Make Your Own Language!: Conlanging and Linguistics

Splash 2021 · Chris Eschler

Course Expectations

- Questions: raise your hand and wait to be called on or message the chat
- Questions are always welcome!
- There is a <u>lot</u> of content to cover, but feel free to ask me to slow down
- Mute yourself when you are not speaking
- Be kind and considerate to everyone in the class

Overview

1. Conlanging and linguistics
2. Morphology: the structure of words
3. Grammar: the structure of phrases
4. Phonology: the sounds of language
5. Language evolution
6. Writing systems

Conlanging and **Linguistics**

# Linguistics: the scientific study of language

But what is language?

- "A language is a system of arbitrary vocal symbols by means of which a social group cooperates." –Bernard Bloch & George Trager

- Thoughts ➜ words ➜ sounds/gestures ➜ communication

What is a conlang?

- An artificially created language

- Auxlangs
  - Volapük, Esperanto, Ido, Interlingua
- Engelangs
  - Lojban, Toki Pona
- Artlangs
  - Sindarin, Quenya, Newspeak, Dothraki, Klingon
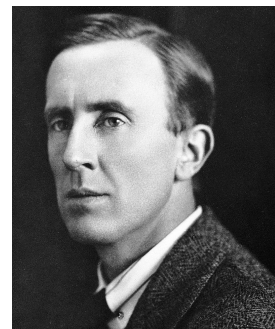
Morphology: the Structure of Words

Derivational morphology

antidisestablishmentarianism

Free morpheme

establish

establish-ment

Bound morpheme

dis-establish-ment

dis-establish-ment-arian

anti-dis-establish-ment-arian

anti-dis-establish-ment-arian-ism

establish

dis-establish

dis-establish-ment

dis-establish-ment-arian

dis-establish-ment-arian-ism

anti-dis-establish-ment-arian-ism
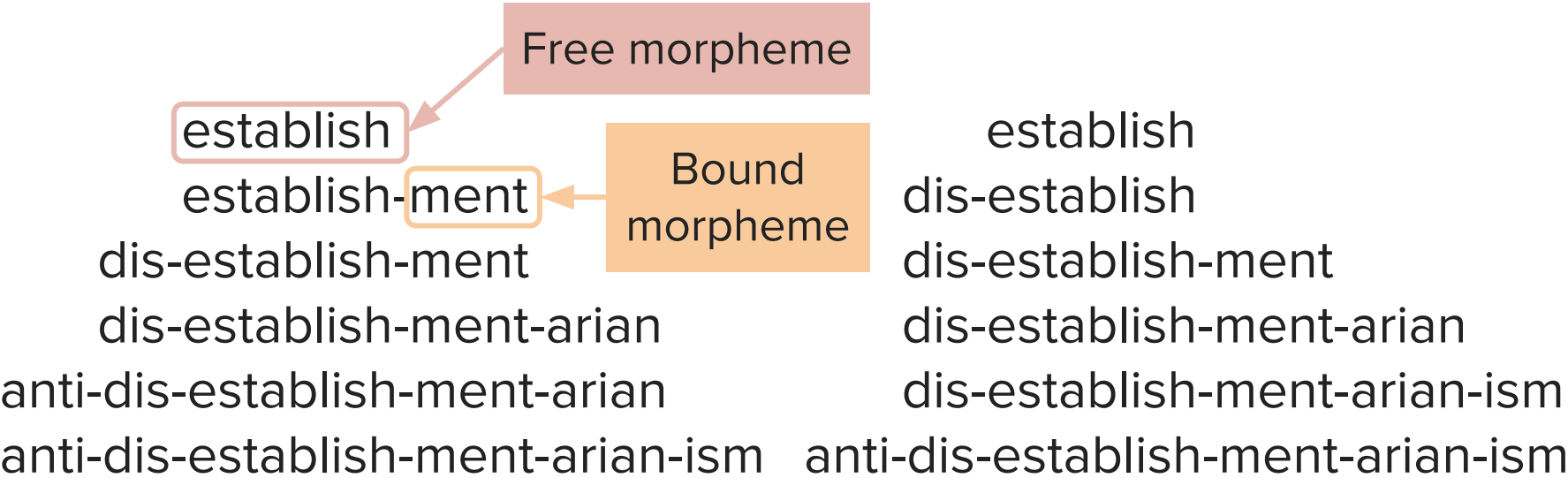
How do we separate morphemes?

- Chalkboard   = chalk-board

- Untranslatable   = un-translat-able

- Quickening   = quick-en-ing

- Helicopter   = heli-copter (originally helico-pter)

Some languages take it to the extreme

Rindfleischetikettierungsüberwachungsaufgabenübertragungsgesetz

Λοπαδοτεμαχοσελαχογαλεοκρανιολειψανοδριμυποτριμματοσιλφιοκαραβομελιτο κατακεχυμενοκιχλεπικοσσυφοφαττοπεριστεραλεκτρυονοπτοκεφαλλιοκιγκλοπελειο λαγωοσιραιοβαφητραγανοπτερύγων

Dziewięćsetdziewięćdziesiątdziewięćmiliardówdziewięćsetdziewięćdziesiątdziewię ćmilionówdziewięćsetdziewięćdziesiątdziewięćtysięcydziewięćsetdziewięćdziesięci odziewięcioletniego

निरन्तरान्धकारित-दिगन्तर-कन्दलदमन्द-सुधारस-बिन्दु-सान्द्रतर-घनाघन-वृन्द-सन्देहकर-स्यन्दमान-मकरन्द-बिन्दु-बन्धुरतर-माकन्द-तरु-कुल-तल्प-कल्प-मृदुल-सिकता-जाल-जटिल-मूल-तल-मरुवक-मिलदलघु-लघु-लय-कलित-रमणीय-पानीय-शालिका-बालिका-करार-विन्द-गलन्तिका-गलदेला-लवङ्ग-पाटल-घनसार-कस्तूरिकातिसौरभ-मेदुर-लघुतर-मधुर-शीतलतर-सलिलधारा-निराकरिष्णु-तदीय-विमल-विलोचन-मयूख-रेखापसारित-पिपासायास-पथिक-लोकान्

Types of morphology

Few morphemes/word   **Many** morphemes/word

Isolating   Fusional   Agglutinative   Polysynthetic

Mandarin   Latin   Turkish   Inuktitut
Vietnamese   Spanish   Swahili   Chukchi
                     French   Quechua   (Most Native
                     Italian   Japanese   American
                     Romanian   languages)
                     German
                     Russian

Verbal inflections (conjugati...

- Person
- Number
  - Clusivity
- Tense
- Aspect
- Mood
- Voice
- Evidentiality

...and so many more!

			1st Conjugation	2nd Conjugation	3rd Conjugation		4th Conjugation
	Infinitive		par*áre*	hab*ére*	mítt*ere*	iác*ere* (-*iō*)	aud*íre*
	Imperative		pár*á*	háb*ē*	mítt*e*	iác*e*	aúd*ī*
			par*áte*	hab*éte*	mítt*ite*	iác*ite*	aud*íte*
Present	Singular	1	pár*ō*	háb*eō*	mítt*ō*	iác*iō*	aúd*iō*
		2	pár*ās*	háb*ēs*	mítt*is*	iác*is*	aúd*is*
		3	pár*at*	háb*et*	mítt*it*	iác*it*	aúd*it*
	Plural	1	par*ámus*	hab*émus*	mítt*imus*	iác*imus*	aud*ímus*
		2	par*átis*	hab*étis*	mítt*itis*	iác*itis*	aud*ítis*
		3	pár*ant*	háb*ent*	mítt*unt*	iác*iunt*	aúd*iunt*
Imperfect	Singular	1	par*ábam*	hab*ébam*	mitt*ébam*	iaci*ébam*	audi*ébam*
		2	par*ábās*	hab*ébās*	mitt*ébās*	iaci*ébās*	audi*ébās*
		3	par*ábat*	hab*ébat*	mitt*ébat*	iaci*ébat*	audi*ébat*
	Plural	1	par*ábámus*	hab*ébámus*	mitt*ébámus*	iaci*ébámus*	audi*ébámus*
		2	par*ábátis*	hab*ébátis*	mitt*ébátis*	iaci*ébátis*	audi*ébátis*
		3	par*ábant*	hab*ébant*	mitt*ébant*	iaci*ébant*	audi*ébant*
Future	Singular	1	par*ábō*	hab*ébō*	mítt*am*	iác*iam*	aúd*iam*
		2	par*ábis*	hab*ébis*	mítt*ēs*	iác*iēs*	aúd*iēs*
		3	par*ábit*	hab*ébit*	mítt*et*	iác*iet*	aúd*iet*
	Plural	1	par*ábimus*	hab*ébimus*	mitt*émus*	iaci*émus*	audi*émus*
		2	par*ábitis*	hab*ébitis*	mítt*étis*	iaci*étis*	audi*étis*
		3	par*ábunt*	hab*ébunt*	mítt*ent*	iáci*ent*	aúd*ient*
Perfect	Singular	1	par*ávī*	háb*uī*	mís*ī*	iéc*ī*	audív*ī*
		2	par*ávístī*	hab*uístī*	mis*ístī*	iéc*ístī*	audiv*ístī*
		3	par*ávit*	háb*uit*	mís*it*	iéc*it*	audív*it*
	Plural	1	par*ávimus*	hab*úimus*	mís*imus*	iéc*imus*	audiv*imus*
		2	par*ávístis*	hab*uístis*	mis*ístis*	iéc*ístis*	audiv*ístis*
		3	par*ávérunt*	hab*uérunt*	mis*érunt*	iéc*érunt*	audiv*érunt*
Pluperfect	Singular	1	par*áveram*	hab*úeram*	mís*eram*	iéc*eram*	audív*eram*
		2	par*áverās*	hab*úerās*	mís*erās*	iéc*erās*	audív*erās*
		3	par*áverat*	hab*úerat*	mís*erat*	iéc*erat*	audív*erat*
	Plural	1	par*áverámus*	hab*uerámus*	mis*erámus*	iéc*erámus*	audiv*erámus*
		2	par*áverátis*	hab*uerátis*	mis*erátis*	iéc*erátis*	audiv*erátis*
		3	par*áverant*	hab*úerant*	mís*erant*	iéc*erant*	audiv*erant*
Future Perfect	Singular	1	par*áverō*	hab*úerō*	mís*erō*	iéc*erō*	audív*erō*
		2	par*áveris*	hab*úeris*	mís*eris*	iéc*eris*	audív*eris*
		3	par*áverit*	hab*úerit*	mís*erit*	iéc*erit*	audív*erit*
	Plural	1	par*ávérimus*	hab*úérimus*	mis*érimus*	iéc*érimus*	audiv*érimus*
		2	par*ávéritis*	hab*úéritis*	mis*éritis*	iéc*éritis*	audiv*éritis*
		3	par*áverint*	hab*úerint*	mís*erint*	iéc*erint*	audiv*erint*

Noun inflectio

- Gender
- Number
- Case
  - Ergative-absolutive alignment

1ST DECLENSION

aqua, -ae, F. *water*

	SINGULAR	PLURAL
NOM	aqua	aquae
GEN	aquae	aquārum
DAT	aquae	aquīs
ACC	aquam	aquās
ABL	aquā	aquīs

2ND DECLENSION

servus, -ī, M. *slave*

	SINGULAR	PLURAL
NOM	servus	servī
GEN	servī	servōrum
DAT	servō	servīs
ACC	servum	servōs
ABL	servō	servīs

dōnum, -ī, N. *gift*

	SINGULAR	PLURAL
NOM	dōnum	dōna
GEN	dōnī	dōnōrum
DAT	dōnō	dōnīs
ACC	dōnum	dōna
ABL	dōnō	dōnīs

3RD DECLENSION

rēx, rēgis, M. *king*

	SINGULAR	PLURAL
NOM	rēx	rēgēs
GEN	rēgis	rēgum
DAT	rēgī	rēgibus
ACC	rēgem	rēgēs
ABL	rēge	rēgibus

corpus, corporis, N. *body*

	SINGULAR	PLURAL
NOM	corpus	corpora
GEN	corporis	corporum
DAT	corporī	corporibus
ACC	corpus	corpora
ABL	corpore	corporibus

3RD DECLENSION I-STEM

cīvis, -is, M. *citizen*

	SINGULAR	PLURAL
NOM	cīvis	cīvēs
GEN	cīvis	cīvium
DAT	cīvī	cīvibus
ACC	cīvem	cīvēs
ABL	cīve	cīvibus

mare, -is, N. *sea*

	SINGULAR	PLURAL
NOM	mare	maria
GEN	maris	marium
DAT	marī	maribus
ACC	mare	maria
ABL	marī	maribus

4TH DECLENSION

frūctus, -ūs, M. *fruit*

	SINGULAR	PLURAL
NOM	frūctus	frūctūs
GEN	frūctūs	frūctuum
DAT	frūctuī	frūctibus
ACC	frūctum	frūctūs
ABL	frūctū	frūctibus

cornū, -ūs, N. *horn*

	SINGULAR	PLURAL
NOM	cornū	cornua
GEN	cornūs	cornuum
DAT	cornū	cornibus
ACC	cornū	cornua
ABL	cornū	cornibus

5TH DECLENSION

rēs, reī, F. *thing*

	SINGULAR	PLURAL
NOM	rēs	rēs
GEN	reī	rērum
DAT	reī	rēbus
ACC	rem	rēs
ABL	rē	rēbus

diēs, diēī, M. *day*

	SINGULAR	PLURAL
NOM	diēs	diēs
GEN	diēī	diērum
DAT	diēī	diēbus
ACC	diem	diēs
ABL	diē	diēbus

Grammar: the Structure of Phrases

Word order

- Constituent order: placement of subject, verb, and object
  - SVO: She loves him   English, Swahili, Chinese languages
  - SOV: She him loves   Japanese, Hindi (most common)
  - VSO: Loves she him   Classical Arabic, Hawaiian
  - VOS: Loves him she   Malagasy
  - OVS: Him loves she   Hixkaryana
  - OSV: Him she loves   Warao
- Separating V and O is grammatically unfavored
- V2 word order: verb comes second
  - "I go often" ➜ "Often go I" (*not* "Often I go")

Word Orders of World Languages

- Unfixed 13.7%
- OVS 0.8%
- VOS 1.8%
- VSO 6.9%
- SVO 35.4%
- SOV 41.0%

Dryer, 2013
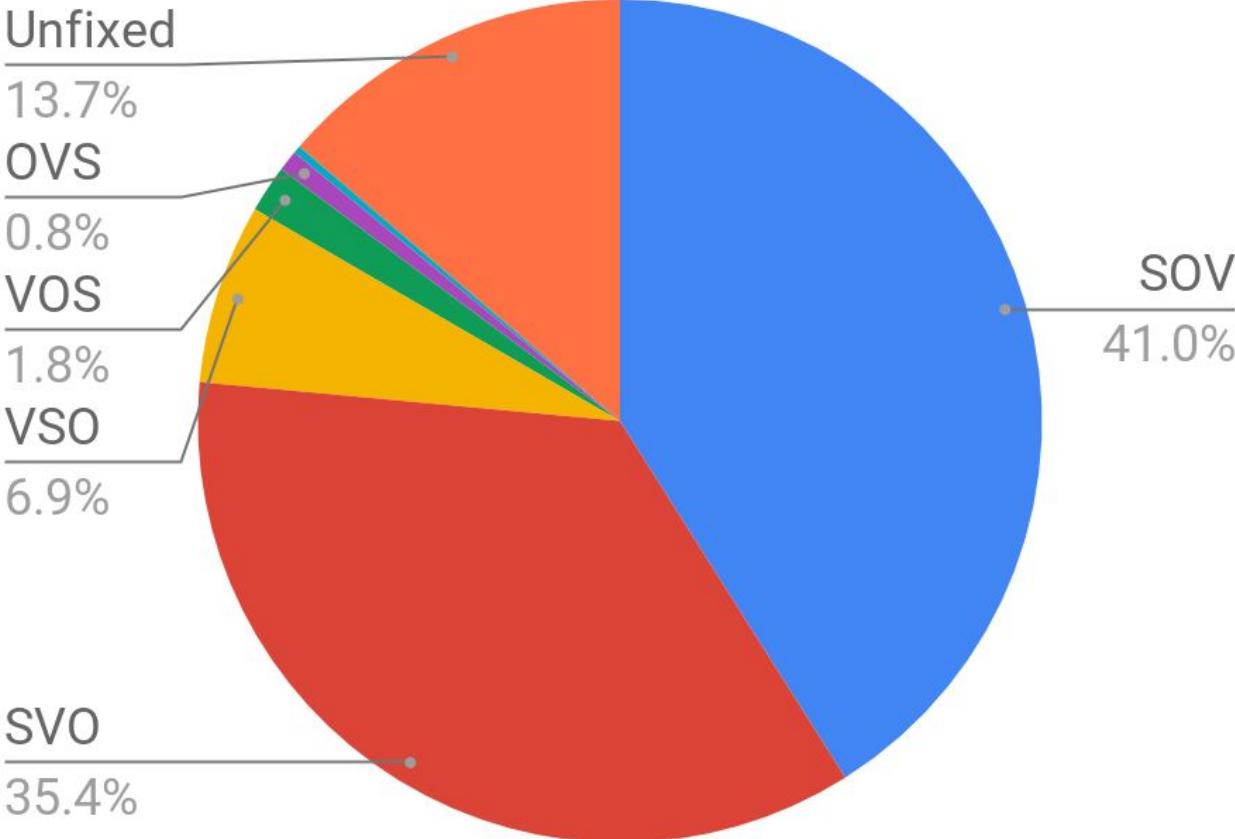
Changing word order

- Many languages use <u>subject-verb inversion</u> to mark a yes-no question
  - Du **bist** da. ➜ **Bist** du da?

    You **are** here. ➜ **Are** you here?
- English is unusual because it relies on <u>do-support</u>
  - Du **besitzt** ein Auto. ➜ **Besitzt** du ein Auto?

    You **own** a car. ➜ **Do** you **own** a car?

Pirahã: a fascinating case study

Phonology: the Sounds of Language

the international phonetic alphabet (2005)

consonants (pulmonic)

	LABIAL		CORONAL					DORSAL			LARYNGEAL	
	Bilabial	Labio-dental	Dental	Alveolar	Palato-alveolar	Retroflex	Alveolo-palatal	Palatal	Velar	Uvular	Pharyngeal	Glottal
Nasal	m	ɱ		n		ɳ		ɲ	ŋ	ɴ		
Plosive	p b		t d			ʈ ɖ		c ɟ	k ɡ	q ɢ	ʡ	ʔ
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ɕ ʑ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Approximant		ʋ		ɹ		ɻ		j	ɰ			
Tap, flap		ⱱ		ɾ		ɽ						
Trill	ʙ			r						ʀ	ʜ ʢ	
Lateral fricative			ɬ ɮ			ꞎ ɭ̥˔	ꞎ	ʎ̥˔	ʟ̝̊			
Lateral approximant				l		ɭ		ʎ	ʟ			
Lateral flap				ɺ		ɺ̢						

Where symbols appear in pairs, the one to the right represents a modally voiced consonant, except for murmured ɦ.

Shaded areas denote articulations judged to be impossible. Light grey letters are unofficial extensions of the IPA.

Clicks

vowels

	Front	Near front	Central	Near back	Back
Close	i • y		ɨ • ʉ		ɯ • u
Near close		ɪ • ʏ	ɪ ʊ	• ʊ	
Close mid	e • ø		ɘ • ɵ	ɤ	• o
Mid			ə		
Open mid		ɛ • œ	ɜ • ɞ	ʌ	• ɔ
Near open		æ	ɐ		
Open		a • ɶ		ɑ	• ɒ
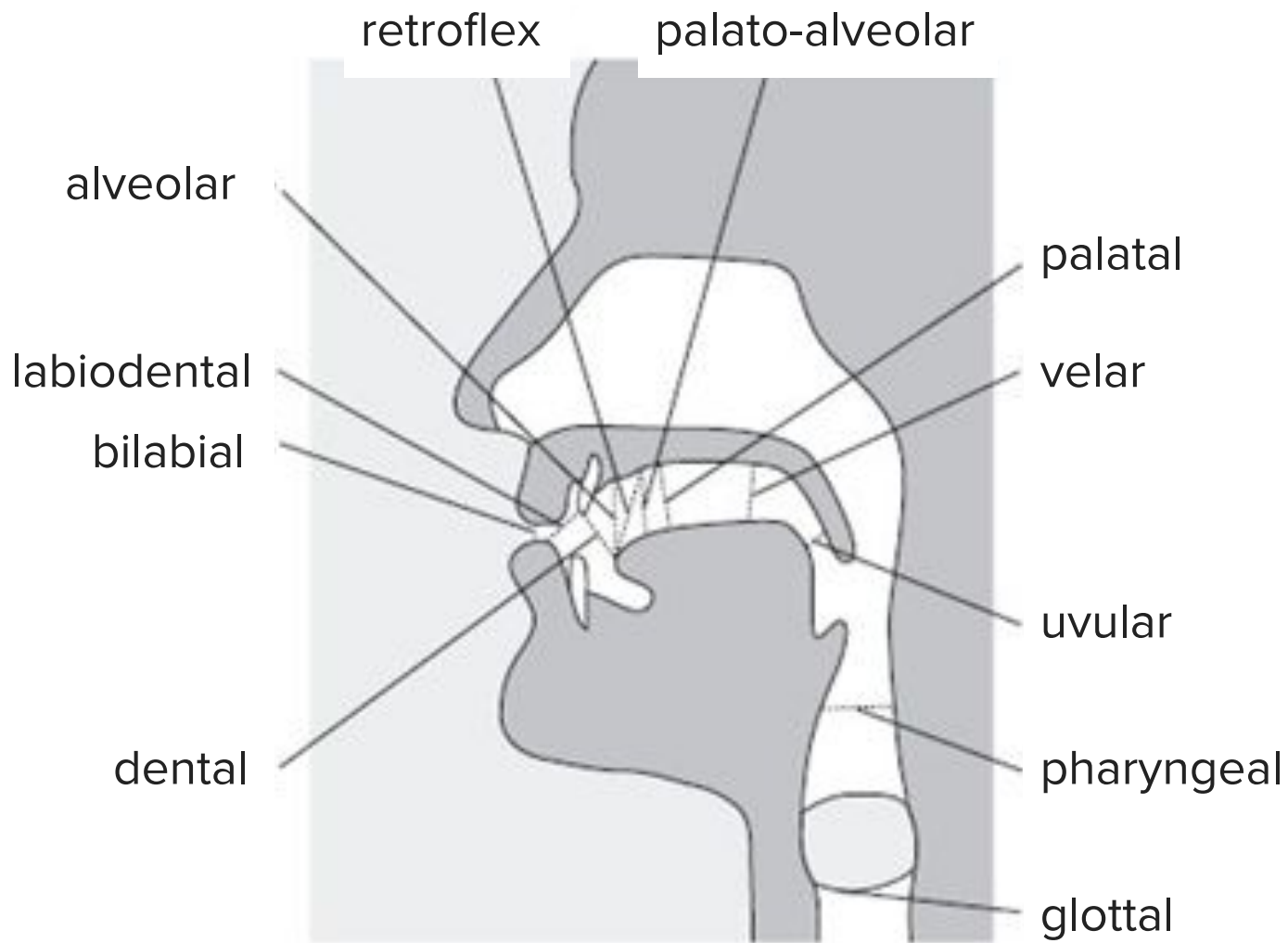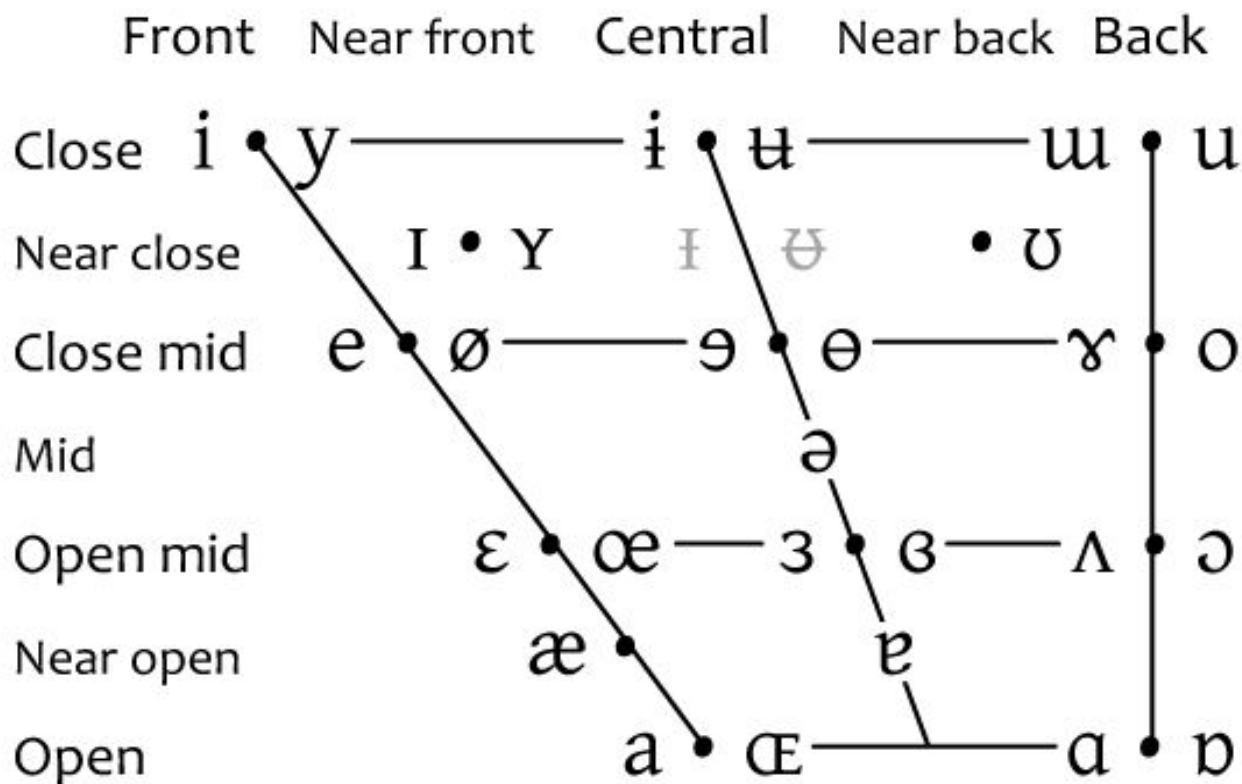
Vowels at right & left of bullets are rounded & unrounded.

Tones

- Affect the meaning of words in tonal languages
- Varying degrees of complexity, from low/high to tone "shapes"
- Some languages use <u>pitch accents</u>: series of pitches within a word, rather than inside a syllable

Dấu nặng
The Low Falling Tone

1st tone
2nd tone
4th tone
3rd tone
5
4
3
2
1

Creative Commons: Wereon
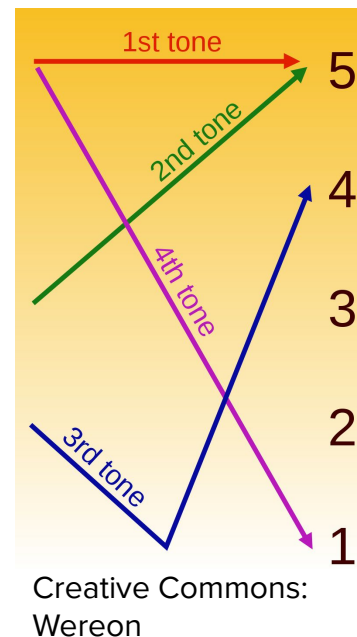
Phonotactics

- Rules for acceptable sound combinations in syllables
- Also specifies what sounds are allowed in each position
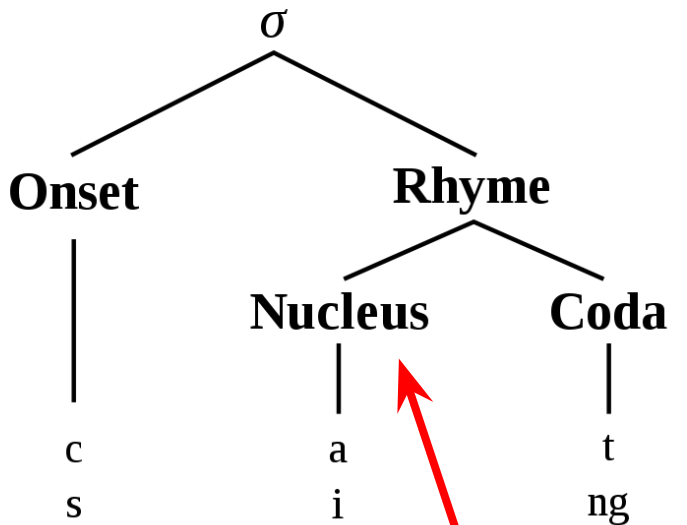
English
(C)(C)(C)(V)V(C)(C)(C)(C)(C)
/s t r ɛ ŋ (k) θ s/
"strengths"

Hawaiian
(C)V(V)
/p o e/
"round"

Language Evolution

Language families

- Sets of languages can be traced to a common ancestor through comparative linguistics
- Examples: Indo-European, Afro-Asiatic, Sino-Tibetan
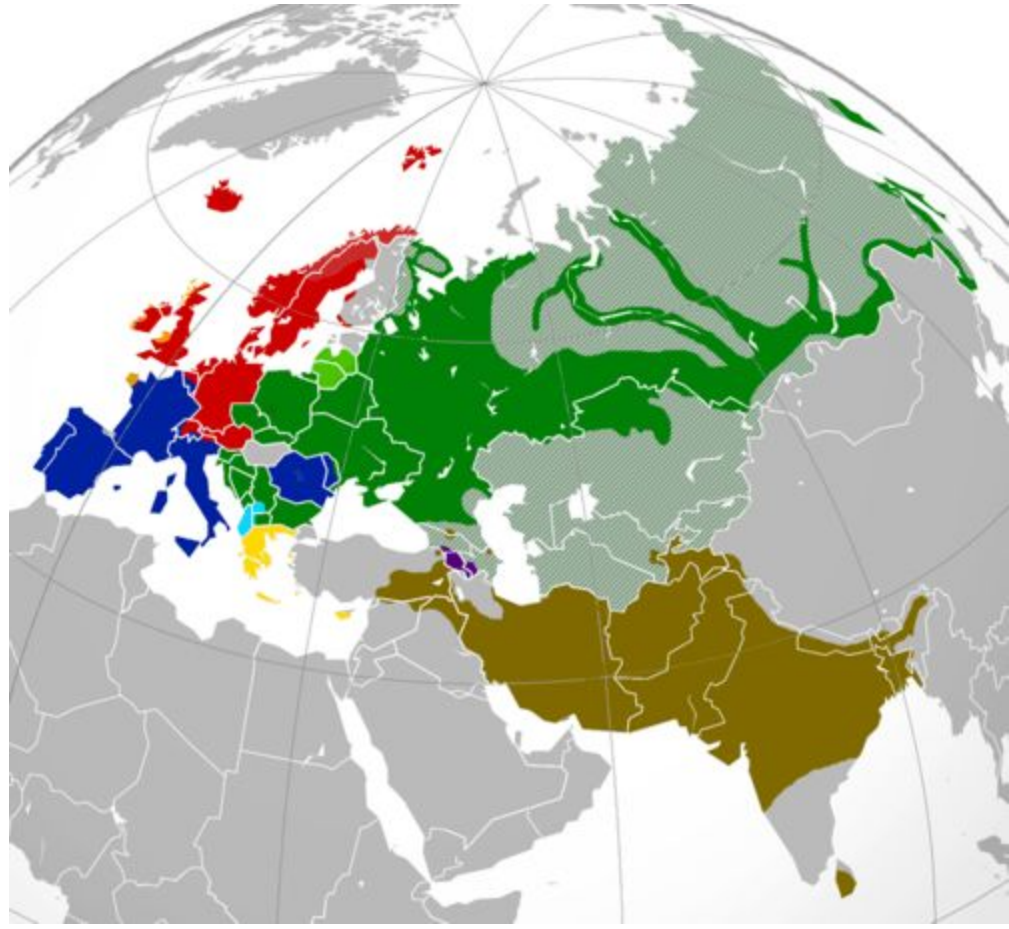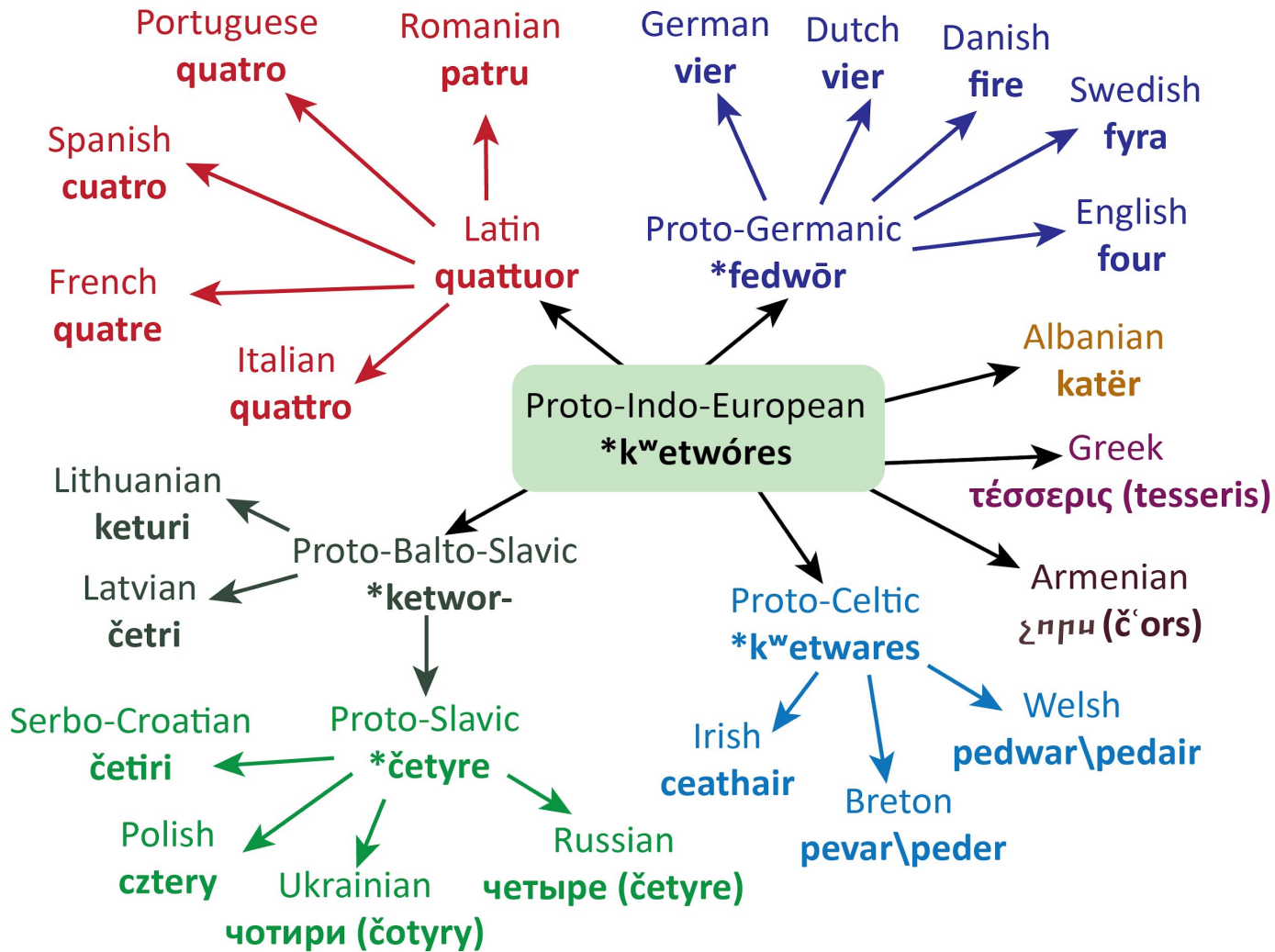
Changes in the English language

Wé þurh holdne hige hláford þínne /
sunu Healfdenes sécean cwómon /
léodgebyrgean· wes þú ús lárena gód·

ca. 1000

1380s

And smale foweles maken melodye, /
That slepen al the nyght with open ye, /
So priketh hem Natúre in hir corages, /
Thanne longen folk to goon on
pilgrimages,

We, by resolute resolve, your lord, /
the son of Half-Dane have come to seek, /
that protector of the people; be you a
good guide to us;

And small fowls make melody, /
That sleep all the night with open eyes, /
So nature pricks them in their hearts, /
Then folks long to go on pilgrimages,

Sound changes

- **Great Vowel Shift in English**
  - 1400-1700
- **Lenition: softens consonants**
  - Grimm's Law
  - Latin **p**a**t**er vs. English **f**a**th**er
- **Metathesis: flipping of two sounds**
  - Latin mi**r**acu**l**um ➜ Spanish mi**l**ag**r**o
  - Middle English b**ri**d ➜ English b**ir**d

Word	Late Middle English before GVS	Modern English after GVS
bite	/iː/	/aɪ/
meet	/eː/	/iː/
meat	/ɛː/	
mate	/aː/	/eɪ/
out	/uː/	/aʊ/
boot	/oː/	/uː/
boat	/ɔː/	/oʊ/

Writing Systems

Orthography

- Relationship between graphemes and phonemes
- Can become deeper over time due to sound changes not reflected by spelling
  - Thai hasn't had a spelling reform since 1283

Shallow   **Deep**

Finnish   Japanese kana   French   Thai
Swahili   Korean   English   Tibetan
     Spanish   Greek   Irish Gaelic

Alphabets

- Glyphs are letters, representing both vowels and consonants (sometimes combinations)
- Often (not always!) contain lowercase (minuscule) descended from uppercase (majuscule)
- Examples: Latin, Greek, Cyrillic

Abjads

- Similar to alphabets, glyphs are letters
- Only (or mostly) consonants are explicitly written
- Examples: Hebrew, Arabic, Phoenician, Aramaic

Abugidas/Alphasyllabaries

- Glyphs are consonant-vowel sequences
- Unlike abjads, vowels <u>are</u> normally written, but as secondary parts of glyphs
- Work well with languages that use CV phonotactics
- Examples: Devanagari, Gujarati, Khmer, Thai, Geʻez

देवनागरी

ถ้าผมมขฐน
ตัวอักษรอย่างนี้
คุณจะเข้าใจไหมขํรับ

Syllabaries

- Glyphs represent unique syllables
- Works well with languages that use CV phonotactics
- Examples: hiragana, katakana, Cherokee, Linear B

Abugidas vs Syllabaries

Name	IPA	ä / æ	u / u:	i / i:	a / a:	e / e:	ə / ə	o / o:	wa / wə	yä / jæ
hoy	h	ሀ	ሁ	ሂ	ሃ	ሄ	ህ	ሆ	ሇ	
läwe	l	ለ	ሉ	ሊ	ላ	ሌ	ል	ሎ	ሏ	
ḥäwṭ	ḥ	ሐ	ሑ	ሒ	ሓ	ሔ	ሕ	ሖ	ሗ	
may	m	መ	ሙ	ሚ	ማ	ሜ	ም	ሞ	ሟ	ፙ
säwt	ś	ሠ	ሡ	ሢ	ሣ	ሤ	ሥ	ሦ	ሧ	
re's	r	ረ	ሩ	ሪ	ራ	ሬ	ር	ሮ	ሯ	ፘ
śat	ś	ሰ	ሱ	ሲ	ሳ	ሴ	ስ	ሶ	ሷ	
ḳaf	ḳ	ቀ	ቁ	ቂ	ቃ	ቄ	ቅ	ቆ	ቇ	
bet	b	በ	ቡ	ቢ	ባ	ቤ	ብ	ቦ	ቧ	
täwe	t	ተ	ቱ	ቲ	ታ	ቴ	ት	ቶ	ቷ	
ḥarm	ḫ	ኀ	ኁ	ኂ	ኃ	ኄ	ኅ	ኆ	ኇ	
nähas	n	ነ	ኑ	ኒ	ና	ኔ	ን	ኖ	ኗ	
'älf	ʾ	አ	ኡ	ኢ	ኣ	ኤ	እ	ኦ	ኧ	

|				
ア a	イ i	ウ u	エ e	オ o
カ ka	キ ki	ク ku	ケ ke	コ ko
サ sa	シ shi	ス su	セ se	ソ so
タ ta	チ chi	ツ tsu	テ te	ト to
ナ na	ニ ni	ヌ nu	ネ ne	ノ no
ハ ha	ヒ hi	フ fu	ヘ he	ホ ho
マ ma	ミ mi	ム mu	メ me	モ mo
ヤ ya		ユ yu		ヨ yo
ラ ra	リ ri	ル ru	レ re	ロ ro
ワ wa				ヲ wo
				ン n

kanaquest.com

Alphabetic Syllabary

- Consonants and vowels all have graphemes which are arranged into larger syllable-sized glyphs
- Example: Hangul (Korean)
  - Featural script: grapheme shapes are informative, not arbitrary
  - Designed by King Sejong in 1443
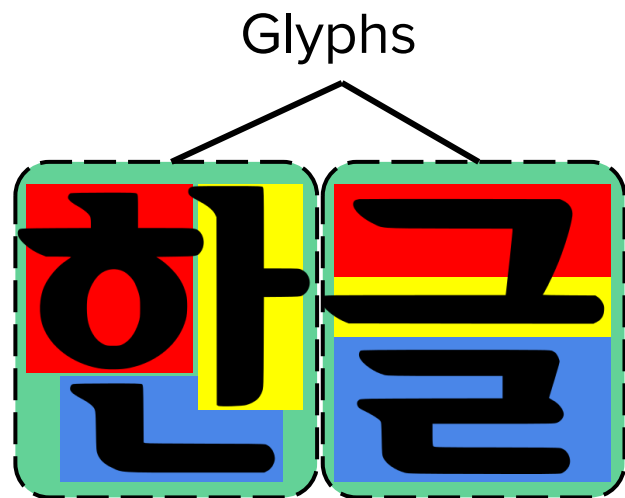
Glyphs

Logographic Systems

- Glyphs are characters, sometimes composed of smaller graphemes like radicals
- Glyphs do not directly indicate pronunciation, must be learned by speakers
- Examples: Hieroglyphics, cuneiform, Chinese characters
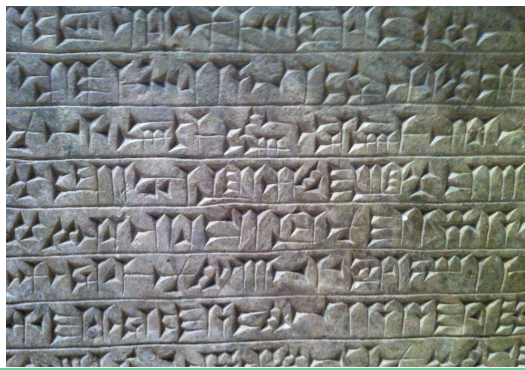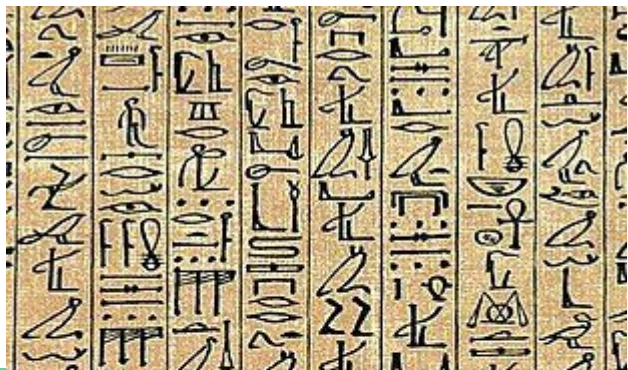
My recommendations for conlanging

Do

- Study other languages to gain insight
  - Think about what you like and dislike from them
- Learn about grammar
- *Suggestion*: build a world for your languages to live in

Do not

- Make a relex
- Make a "kitchen-sink" conlang
- Limit yourself based on what is familiar from your native languages

Beginner-friendly resources

- Zompist.com
  - *Language Construction Kit*
  - *Advanced Language Construction*
- Youtube channels
  - Artifexian (worldbuilding)
  - LangFocus
  - NativLang
- PolyGlot

The Language
Construction Kit

Mark Rosenfelder

Thank you! Any questions?