (Sino-Tibetan family)
- Three tones
- Fewer consonants than Sanskrit
    - No voiced aspirated series
    - No retroflex place
    - Still kept the graphemes for them!

က	/ka/	ခ	/kʰa/	ဂ	/ga/	ဃ	/ga/	င	/ŋa/
စ	/sa/	ဆ	/sʰa/	ဇ	/ja/	ဈ	/ja/	ဉ	/ɲa/
ဋ	/ta/	ဌ	/tʰa/	ဍ	/da/	ဎ	/da/	ဏ	/na/
တ	/ta/	ထ	/tʰa/	ဒ	/da/	ဓ	/da/	န	/na/
ပ	/pa/	ဖ	/pʰa/	ဗ	/ba/	ဘ	/ba/	မ	/ma/
ယ	/ya/	ရ	/ya/	လ	/la/	ဝ	/wa/	သ	/θa/
		ဟ	/ha/	ဠ	/la/	◌ာ	/a/		

Palm leaf manusccripts

- Ancient texts (religious texts, poetry, epics, plays, etc) were inscribed by priests on palm-leaf manuscripts. A tradition in South India that's more than 2000 years old!
- The scribes wrote the texts in Tamil, the classical language of the region, as well as in Sanskrit, and other regional languages.
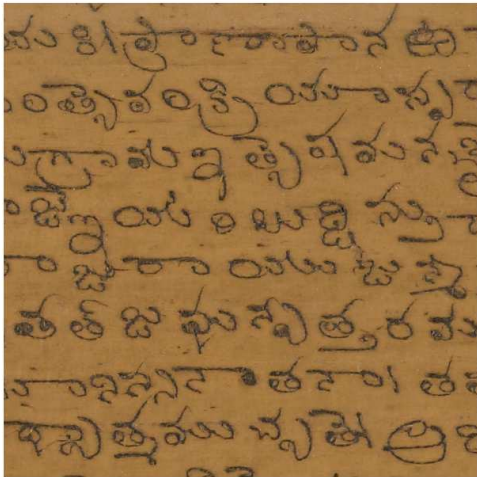
Palm leaf manuscripts

- The scribes would use a stylus to etch the characters onto dried palm leaves, taking care not to tear the leaves.
- To increase the contrast/readability, they would apply black pigment (black soot) or turmeric over the etched characters.
- These manuscripts would last for three or four centuries after which they would be commissioned again on new palm leaves.
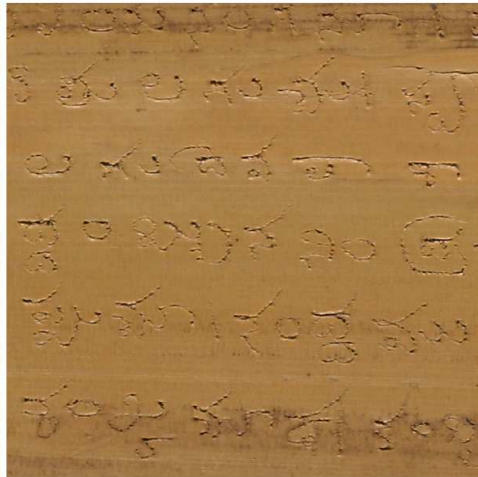
Palm leaf manuscripts

Uninked Burmese palm leaf manuscript

Palm leaf manuscripts
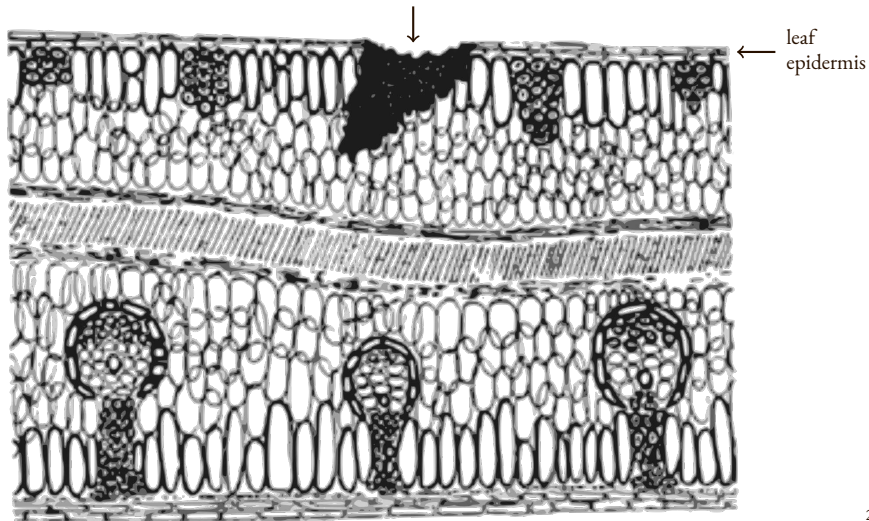

Inked palm leaf manuscript

Uninked palm leaf manuscript

(These manuscripts are in Telugu, another southern Brahmic script)

Palm leaf manuscripts

Incision made by metal stylus and blackened with charcoal paste

leaf epidermis

Burmese script

- Brahmic structure, but new diacritics
  - Default vowel /a/
  - Diacritics added to mark tone!
- Different appearance: graphemes rounded
- Retroflex and voiced aspirated stops maintained in writing system, even though Burmese does not have these sounds
  - Historical spellings for words of Sanskrit or Pāḷi origin
  - Recall what English does with Greek loans – this is like keeping ⟨ch⟩ and ⟨ph⟩ instead of using ⟨k⟩ and ⟨f⟩

Burmese vowel & tone diacritics

Tone	Init.	Dia.	IPA	Init.	Dia.	IPA	Init.	Dia.	IPA
Creaky	အဣ	အိ	/ḭ/				ဥ	အု	/ṵ/
Low	ဣ	အိ	/ì/				ဥ	အု	/ù/
High		အိး	/í/				ဥး	အုး	/ú/
Creaky	ဧ	ေအ့	/ḛ/					အ့	/o̰/
Low		ေအ	/è/					အ	/ò/
High		ေအး	/é/					အး	/ó/
Creaky		အဲ့	/ɛ̰/	အ	—	/a̰/		ေအာ့	/ɔ̰/
Low		အယ်	/ɛ̀/		အာ	/à/	ေသာ်	ေအာ်	/ɔ̀/
High		အဲ	/ɛ́/		အား	/á/	ဩ	ေအာ	/ɔ́/

- Very complicated system!

Diversity

Brahmic scripts show a great diversity in appearance:

Appearances vary due to stylization

Gurmukhī ਸ਼ਿਵੋ ਰਕ੍ਸ਼ਤੁ ਗੀਰ੍ਵਾਣਭਾਸ਼ਾਰਸਾਸ੍ਵਾਦਤਤ੍ਪਰਾਨ੍

Bengāli শিবো রক্ষতু গীর্বাণভাষারসাস্বাদতৎপরান্

Gujarātī શિવો રક્ષતુ ગીર્વાણભાષારસાસ્વાદતત્પરાન્

Oḍiā ଶିବୋ। ରକ୍ଷତୁ ଗୀର୍ବାଣଭାଷାରସାସ୍ବାଦତତ୍ପରାନ୍

Telugu శివో రక్షతు గీర్వాణభాషారసాస్వాదతత్పరాన్

Kannaḍa ಶೀವೋ ರಕ್ಷತು ಗಿವರ್ಾಣಭಾರಸಾಸ್ವಾದತತ್ಪರಾನ್

Sinhala ඖවෝ රක්ෂතු ගීර්වාණභාෂාරසාස්වාදතත්පරාන්

Malayāḷam ശിവോ രക്ഷതു ഗീര്വാണഭാഷാരസാസ്വാദതത്പരാന്

Tamiḷ ஶிவோ ரக்ஷது கீர்வாணபாஷாரஸாஸ்வாததத்பரந்

Burmese ဂိဝေါ ရက္�__တု ဂီ__ဏတာဘာဟရသာသ္ဂိဒတတ္တွရာန်

Thai ศิโวรกษตุคีร๎วาณภาษารสาสวาทตตุปราน

Lao ສີໂວຣັກສະຕຸຄີຣວາມະພາສາຣະສາສວາຫະຕັຕປະຽາມ

Khmer ឝិវោរក្ឞុគ្គីរ�្វាណភមរសស្វនគ្គូនិ

Javanese ꦯꦶꦮꦺꦴꦫꦏ꧀ꦱꦠꦸꦒꦶꦂꦮꦴꦟꦧꦴꦰꦴꦫꦱꦴꦱ꧀ꦮꦴꦢꦠꦠ꧀ꦥꦫꦴꦤ꧀

Sundanese ᮯᮤᮝᮧ ᮛᮊ᮪ᮞᮤᮒᮥ ᮌᮤᮁᮝᮛᮔᮘ�᮪ᮝᮞᮞᮞᮝᮒᮒ᮪ᮕ ᮜᮠᮠᮁᮝ᮪ᮝᮁ

Buginese ᨔᨗᨓᨚ ᨑᨀᨘᨈᨘ ᨁᨗᨑᨓᨊᨅᨔᨑᨔᨔᨓᨈᨈᨄᨑ

(Sanskrit trans.) ⟨śivo rakṣatu gīrvāṇabhāṣārasāsvādatatparān⟩

"May Shiva bless those who take delight in the language of the gods."

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Diversity

Stylistic elements more/less emphasized:

- Sharper vs. more rounded edges
    - Curved shape possibly due to change in writing medium
    - Stone to palm leaves
- Presence vs. absence of top bar

Summary of Brahmic abugidas

- Decended from Brāhmī
- Used throughout South and Southeast Asia
- Principles:
  - Consonants have default (inherent) vowels
  - Other vowels are written as diacritics
  - Lack of a vowel shown with a *virāma* or consonant conjuncts
  - Initial vowels can be written as their own free allographs or as diacritics on a free initial-vowel grapheme *(language-dependent)*

Transliteration

སྐྱིད་པོ་

མཐོང་པ་ཉིད་

Transliteration

སྙིང་པོ་

མཆོང་པ་ཉིད་

⟨snying po⟩ *heart, essence*
⟨stong pa nyid⟩ *emptiness*

Quiz 2

- 30 minutes in duration
- Available until 6pm (please start at 5:30 if you want the full 30 minutes!)
- 16 questions in total
  - 4 True/False
  - 7 Multiple Choice
  - 3 transliteration words
  - 1 short-answer
  - 1 fill-in-the-blanks

Quiz 2 Instructions

- The quiz questions will be chosen from a question bank so everyone will get a different version of the quiz.
- Write out the entire word instead of using its short form.
- Spelling matters! Since you have access to your notes, I expect you to spell the words accurately, especially for the fill-in-the-blanks questions. Alternatively spelled words will be marked as incorrect and will not be considered for regrading.
- Do not use special characters (such as '-', brackets of any kind, etc.). If you end up using special characters (when not asked to do so in the question), your answer will be marked incorrect and will not be considered for regrading.

Quiz 2 Instructions cont.

- Use https://ipa.typeit.org/full/ (Links to an external site.) if you need to copy/paste IPA symbols not available in your keyboard.
- Use point form for the short answers. Look to see how many marks a question is worth to determine how many points you need to write for a short answer.
- Please use a computer to do your quiz instead of a phone or a tablet. Keep your browser window maximized while you're doing the quiz. Having a smaller window may reduce the font size of certain writing systems!