From May 22nd, 2017 to June 29, 2017, I taught a course called Linguistics 183: The Linguistics of *Game of Thrones* and the Art of Language Invention at UC Berkeley. The course was initially proposed by Professor Andrew Garrett, who encouraged me to design and teach it. To say this was an extraordinary experience would be an understatement. This was, without a doubt, one of the greatest experiences of my life, and I’m still in shock that I was given such a unique opportunity (after all, such opportunities rarely arise for those who lack Ph.D.’s). It was difficult to fit the course into six weeks (a constraint I gave myself, since I continued to live in Southern California, and so had to commute), but I did the best I could. The results weren’t perfect, but the work the students produced was something I’m quite proud of—all of which, I hope, will be shared online one day.

In the interest of open access, the syllabus for the course and all of my slides are shared here. This doesn’t cover everything we did in class (nor even all the slides, truth be told, as neither video nor audio function in .pdf versions of Keynote files), but it does cover a good part of the instruction I provided in class, minus my explanations. I hope this material will prove useful to others currently teaching conlang courses or who may be interested in teaching one in the future.

As noted in the syllabus, there was a course Slack and course website that went along with the course. While the Slack is private, the course website is linked to in the syllabus, and remains in the state it was in on the last day of class. All of the assignments for the course are on the course website, and I may in future add those separately to *Fiat Lingua*, but I felt they didn’t fit with this material.

If you take a look at these slides, I hope you find them useful!

-David Peterson
Linguistics 183: The Linguistics of *Game of Thrones* and the Art of Language Invention

Syllabus

UC Berkeley, Summer Session A, 2017
MTuWTh 3:10 p.m. - 5:00 p.m.

Class#: 15669 Room: Moffitt Library 106

**Professor:** David Peterson  
**Office Hours:** 1-3 TuW 1307 Dwinelle
**E-Mail:** djpquery@gmail.com  
**Twitter:** @Dedalvs

**Course Web Page:** [http://artoflanguageinvention.com/](http://artoflanguageinvention.com/)

**Course Slack:** [http://gotaoli.slack.com/](http://gotaoli.slack.com/)

**Prerequisites:** 1 of the following 3 is required:
- Linguistics 5
- Linguistics 100
- Instructor Permission

**Required Texts:** *Available on course reserve!*
  - Available wherever books are sold. Audio and Kindle editions available.

**Recommended Texts:** *Available on course reserve!*

**Useful Websites:**
- Fiat Lingua: [http://fiatlingua.org/](http://fiatlingua.org/)
Course Description:
• This is a college level introduction to language creation (conlanging) and language study. Language creation lies somewhere between the realms of art and science, drawing heavily on both. Students will acquire the fundamentals of the scientific study of language, and will be encouraged to take that information and employ it creatively in the field of conlanging. This course will feature in class lectures, group discussion, classroom activities, and at home study.

Student Learning Outcomes:
Upon successful completion of this course, students will be able to
• Command the basics of some fundamental subdisciplines of linguistics: phonetics, phonology, morphology, syntax, semantics, and pragmatics.
• Speak knowledgeably about the history of language creation.
• Identify and employ strategies of linguistic evolution as they apply to language creation.
• Create their own languages with a clear understanding of what variables are in play in the construction of a naturalistic language, what the limits of human communication systems are, and how precisely they can improve their own craft.

Course Requirements:
• Come to class on time and be ready to participate. Missing class more than three times during the course of the semester may result in your being dropped from the course. Note: If you miss the first or second class period, you may be dropped from the course.
• Participate in class and in the online course Slack chat regularly.
• Read assigned readings before the class period in which they’ll be discussed, and, if applicable, bring them to class, so that they can be referred to during discussion.
• Complete practice assignments assigned throughout the course, each graded on a credit/no credit basis.
• Complete mastery assignments graded on a twenty (20) point scale. Included in the set of mastery assignments are the four stages of your final conlang grammar.
• Do one in-class presentation on your conlang (sign up for presentation slot).
• Complete one conlang writeup (final).
Grade Breakdown:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
<th>Grade</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class/Slack Participation</td>
<td>5%</td>
<td>A+</td>
<td>98% ~ 100%</td>
</tr>
<tr>
<td>Practice Assignments</td>
<td>25%</td>
<td>A</td>
<td>94% ~ 97.9%</td>
</tr>
<tr>
<td>Mastery Assignments</td>
<td>25%</td>
<td>A-</td>
<td>90% ~ 93.9%</td>
</tr>
<tr>
<td>Conlang Presentation</td>
<td>10%</td>
<td>B+</td>
<td>88% ~ 89.9%</td>
</tr>
<tr>
<td>Final Conlang Writeup</td>
<td>35%</td>
<td>B</td>
<td>84% ~ 87.9%</td>
</tr>
</tbody>
</table>

Total: 100%  B-  80% ~ 83.9%  F  < 60%
C+  78% ~ 79.9%

Grading Scheme:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98% ~ 100%</td>
</tr>
<tr>
<td>A</td>
<td>94% ~ 97.9%</td>
</tr>
<tr>
<td>A-</td>
<td>90% ~ 93.9%</td>
</tr>
<tr>
<td>B+</td>
<td>88% ~ 89.9%</td>
</tr>
<tr>
<td>B</td>
<td>84% ~ 87.9%</td>
</tr>
<tr>
<td>C+</td>
<td>78% ~ 79.9%</td>
</tr>
<tr>
<td>C</td>
<td>74% ~ 77.9%</td>
</tr>
<tr>
<td>C-</td>
<td>70% ~ 73.9%</td>
</tr>
<tr>
<td>D+</td>
<td>68% ~ 69.9%</td>
</tr>
<tr>
<td>D</td>
<td>64% ~ 67.9%</td>
</tr>
<tr>
<td>D-</td>
<td>60% ~ 63.9%</td>
</tr>
</tbody>
</table>

General Guidelines:

- In order to create a good language, you need to know a lot about language. Use whatever resources you can to get up to speed, including: studying the grammars of other languages; reading language descriptions on Wikipedia; looking at online grammars of other constructed languages; reading papers in an area of linguistics that interests you; watching television in other languages; reading text in other languages; studying other languages. No information is wasted!
- Any assignment that requires more than one sheet of paper must be stapled if turned in physically. I will not accept unstapled work.
- For our class, you should use either Noto Sans or Noto Serif 12 point font. You can download the Noto suite of fonts here: [https://www.google.com/get/noto/](https://www.google.com/get/noto/)

Class Conduct:

During class, please be present: no outside reading; no internet surfing; no checking cell phones. Eating and drinking is fine, so long as it's not too loud (n.b. chips are too loud. So are Grape-Nuts). There will be plenty of time to discuss the course content and ask questions, so please be sure not to speak over anyone else (including the professor!), whether or not your comment is on topic.

Academic Honesty:

As stated previously, language creation straddles the boundary of art and science. In an academic course, the urge to cheat is simply explained: If student performance is evaluated in part on the student's ability to correctly demonstrate some skill acquired during the course, copying another student will save the cheater time. Language creation, though, is an artform. Many of the assignments given to students in this course will have no "correct" answer, just as in a poetry class, there is no "correct" poem one can submit. Language, as an object or activity, is naturally the result of collaboration, and students are encouraged to bounce ideas off one another, but when it comes time to set pen to paper (or finger to keyboard), it is an absolute requirement that each student's work be the product of their own imagination. Where a student benefits from a discussion
with another student or draws inspiration from another work (or from another language *created* or *natural*), the student will be required to cite that discussion and/or work (see Citation below). Failure to follow these guidelines will result in expulsion from the course, and a failing grade. There will be no warnings beyond this one given out on the first day of class.

**Citation:**
As mentioned above, students *must* cite any source that helped them or inspired them in their own assignment. This is not an English course, though, so in citation, what I need to know is: (a) who/what you got your information/inspiration from, and (b) where I can find that information. Consequently, if you worked with a fellow student, their name will suffice. It’s a person outside our class, please tell me who that person is, how you know them, and who they are or what they do (friend, professor, family member). For a language, please give the name of the language, and a reference for where you got information on it (if a website, the url will do; if you happen to be fluent, state that). For anything that goes back to a book or article, please list the author(s), the title, the website (if applicable), and the edition. Especially in linguistics, many linguists will post drafts of their papers on their site. It’s important to know what stage of the draft you looked at in case it changes later. If you find yourself having questions about how to cite a work or person, simply use APA style (standard in linguistics).

**Accommodations:**
If you require accommodations for any physical, psychological, or learning disability, please contact me via email, or set up a meeting to discuss your situation with me in person. UC students are permitted to miss lectures, quizzes, or exams if they coincide with holidays pertaining to that student’s religion or creed. Students may also, under certain circumstances, miss quizzes or exams if they coincide with important extra-curricular activities, such as musical performances, interviews, or team activities. Please bear in mind, however, that late homework will not be accepted, as homework assignments can be completed ahead of time.

Note that absences due to religious holidays or extra-curricular activities will only be excused if the student notifies me two weeks prior to the date of their intention to miss class. In addition to notifying me in person, the student must send me an email, which will serve as a record of the notification. Note that students remain responsible for material presented during their absence.
Late Work:

*The policy on late work is as follows:*

- Due to the brevity and pace of the course, **late work will not be accepted.**
- Homework is due by the beginning of the class period on its specified due date. It may be turned in online as long as the timestamp is prior to the beginning of the class period in which its due.
- Much work in the course outside of the final project and homework will happen in class. In class activities and assignments, by their very nature, cannot be made up. If you anticipate being late to or missing a particular class period, **please contact me ahead of time**, so we can make arrangements to get your work turned in on time.

Tardies:

Please be on time. Emergencies happen from time to time, of course, but excessive tardies may result in your removal from course.

Disclaimer:

I'm indebted to Dr. Jessie Sams, Dr. Doug Ball and Dr. Lev Michael, whose syllabi I consulted in preparing this syllabus.

Class Contacts:

If you ever miss class and want to get the notes from someone who was there, you may want to jot down their contact information here:

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone Number</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tentative Schedule:

**Topics**
Week 1: Introduction to Conlanging; Phonetics and Phonology
Week 2: Nominal Morphology
Week 3: Verbal Morphology
Week 4: Syntax and Pragmatics; Typology
Week 5: Orthography
Week 6: Translation and Final Preparation

**Language Case Studies**
Week 1: Dothraki
Week 2: High Valyrian
Week 3: Low Valyrian
Week 4: Irathient
Week 5: Castithan
Week 6: Class Conlangs

**Assignments**
*Note: Conlang presentations will happen throughout the course.*
Week 1: Mastery Assignment (MA) 1, MA 2
Week 2: MA 3, MA 4
Week 3: MA 5, MA 6
Week 4: MA 7, MA 8
Week 5: MA 9, MA 10
Week 6: Final Due

**Reading**
*Note: AoLI = The Art of Language Invention. Final reading assignments will be posted on the class website. Other readings (TBD) will be provided in PDF format.*
Week 1: AoLI Chapter I: Sounds; Case Study: The Sound of Dothraki
Week 2: AoLI Chapter II: Words, pp. 97-135; Case Study: High Valyrian Verbs
Week 3: AoLI Chapter II: Words, pp. 136-152
Week 4: AoLI Chapter III: Evolution; Case Study: Irathient Nouns
Week 5: AoLI Chapter IV: The Written Word; Case Study: The Evolution of the Castithan Writing System
Week 6: —
Hildegard von Bingen

Lingua Ignota

~1150
aigonz “God”
aiegnanz “angel”
inimois “human being”
iur “man”
vanix “woman”
galschiriz “battle axe”
Universal Language
1668
John Wilkins
IX. BACCIFEROUS HERBS, may be distinguished according to their

Frangipanis.

1. STRAWBERRY.
   Leaf, pleasant ; either that of a leaf like Aegrimony, bearing round fruit of a bright red ; or that of a broad hairy rough leaf, bearing a large fruit almost as big as a Cucumber.

2. MAD APPLE.
   Root, bearing winged leafe, and a bell flower.

3. POPTO OF VIRGINIA.

Malignant, whether such whose leaves are more

Simple and undivided, either that which hath a broad leaf, bearing black berries ; or that which hath a more long, broad, dark coloured leaf, a great root, bearing great berries on single stalks.

4. MANDBRAKE.

Compound, or made up of many segments, either that which bears light green berries in a cluster ; or that which bears but one leaf divided into four or five parts, and but one black berry.

5. SHERB CHRISTOPHER, Berry bearing Wolves-bane.

6. SHERB TRUE LOVE, One Berry.

Manner of growth of the

Plants themselves, being Climbers, whether such as are considerable for

Purification, bearing red berries, either that of a great white root, having leaves like a Vine, but more rough ; or that of a great black root, with leaves like those of Ivy.

6. WHITE BRONY.


Being full of crooked prickles, having a long triangular leaf.

7. PRICKLY BINDWEED.

Berris, whether in a

Bladder, either that which is a low plant, which bears a red berry in a large bladder, or that whose leaves are like Chickweed, ramping upon other plants.

8. WINTER CHERRY.

9. BERRY BEARING CHICKWEED.

9. DANEWORT.
Esperanto
1887
L. L. Zamenhof
Mi estas bona knabo.
“I am a good boy.”
Mi estas bono knaba.
“I am a boyish good thing.”
bono = good thing
bona = good
boni = to be good
bone = well
bonu = be good
Quenya
Sindarin
~1910

J. R. R. Tolkien
<table>
<thead>
<tr>
<th>Sindarin “father”</th>
<th>Quenya “father”</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>adar</code></td>
<td><code>atar</code></td>
</tr>
<tr>
<td><code>adac</code></td>
<td><code>atoc</code></td>
</tr>
<tr>
<td>Tehtar Mode of Beleriand</td>
<td>vowels on preceding consonants</td>
</tr>
<tr>
<td><code>adac</code></td>
<td><code>atoc</code></td>
</tr>
<tr>
<td>ada</td>
<td>atto</td>
</tr>
<tr>
<td>Sindarin “father, daddy”</td>
<td>Quenya “father, daddy”</td>
</tr>
</tbody>
</table>
*nelek > *nele > *nel > nêl “tooth”
*neleki > *neliki > *neligi > nelig “teeth”
Pakuni
1974

Victoria Fromkin
mura
“to befriend”
amura
“friend”
amurani
“friends”
emura

“friendship”
murasa
“friendly”
Klingon
1984
Marc Okrand
<table>
<thead>
<tr>
<th>Subject</th>
<th>No object</th>
<th>1st person singular</th>
<th>2nd person singular</th>
<th>3rd person singular</th>
<th>1st person plural</th>
<th>2nd person plural</th>
<th>3rd person plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st person singular</td>
<td>jI-</td>
<td>—</td>
<td>qa-</td>
<td>vI-</td>
<td>—</td>
<td>Sa-</td>
<td>vI-</td>
</tr>
<tr>
<td>2nd person singular</td>
<td>bI-</td>
<td>cho-</td>
<td>—</td>
<td>Da-</td>
<td>ju-</td>
<td>—</td>
<td>Da-</td>
</tr>
<tr>
<td>3rd person singular</td>
<td>Ø-</td>
<td>mu-</td>
<td>Du-</td>
<td>Ø-</td>
<td>nu-</td>
<td>lI-</td>
<td>Ø-</td>
</tr>
<tr>
<td>1st person plural</td>
<td>ma-</td>
<td>—</td>
<td>pI-</td>
<td>wI-</td>
<td>—</td>
<td>re-</td>
<td>DI-</td>
</tr>
<tr>
<td>2nd person plural</td>
<td>Su-</td>
<td>tu-</td>
<td>—</td>
<td>bo-</td>
<td>che-</td>
<td>—</td>
<td>bo-</td>
</tr>
<tr>
<td>3rd person plural</td>
<td>Ø-</td>
<td>mu-</td>
<td>nI-</td>
<td>lu-</td>
<td>nu-</td>
<td>lI-</td>
<td>Ø-</td>
</tr>
<tr>
<td>unspecified*</td>
<td>Ø-</td>
<td>vI-</td>
<td>Da-</td>
<td>Ø-</td>
<td>wI-</td>
<td>bo-</td>
<td>lu-</td>
</tr>
</tbody>
</table>
The Conlang Mailing List

Constructed Languages List

CONLANG@LISTSERV.BROWN.EDU

Web Interface

- Search the archives
- Post to the list (needs subscription)
- Join or leave the list (or change settings)
- Manage the list (list owners only)

E-Mail Interface

- Post to the list (needs subscription)
- List management (a computer)
  Mail body HELP to get a list of commands.
- List owner (a human being who helps you!)
  The current list owners are Alex Fink and And Rosta.

Archives

You can also read this list here.

- May 2017, week 2
- May 2017, week 1
- April 2017, week 5
- April 2017, week 4
- April 2017, week 3
- April 2017, week 2
- April 2017, week 1
- March 2017, week 5
- March 2017, week 4
- March 2017, week 3
- March 2017, week 2
- March 2017, week 1
- February 2017, week 4
- February 2017, week 3
- February 2017, week 2
- February 2017, week 1
- January 2017, week 4

Synopsis

Conlang is a mailing list for discussing constructed and artificial languages.

RSS 0.9
RSS 1.0
RSS 2.0

Discussions often include linguistical features and details about natural and constructed languages. The focus is on technical discussion and personal preferences and views of our enthusiastic conlangers rather than on advocacy, especially of international auxiliary languages (IALs), which are better discussed on the Auxlang list instead.

You can either join the list by using the web interface, or subscribe via email by sending a mail to listserv@listserv.brown.edu with no subject but a body that contains exactly one line:

subscribe conlang FirstName LastName

To unsubscribe, send the following mail body:

unsubscribe conlang

To get a list of commands, send a message with the following body to the same address:
How to create a language
by Pablo David Flores

Table of Contents

The following are the topics and subtopics in the webpages of How to create a language.

- Sounds
  - Phones and phonemes
  - Vowels vs. consonants
  - Consonants
  - New consonants
  - Vowels
  - New vowels

- Stress and pitch

- Tone

- Phonological constraints

- Sound change
  - Rules of sound change

- Harmony

- Sandhi or mutation

- Writing your language
  - Alphabets and other scripts
  - Ordering your script

- Grammar
  - Morphological typology
    - Inflection
    - Agglutination
    - Isolation
  - Analysis and synthesis

- Orthography
Artlang
Auxlang
Engelang
A Posteriori
A Priori
<table>
<thead>
<tr>
<th>ARTLANG</th>
<th>A POSTERIORI</th>
<th>A PRIORI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brithenig</td>
<td>Teonaht</td>
<td></td>
</tr>
<tr>
<td>AUXLANG</td>
<td>Esperanto</td>
<td>Sona</td>
</tr>
<tr>
<td>ENGELANG</td>
<td>Briefscript</td>
<td>Ithkuil</td>
</tr>
</tbody>
</table>
“Yours is not the only heart broken this night.”
The insect eats the flower.
The insect eats in the flower.
The flower eats the insect.
Naturalism: the attempt to create a language that mirrors, as closely as possible, the quirks and idiosyncrasies of natural languages.
Phonological Evolution

*muːs > maus
Grammatical Evolution

*lich “body” > -ly
Lexical Evolution

*gesæelig “holy” > silly
Orthographic Evolution

[Diagram of symbols]
Create a language from the *Song of Ice and Fire* universe.
1. Phonology
2. Nominal Morphology
3. Verbal Morphology
4. Syntax/Typology
5. Orthography
M^1 - Th^1 = Learn/Practice
Th^1 - M^2 = Writeup
M^2+ = Revise
Final = Revise and Combine Writeups
Three Lesser-Known Tools for Lexicon-Building in Your Conlang

May 1, 2017 — Fiat Lingua

John Quijada spent more than thirty years creating the philosophical language Ithkuli, whose notoriety has been featured in The New Yorker magazine. He also writes the "Conlang Curiosities" column for the Language Creation Society's Language Creation Tribune quarterly publication. He has a degree in linguistics, speaks five languages, has co-written a novel exploring the philosophical implications of quantum physics, and composes music, among many other hobbies and interests.

Download (.pdf)

Abstract

At the Fifth Language Creation Conference in Austin, Texas, John Quijada presented on some advanced lexicon building techniques. Unfortunately, his talk was shortened due to some organizational mishaps. In this paper, John goes over the main thrust of his talk, and uses the opportunity to share some of the examples and ideas he wasn’t able to share at the talk itself.

Version History

- fl-000044-00 (Original Version)

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License.

Presentations
Throughout the Term
Starting Next Wednesday
 (~4 Per Week)
1. Class Participation
2. Slack Participation
3. Practice Assignments
4. Mastery Assignments
Practice Assignments

✅ or ❌
Mastery Assignments
Graded (out of 20)
Writeup Steps = Mastery Assignments
Assignments

Reading

- *The Art of Language Invention* (hereafter AoLI) Introduction (*Optional*)
- AoLI Chapter 1, pp. 25-60

Practice

- Set up your Slack account, sign in to our course Slack, and introduce yourself.
- Assessment Test

Mastery

- *(None Today)*

Backburner

- Start looking over the language options for your final assignment here.
Assignments

Reading

- *The Art of Language Invention* (hereafter AoLI) Introduction *(Optional)*
- AoLI Chapter 1, pp. 25-60

Practice

- Set up your Slack account, sign in to our course Slack, and introduce yourself.
- Assessment Test

Mastery

- *(None Today)*

Due by Next Class Period

Backburner

- Start looking over the language options for your final assignment [here](#).
Assignments

Reading

- *The Art of Language Invention* (hereafter AoLI) Introduction *(Optional)*
- AoLI Chapter 1, pp. 25-60

Practice

- Set up your Slack account, sign in to our course Slack, and introduce yourself.
- Assessment Test

Mastery

- *(None Today)*

Backburner

- Start looking over the language options for your final assignment [here](#).
PHONOLOGY
PLACE
MANNER
<table>
<thead>
<tr>
<th></th>
<th>BILABIAL</th>
<th>ALVEOLAR</th>
<th>PALATAL</th>
<th>VELAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
<td>p/b</td>
<td>t/d</td>
<td>c/ɾ</td>
<td>k/g</td>
</tr>
<tr>
<td>FRICATIVE</td>
<td>φ/β</td>
<td>s/z</td>
<td>ç/ʃ</td>
<td>x/ɣ</td>
</tr>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td>ɲ</td>
<td>ɳ</td>
</tr>
</tbody>
</table>


Thompson

*Thom’s son
[q] = voiceless uvular stop
[k] = voiceless velar stop
Mark

[mark] vs. [mark]
[kalb] vs. [qalb]  
“dog” vs. “heart”
make vs. mech
[mek] vs. [mɛk]
vague
[veg] not [v̩ɛɡ]
negative
<table>
<thead>
<tr>
<th></th>
<th>LABIAL</th>
<th>DENTAL</th>
<th>ALVEOLAR</th>
<th>PALATAL</th>
<th>VELAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td>n</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>tʃ</td>
<td>k</td>
</tr>
<tr>
<td></td>
<td>f</td>
<td>d</td>
<td>s</td>
<td>dʒ</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>l</td>
<td></td>
<td>g</td>
</tr>
<tr>
<td>CONTINUANT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LATERAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLAP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRILL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>r</td>
</tr>
</tbody>
</table>
In designing a phonology, only the sounds you use exist.
Kēlen by Sylvia Sotomayor

<table>
<thead>
<tr>
<th></th>
<th>LABIAL</th>
<th>DENTAL</th>
<th>ALVEOLAR</th>
<th>POST-ALV.</th>
<th>PALATAL</th>
<th>VELAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
<td>&quot;p~b&quot;</td>
<td>&quot;t~d&quot;</td>
<td></td>
<td>&quot;c~ɟ&quot;</td>
<td>&quot;k~ɡ&quot;</td>
<td></td>
</tr>
<tr>
<td>FRICATIVE</td>
<td>&quot;φ~β&quot;</td>
<td>&quot;θ~ð&quot;</td>
<td>&quot;s~z&quot;</td>
<td>&quot;ʃ~ʒ&quot;</td>
<td>&quot;ç~ʝ&quot;</td>
<td>&quot;h~ɣ&quot;</td>
</tr>
<tr>
<td>NASAL</td>
<td>&quot;m&quot;</td>
<td>&quot;n&quot;</td>
<td></td>
<td>&quot;ŋ&quot;</td>
<td>&quot;ŋ&quot;</td>
<td></td>
</tr>
<tr>
<td>APPROX.</td>
<td>r, l</td>
<td></td>
<td></td>
<td>&quot;ʞ&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FRONT</th>
<th>CENTRAL</th>
<th>BACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLOSE</td>
<td>&quot;i, iː&quot;</td>
<td>&quot;i&quot;</td>
<td>&quot;u, uː&quot;</td>
</tr>
<tr>
<td>MID</td>
<td>&quot;ɛ, ɛː&quot;</td>
<td>&quot;ɔ&quot;</td>
<td>&quot;o, oː&quot;</td>
</tr>
<tr>
<td>OPEN</td>
<td>&quot;a, aː&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ALLOPHONY
pie ~ spy
key ~ ski
two ~ stew
pʰaj ~ spaj
kʰi ~ ski
ṭʰu ~ stu
prepare ~ preparation
untied ~ tied ~ resorted ~ prepared
Same phoneme; different sounds. Variation predictable.
/p/ phoneme

[p] [pʰ]
allophones
/phonemes/
[allophones]
If /X/ is the phoneme, we have to explain why /X/ shows up as either [Y] or [Z].
A > B / C_D
/p/ > [pʰ] / #_
/t/ > [tʰ] / #_
/k/ > [kʰ] / #_
C[-voice] > C^n / #_
[p] vs. [pʰ]
[p] vs. [pʰ]

-Pronounced with the lips
- Stops
- Voiceless
[p] vs. [pʰ]

+consonantal
-sonorant
-syllabic
[p] vs. [ph]

+labial
-coronal
-dorsal
[p] vs. [pʰ]

- continuant
- lateral
- nasal
- delayed release
[p] vs. [pʰ]

-voice
-constricted glottis
(+/−)spread glottis
A > B / C_D
/p/ > [arim] / s_ 
/p/ > [l] / #_
*spaj > sərimaj
*pək > lək
Why?
SOUND SYSTEMS
<table>
<thead>
<tr>
<th></th>
<th>LABIAL</th>
<th>DENTAL</th>
<th>ALVEOLAR</th>
<th>PALATAL</th>
<th>VELAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td>n</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STOP</td>
<td>p b t d</td>
<td>tʃ dʒ k</td>
<td>x g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTINUANT</td>
<td>f s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LATERAL</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLAP</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRILL</td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FRONT</td>
<td>BACK</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH</td>
<td>i</td>
<td>u</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MID</td>
<td>e</td>
<td>o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Voiced Consonants

-Voicing is easier to maintain in the front of the mouth

-b > g
Voiced Consonants

- Igbo: k, ɳ, gb
- Same applies to implosives.
Ejectives

-Easier in the back of the mouth than the front
-k’>p’
Sonorants

- Voiced by default
- Not uncommon to find them as nuclei
Geminates

-Sonorant geminates > fricative geminates > stop geminates

-Voiceless > voiced
Coronals

- Privileged class, morphologically
- Fewer syllabic restrictions
Affricates

- Coronal > others
Aspiration

-Voiceless > voiced
-Stops > fricatives > other
Rhotics

-They do funny stuff
-Attract retroflex consonants
Laterals

- Pretty much always coronal
- Tend to get lost in coda position
Palatals

-Cause palatalization
-Post-alveolar sounds "stronger"; attract palatals
High Vowels
- Deflect nasalization
- Strong effect on consonants
- Opposite rounding not at all uncommon
Mid Vowels

-ATR harmony most common here
-Usually at least two (not true of high/low)
Low Vowels

- Not many distinctions
- Deflect rounding
- Less precise placement
Front Vowels

- Height/rounding distinctions common
- Cause palatalization
Back Vowels

- Opposite rounding less common
- Height distinctions less common
Central Vowels
- Notoriously mercurial
- Height/rounding distinctions rather uncommon
Natlang, conlang, or gibberish?
### Sound System Apple

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p</td>
<td>t</td>
<td>ʈ</td>
<td>ʈ</td>
<td>ʈ</td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td>ɳ</td>
<td>ɳ</td>
<td>ɳ</td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r</td>
<td>ɽ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td>ɬ</td>
<td>ɭ</td>
<td>ɭ</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximant</strong></td>
<td></td>
<td></td>
<td>j</td>
<td></td>
<td>w</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>i, i:</td>
<td></td>
<td>u, u:</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td></td>
<td>a, aː</td>
<td></td>
</tr>
</tbody>
</table>
NATLANG!
Warlpiri
### Sound System Banana

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Labio-Dental</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p/b, p′/b′</td>
<td>t, t′</td>
<td></td>
<td>k/g, k′</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Fricative</td>
<td>f</td>
<td>s/z, s′</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td>ts, ts′</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill/Flap</td>
<td>v</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td></td>
<td></td>
<td>j, j′</td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i, i:</td>
<td>u, u:</td>
<td></td>
</tr>
<tr>
<td>Close-Mid</td>
<td>e, e:</td>
<td>θ, θ:</td>
<td></td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-Mid</td>
<td>ε, ε:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td></td>
<td>α, α:</td>
</tr>
</tbody>
</table>
CONLANG!
Nolwynn
# Sound System Cherry

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Alveolar</th>
<th>Post-Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p/b</td>
<td>t/d</td>
<td>c/j</td>
<td>k/g</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td>f</td>
<td>s/z</td>
<td></td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m, m&lt;sup&gt;b&lt;/sup&gt;</td>
<td>n, n&lt;sup&gt;d&lt;/sup&gt;</td>
<td></td>
<td>η, η&lt;sup&gt;Ł&lt;/sup&gt;</td>
<td>η, η&lt;sup&gt;g&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximant</strong></td>
<td></td>
<td>j</td>
<td></td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>i, ī</td>
<td>i, ĭ</td>
<td>u, ū</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e, ē</td>
<td></td>
<td>o, ō</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td>ι, ĭ</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td>ε, ē</td>
<td></td>
<td>λ, ā, ĺ, ĺ</td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td>a, ā</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NATLANG!
Acehnese
## Sound System Fig

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p, b</td>
<td>t, d, d'</td>
<td>k, g</td>
<td>q, g</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td>φ</td>
<td>s</td>
<td>f/z</td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
<td>ts</td>
<td>tj</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td>η</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximant</strong></td>
<td></td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>i</td>
<td>i</td>
<td>u</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e</td>
<td>ø</td>
<td>o</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td>ø</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td></td>
<td>c</td>
<td></td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td></td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>
GIBBERISH!
### Sound System Grape

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Dental</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p, pj</td>
<td>t, th, tj, tjh</td>
<td>g, gj</td>
<td>g</td>
<td></td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td>s, lʒ, lʒ</td>
<td>f</td>
<td>x, xi</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
<td>ts, tʃh</td>
<td>tʃ, tʃh</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m, mj</td>
<td>n, nj</td>
<td>η</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r, ri</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximant</strong></td>
<td></td>
<td>j</td>
<td>w, wi</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>i, i:</td>
<td></td>
<td>u, u:, u, u:</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e, e:</td>
<td>θ</td>
<td>θ:</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td></td>
<td></td>
<td>u, u:</td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td></td>
<td>a, a:</td>
<td></td>
</tr>
</tbody>
</table>
NATLANG!
Mongolian
# Sound System Kiwi

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p, p'</td>
<td>t, t'</td>
<td>t, t'</td>
<td>k, k'</td>
<td>q, q'</td>
<td>?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fric.</strong></td>
<td>f/v</td>
<td>θ</td>
<td>s/z</td>
<td>f/z</td>
<td>ζ</td>
<td>x/γ</td>
<td>h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affric.</strong></td>
<td>pf, pf'</td>
<td>ts, ts'</td>
<td>tʃ, tʃ'</td>
<td>tʃs, tʃ'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>η</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r</td>
<td>ɭ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td>l</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approx.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>i, i:</td>
<td></td>
<td>u, u:</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e:</td>
<td></td>
<td>o:</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td>θ</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td>ε</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td>a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
GIBBERISH!
## Sound System Mango

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p</td>
<td>t</td>
<td></td>
<td></td>
<td>k, kw</td>
<td>?</td>
</tr>
<tr>
<td>Fricative</td>
<td></td>
<td></td>
<td>s</td>
<td>f</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td></td>
<td></td>
<td>ts</td>
<td>tf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill/Flap</td>
<td></td>
<td></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td></td>
<td></td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Close-Mid</td>
<td>e, ē</td>
<td></td>
<td>o, ō</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-Mid</td>
<td></td>
<td></td>
<td>a, ā</td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONLANG!
Tmaśare?
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p/b, p', p'w</td>
<td>t/d, t', tw</td>
<td></td>
<td></td>
<td>kw/ gw, kw'</td>
<td>q, qw</td>
<td></td>
<td></td>
<td>, , w</td>
<td></td>
</tr>
<tr>
<td><strong>Fric.</strong></td>
<td>f</td>
<td>s/z, ɻ/ ɻ'</td>
<td>f/ʃ, ʃ'</td>
<td>ʃ/ʃ'</td>
<td>s/z</td>
<td>ʃ/ʃ'</td>
<td>x/ɿ</td>
<td>x/ɿ, xw/ ɿw</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>Affric.</strong></td>
<td>ts/dz, ts', tsw/ dsw</td>
<td>ts/dʒ, tʃ'</td>
<td>tʃ/dʒ, tʃ'</td>
<td>tʃ, tʃ'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill/ Flap</strong></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approx.</strong></td>
<td></td>
<td>j</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>w</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td></td>
<td></td>
<td>ə</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td></td>
<td>ə</td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td></td>
<td>ə</td>
<td></td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td>ə</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NATLANG!
Adyghe
### Sound System Pear

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Coronal</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p/b, mb</td>
<td>t/d, nd</td>
<td>t̪/d̪, n̪d̪</td>
<td>k/g, n̪g</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td>s</td>
<td></td>
<td></td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
<td></td>
<td></td>
<td>tʃ/dʒ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td></td>
<td>n</td>
<td>n̥</td>
<td>n̥</td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximant</strong></td>
<td>u</td>
<td></td>
<td></td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>i, i</td>
<td></td>
<td>u, u:</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e, e:</td>
<td></td>
<td>o, o:</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td>æ, æ:</td>
<td></td>
<td>a, a:</td>
</tr>
</tbody>
</table>
NATLANG!
Sinhalese
### Sound System Strawberry

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop</td>
<td>p/b</td>
<td>t/d</td>
<td></td>
<td></td>
<td></td>
<td>k/g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f/v</td>
<td>θ/ð</td>
<td>s/z</td>
<td>j/z</td>
<td></td>
<td>x</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>Affricate</td>
<td></td>
<td>ts/dz</td>
<td>tʃ/ɹz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td>η</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill/Flap</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[ɾ]</td>
<td></td>
</tr>
<tr>
<td>Lateral</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>j</td>
<td>w</td>
</tr>
</tbody>
</table>

### Vowel Chart

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close</td>
<td>i, I</td>
<td></td>
<td>U</td>
</tr>
<tr>
<td>Close-Mid</td>
<td>e</td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>Mid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-Mid</td>
<td></td>
<td></td>
<td>∧</td>
</tr>
<tr>
<td>Open</td>
<td></td>
<td></td>
<td>a</td>
</tr>
</tbody>
</table>
CONLANG!
Teonaht
### Sound System Tangerine

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>p/b, ph, p'</td>
<td>t/d, th, t'</td>
<td>s/z, ʃ</td>
<td>/ʒ</td>
<td>s/z</td>
<td>ʃ/ʒ</td>
<td>c/l, c', c''</td>
<td>k/g, kh, k'</td>
<td>q/g, qh, q'</td>
<td>?</td>
</tr>
<tr>
<td><strong>Fric.</strong></td>
<td>f/v</td>
<td>θ/ð</td>
<td>ʃ/ʒ</td>
<td>s/z</td>
<td>ʃ/ʒ</td>
<td>x/ɣ</td>
<td>χ/ɻ</td>
<td>h</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>Affric.</strong></td>
<td>ts/dz, tʃh, tʃ'</td>
<td>tf/dʒ, tʃh, tʃ'</td>
<td>ts/dʒ, tʃh, tʃ'</td>
<td>cç', cʎh</td>
<td>kx'</td>
<td>qx'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td>ɳ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r, r</td>
<td>[</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td>l, ɹ</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approx.</strong></td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>ɨ, ʉ, ɨ</td>
<td>ʊ, ʊ, ɨ</td>
<td></td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e, ə</td>
<td>ə, ə</td>
<td></td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td>e, ɛ</td>
<td>ɔ</td>
<td></td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td>æ</td>
<td>a</td>
<td>ɑ</td>
</tr>
</tbody>
</table>
CONLANG!

Ithkuil
### Sound System Watermelon

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Coronal</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stop</strong></td>
<td>b, ph</td>
<td>t/d, th</td>
<td>t/d̪</td>
<td>k/g</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fricative</strong></td>
<td>s/z</td>
<td>s/z̪</td>
<td>x/γ</td>
<td>h</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affricate</strong></td>
<td>ts, ts̪</td>
<td>tʃ̪/dʒ̪</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nasal</strong></td>
<td>m</td>
<td>n</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trill/Flap</strong></td>
<td>r, r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral</strong></td>
<td>l</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Approximant</strong></td>
<td>ʋ</td>
<td></td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Vowels

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Close</strong></td>
<td>y</td>
<td></td>
<td>u</td>
</tr>
<tr>
<td><strong>Close-Mid</strong></td>
<td>e</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td><strong>Mid</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Open-Mid</strong></td>
<td>ε</td>
<td></td>
<td>ɔ</td>
</tr>
<tr>
<td><strong>Open</strong></td>
<td></td>
<td>a</td>
<td></td>
</tr>
</tbody>
</table>
GIBBERISH!
Takeaways

Systemic pressure vs. universal pressure
Takeaways

Regular use (or overuse) can rescue rarer phonemes.
### Kahtsaai by William Annis

<table>
<thead>
<tr>
<th></th>
<th>LABIAL</th>
<th>CORONAL</th>
<th>PALATAL</th>
<th>VELAR</th>
<th>GLOTTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STOP</strong></td>
<td>p</td>
<td>t, ts</td>
<td>k</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td><strong>FRICATIVE</strong></td>
<td>s, ɬ</td>
<td></td>
<td></td>
<td>h</td>
<td></td>
</tr>
<tr>
<td><strong>NASAL</strong></td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>APPROX.</strong></td>
<td>r, l</td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>FRONT</th>
<th>CENTRAL</th>
<th>BACK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLOSE</strong></td>
<td>i, iː</td>
<td></td>
<td>uː</td>
</tr>
<tr>
<td><strong>CLOSE-MID</strong></td>
<td>eː</td>
<td></td>
<td>o</td>
</tr>
<tr>
<td><strong>OPEN-MID</strong></td>
<td>e</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPEN</strong></td>
<td></td>
<td>a, aː</td>
<td></td>
</tr>
</tbody>
</table>
SOUND CHANGE
The sounds of a language change gradually over time.
mus    my\si
muːs
myːɕə
mu:s

mi:s
maws  majs
Why?
A given sound change never NEEDS to happen!
Why?
- Gradual change
- Need for one group to distinguish itself
- Influx of non-native speakers
Gradual Change

- Mishearing
- Analogy
- Mispronunciation (e.g. faster speech)
Gradual Change

- Mishearing
- Analogy
- Mispronunciation (e.g. faster speech)
Sound Change...

- Has no exceptions
- Ignores grammar
- Ignores history
...but...
- Accelerated for morphology
- May actually leave certain paradigms alone
- Near mergers
Sound Changes
Assimilation
Dissimilation
Lenition
Deletion
Insertion
Assimilation

Sounds being more like the sound(s) next to them.
Assimilation

C > [+voice] / V_V

*lacus > lago
Assimilation

VCV
Assimilation

[+voice]  [-voice]  [+voice]

VCV
Assimilation

[+voice]  [+voice]  [+voice]

VCV
Assimilation

Japanese
daishūke > daisūke
Assimilation

Japanese

daiswuke > daisūke
Assimilation RESULT
Vocal folds do less work (not off then on then off, or vice-versa).
Common Assimilations

Nasal Place Assimilation

*in-possible > impossible
Common Assimilations

Voice Assimilation

*\text{tʃtʃ} + -d > \text{tʃtʃt}

Captain Picard “Wesley”
Common Assimilations

Anticipatory/Regressive

s > z / _C[+voice]
Common Assimilations

Perseveratory/
Progressive
d > t / C[-voice]_
Common Assimilations

Post-Nasal Fortition

C > [+voice] / N_

*n- + lima > ndima
Common Assimilations

Total Assimilation (Gemination)

*octo > otto

*somnus > sonno
Common Assimilations

Palatalization

*ken(tum) > cent
*gel(a)tus > gelato

future

*vjet(čer) > vjet(čer)
Common Assimilations

Umlaut

*goosi > geese
*mani > men
Digression

Vowel Harmony: Vowels change quality to match the vowels in the base.
Vowel Harmony

Turkish

køjin > køjyn

ṭʃodʒuyn > ṭʃodʒuyn

adam > adamwa
Vowel Harmony

Turkish
-in, -yn, -un, -wn
Vowel Harmony

Turkish

-in, -yn, -un, -ωn

All High
Vowel Harmony

- Only applies when there are affixes that can be changed
- Work within the system
Dissimilation

Sounds being less like the sound(s) next to them.
Dissimilation

moral  oral
molar  floral
solar  mural
aural  polar
Dissimilation

morar  orar
molal  florar
solal  murar
aurar  polal
Common Dissimilations

Manner Dissimilation
molar
moral
Common Dissimilations

Manner Dissimilation

\(^{\text{k}^{\text{w}}\text{i}^{\text{nk}^{\text{we}}} > \text{kink}^{\text{we}}}\)
Common Dissimilations

Manner Dissimilation

\[^{th}riks\] “hair”

\[^{trik^h}es\] “hairs”
Common Dissimilations

Manner Dissimilation

pollo /pojo/ [pojo]
Common Dissimilations

Manner Dissimilation

*pəθra*k + qccoli > dəθra*xqccoli
Common Dissimilations

Place Dissimilation
cardamom > cardamon
Common Dissimilations

Voice Dissimilation

Japanese

toki + toki > tokidoki
Common Dissimilations

Note: Not intervocalic voicing!

\[ \text{toki} + \text{toki} > \text{tokidoki} \]
Lenition

Sounds get “weaker”.

Lenition

Finnish

konsertti > konsertissä
koti > kodissa
Skotlanti > Skotlannissa
Lenition

English

Sacramento

winter vs. winner
Common Lenitions

Opening

SS > S > A > F > [h] > Ø
Common Lenitions

Spirantization

S > [+voice] > F > G > Ø
Common Lenitions
Spanish
staːtus > estado
*estado > *estaðo >
*estaðo > estao
Common Lenitions

Finnish

tukea ~ tuen
ripaa ~ rivan
pataa ~ padan
Common Lenitions

Spanish

eshtao > ettao
Common Lenitions

Coda L Lenition

{l > w / _{#/CC}}

{l > j / _{#/CC}}
Deletion

Sounds get lost.
Common Deletions

Word-final C Loss

French

\textit{trop} [txo]
Common Deletions

Word-final V Loss

French

porte [pɔχt]
Common Deletions

Unstressed V Loss

comfortable
Common Deletions

Unstressed V Loss

comfortable

(Also metathesis!)
Common Deletions

Unstressed V Loss

[ˈkʰʌmpf.tu.bl]

(Also metathesis!)
Common Deletions

CC Simplification

knight

ought

light
Common Deletions
CC Simplification
rafts
crafts
listen
Common Deletions

Compensatory Lengthening

*lixt > *liːt > lajt
Insertion

Sounds get added.
Common Insertions

Epenthesis
Thompson
messenger
passenger
Common Insertions

Prothesis

staxtus > estado

> état
Common Insertions

Paragoge

Japanese

strike > すとらき

bus > バス
Other Phenomena

Word-Final Devoicing

Turkish

kitabın “of the book”

kitap “book”
Other Phenomena

Word-Final Lowering

V > [-high] / _#
i, u > e, o / _#
Other Phenomena

Breaking Spanish

*porta > puerta
*semper > siempre
Other Phenomena

Breaking

Finnish

*soːmi > suomi

*søːn > syøn

*tɛːtæn > tiedæn
Other Phenomena

Nasalization

French

*bon* [bõ]
Other Phenomena
Chain Shifts
Hawaiian
(1) h/? > Ø
(2) f/s > h, k > ?
(3) t > k
Ordering Hawaiian
hiku “seven”
waʔa “canoe”
ʔuku “louse”
Ordering

(1) h/? > Ø
(2) f/s > h, k > ?
(3) t > k
Ordering Proto-Polynesian
fitu “seven”
waka “canoe”
kutu “louse”
Ordering

(1) f/s > h, k > ?
(2) h/? > Ø
(3) t > k
Ordering

(1) f/s > h, k > ?
   fitu > hitu
   waka > waʔa
   kutu > ?utu
Ordering

(2) h/? > Ø
hitu > itu
wa?a > waa
?utu > utu
Ordering

(3) $t > k$
itu > iku
waa > waa
utu > uku
Ordering

Hawaiian

iku    hiku “seven”
waa    waʔa “canoe”
uku    ?uku “louse”
Ordering

(1) $t > k$
(2) $f/s > h, k > ?$
(3) $h/\? > \emptyset$
Ordering Hawaiian

iu  hiku “seven”
waa  waʔa “canoe”
uu  ?uku “louse”
Dothraki
nasa “snipe”
tavo “axe”
sado “drum”
vado “filly”
dini “drizzle”
Dothraki

nasa “snipe” n’as

tavo “axe” t’af

sado “drum” s’aθ

vado “filly” vaθ

dini “drizzle” dī
Dothraki
nasa "snipe"  naðhe
 tavo "axe"  taðhe
 sado "drum"  haţe
 vado "filly"  faţe
 dini "drizzle"  ũine
Dothraki

nasa “snipe”  neθ
	avo “axe”  tɛf
sado “drum”  seð
vado “filly”  fɛð
 dini “drizzle”  tã
Dothraki

nasa “snipe”
tavo “axe”
sado “drum”
vado “filly”
dini “drizzle”
as
taf
sat
fat
di
Dothraki

nasa “snipe”
tavo “axe”
sado “drum”
vado “filly”
dini “drizzle”
nans
θat
sanθ
vanθ
ðín
Dothraki

nasa “snipe”
tavo “axe”
sado “drum”
vado “filly”
dini “drizzle”
enese
eθενυ
seďu
veďu
iďanja
Dothraki
nasa “snipe”
tavo “axe”
sado “drum”
vado “filly”
dini “drizzle”
najs
tajf
sajt
vajt
dʒiŋ
# Dritok by Don Boozer

<table>
<thead>
<tr>
<th></th>
<th>LABIAL</th>
<th>CORONAL</th>
<th>PALATAL</th>
<th>RETROFLEX</th>
<th>UVULAR</th>
<th>GLOTTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
<td>p, p’</td>
<td>t, t’</td>
<td></td>
<td></td>
<td>q, q’, q’̇</td>
<td></td>
</tr>
<tr>
<td>AFFRICATE</td>
<td>ts’, tr’</td>
<td></td>
<td>cç’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLICK</td>
<td>ʘ, ʘʷ</td>
<td>ǀ, ǀʷ</td>
<td>ǂ, ǂʷ</td>
<td></td>
<td>ḵ̚</td>
<td></td>
</tr>
<tr>
<td>FRICATIVE</td>
<td>φ</td>
<td>s, ɬ</td>
<td>ç</td>
<td>σ</td>
<td>χ</td>
<td>h</td>
</tr>
<tr>
<td>NASAL</td>
<td>˔m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPROX.</td>
<td>ḫ̊</td>
<td></td>
<td></td>
<td></td>
<td>ʘ̚</td>
<td></td>
</tr>
</tbody>
</table>


STRESS AND TONE
Stress

Prominence associated with some syllable.
Stress

subject (n) vs. subject (v)
pervert (n) vs. pervert (v)
Stress
PROMINENCE
- Intonation
- Length
- Volume
Stress

Fixed
Predictable
“Unpredictable”
Fixed Stress

FINNISH

sauna

Suomea

sampo
Fixed Stress
TURKISH
kitap
evler	
tarafından
Fixed Stress

HAWAIIAN

Kamehameha

puaʻa

Moana
Predictable Stress

Heavy Syllable: Language dependent, but Vː, VC, VːC, VCC, VV. Each unit called a mora.
Predictable Stress

Optimality Theory: What you hear is the least bad version of the language.
Y U PUT STRESS CLOSE TO THE END OF THE WORD!
Y U NO STRESS HEAVY SYLLABLES!
Predictable Stress

ARABIC

/ka.ta.ba/
Predictable Stress

ARABIC

/ˈka.ta.ba/
Predictable Stress

ARABIC
/ka.tab.ta/
Predictable Stress

ARABIC

/ka.'tab.ta/
Predictable Stress

ARABIC

/kə.təːb/
Predictable Stress

ARABIC

/kɪ.ˈtæxb/
Predictable Stress

Heavy $\sigma > \text{RT Edge}$
Predictable Stress

ARABIC
/wa.lad/
Predictable Stress

ARABIC
/ˈwaːlad/
Predictable Stress

ARABIC
“Long Vs more important!”
“They have to be SUPER heavy!”
Predictable Stress
ARABIC

*kitaːbu > kitaːb
*waladu > walad
*kataba > kataba
*katabta > katabta
Regular rules + sound change + borrowing + analogy = “unpredictable” stress.
Unpredictable Stress

subject vs. subject
HOW U LEARN???????????
WHO CARES?!
Tone

Intonation routinely associated with specific syllables.
Tone

˥ ˦ ˧ ˨ ˩
5 4 3 2 1
H HM M LM L
Tone

Contour

Register
Contour

mā (媽/妈) 'mother'
má (麻/麻) 'hemp'
mǎ (馬/马) 'horse'
mà (罵/骂) 'scold'
ma (嗎/吗) (an interrogative particle)
Register

shekára [ʃeː.kə.rə] "year" (LHL)
shekarú [ʃeː.kə.ru] "years" (LH)
surúká [su.ru.kaː] "mother-in-law" (LH)
surukúwá [su.ru.ku.waː] "mothers-in-law" (LH)
Tonogenesis

How you get ‘em.
Tonogenesis

*CVC > Contour
*CV > Register
(1) Stress > Tone

es.ˈta.ðɔ̀ > è.táɔ̀
Tonogenesis

(2) C-Loss > Tone
Tonogenesis
Loss of voicing/phonation of #C_ > tone levels.
Loss of phonation/C _C# > contours.
Tonogenesis

SIMPLE

#C_: [+voice] = L
[-voice] = H
Tonogenesis

SIMPLE

\_C\#: Loss of F = L
Loss of S = H
# Tonogenesis

**COMPLEX**

*C*: Breathiness/murmur associated with L (murmuring associated with [+voice]). Tenseness (i.e. [-voice]) associated with H.
Tonogenesis

COMPLEX

_C#: Tenseness of stop pronunciation associated with H; breathiness associated with L.
Tonogenesis

BUT!

H tone reconstructed from _ʔ# from Language A1; L tone from Language A2.

L tone reconstructed from _h# from Language B1; H tone from Language B2.
Tonogenesis

Has to do with *how* tense the glottal stops were pronounced, etc.
Tonogenesis

Summary: Stick to your story; you’re probably good.
DOTRAKI
Language of the Dothraki people who live in the Dothraki Sea, in the middle of Essos.
Proto-Plains

Dothraki

Lhazareen
<table>
<thead>
<tr>
<th>CONSONANTS</th>
<th>LABIAL</th>
<th>DENTAL</th>
<th>ALVEOLAR</th>
<th>PALATAL</th>
<th>VELAR</th>
<th>UVULAR</th>
<th>GLOTTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
<td>p/b</td>
<td>t/d</td>
<td>tʃ/dʒ</td>
<td>k/ɡ</td>
<td>q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTINUANT</td>
<td>f/v</td>
<td>ɬ</td>
<td>s/z</td>
<td>x/ɣ</td>
<td>h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LATERAL</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLAP/TRILL</td>
<td>r, r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLIDE</td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONSONANTS</td>
<td>LABIAL</td>
<td>DENTAL</td>
<td>ALVEOLAR</td>
<td>PALATAL</td>
<td>VELAR</td>
<td>UVULAR</td>
<td>GLOTTAL</td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>--------</td>
<td>---------</td>
</tr>
<tr>
<td>STOP</td>
<td>t/d</td>
<td>tʃ/dʒ</td>
<td>k/g</td>
<td>q</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTINUANT</td>
<td>f/v</td>
<td>θ</td>
<td>s/z</td>
<td>j/ʒ</td>
<td>x</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LATERAL</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLAP/TRILL</td>
<td></td>
<td></td>
<td></td>
<td>r, r</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLIDE</td>
<td></td>
<td></td>
<td></td>
<td>j</td>
<td>w</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOWELS</td>
<td>FRONT</td>
<td>CENTRAL</td>
<td>BACK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>---------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH</td>
<td>i</td>
<td>ɨ</td>
<td>u</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MID</td>
<td>e</td>
<td>ɵ</td>
<td>o</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOWELS</td>
<td>FRONT</td>
<td>CENTRAL</td>
<td>BACK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>---------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH</td>
<td>i</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MID</td>
<td>e</td>
<td></td>
<td>o</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td></td>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Allophony

N > [a\text{place}] / _C[a\text{place}]

*dʒalan + qoji > dʒalanqɔji
Allophony

V > [-high ~ +back] / q_

*qoj > qɔɛj  *qiʃ > qeθ
*qɛʃah > qɛʃaŋ
*qana > qana
Allophony

V > [-round] / C[+dental]_

*doʃɾak > dəθɾak
Allophony

\[ r > r / \#\_V, \_\# \]

*۱thadʒar > aθhadʒar
*ɾiʒ > riʒ
Phonotactics

#_ = any C or V
_
# = any V; no /w, q, g/
_V = any V or C
V_ = any V or C
Phonotactics

REPAIR

Ø > e / {q, w, g}#

*tʃoq > tʃoqɛ
Phonotactics

#CC = C[+stop]{r, l, w}
#CC = h,{r, l}
#CC = {m, n}{r, l, h}
Phonotactics

EXCEPTIONS

*tw, *dw
fr, fl, vr, vl
Phonotactics

CC# = inverse sonority hierarchy
Phonotactics

REPAIR

Ø > e / CC_#

*add > adde
Stress

C# = ultimate
VCCV# = penultimate
...V# = initial
Stress

*doₜrak > dʐ.'θrak
*diʃattʃra > di.'ʃat.tʃra
*doₜraki > 'dʐ.θra.ki
Stress

EXCEPTIONS

me- COMP

'an.ha ne.'sak me.'je.ri

'e.ri.ni
Stress

EXCEPTIONS
-CCeja
dʒo.ˈrok.ke.ja
Sound Changes

PREFACE

Dothraki separated from Lhazar due to cultural differences.
Sound Changes

$V[+\text{round}] > [-\text{high}]$

*u* > o
Sound Changes

RESULT

*i du > i də “wooden”
*i do > i də “moaned”
Sound Changes

C[+labial] > [+cont]

*p, *b > f, v
Sound Changes

RESULT

*bad > vad “turnip”
*vad > vad “filly”
Sound Changes

RESULT

*bruz > vroz “slow”
*plas > flas “surface layer”
Sound Changes

C[+cont, +dent] > [-lateral]

*φ > θ
Sound Changes

RESULT

*dɔfrak > dɔθrak
but *#θr
Sound Changes

V[-front, -back] > Ø / _#
ɪ > i, ə > e / elsewhere
Sound Changes

EXCEPTIONS

* #C(C)VC{ɨ, ə} > #C(C)VC{i, e}
Sound Changes

RESULT
PARTATIVE -ө/-ɪ
Sound Changes

Ch > [+cont]

*ph > f, *th > θ, *tʃh > ʃ,
*kh > x, *qh > x
Sound Changes

RESULT

*aphisi > afisi “of the fly”
*haw fisi > afisi “you will be clean”
Sound Changes

C[+son, -syl] > [+con] / #_ 

*w > v, *j > ʒ
Sound Changes

RESULT

*wap > vaf “sheep”

*janɨ > ʒani “spear”
Sound Changes

*ɣ > Ø / V_(V)

*ɣ > j / #_
Sound Changes

RESULT

*ɣesi > jesı
Mistakes

GENITIVE

xal ~ xali
ko ~ kosi
Mistakes

GENITIVE
xaleesi ~ xaleesisi
Mistakes

GENITIVE
(1) xaleesis
(2) xaleessi
(3) xa.le.e.'si
Mistakes

But I forgot. :(
Mistakes

*rhae* /rhae/

*hrakkar* /hrakkar/

*Qotho* /qoθo/

*shierak* /ʃierak/
Mistakes

khal /xal/
khaleesi /xaleesi/
Mistakes

khalisi /xalisi/
Mistakes

*yesi > jesi
Mistakes

*xaš > xaš
*xaš-yesi > xaleesi
Mistakes

xa.'le.e.si
Mistakes

bláck bírd (2 words)
bláck bìrd (compound)
Questions?
CONLANG PHONOLOGY ASSIGNMENT
<table>
<thead>
<tr>
<th>English</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>animal limb</td>
<td>ꦦ쬦</td>
<td>ꦦ阆 חב?</td>
</tr>
<tr>
<td>hand</td>
<td>ꦦ뫖حقيقة</td>
<td>ꦦ뫖حقيقة חב?</td>
</tr>
<tr>
<td>man</td>
<td>ꦥEndPoint</td>
<td>ꦥEndPoint חב?</td>
</tr>
<tr>
<td>back</td>
<td>ꦥEndPoint</td>
<td>ꦥEndPoint חב?</td>
</tr>
<tr>
<td>mother</td>
<td>ꦬEndPoint</td>
<td>ꦬEndPoint חEndPoint חב?</td>
</tr>
<tr>
<td>runner</td>
<td>ꦼEndPoint חEndPointEndPoint</td>
<td>ꦼEndPoint חEndPointEndPoint迤EndPointلعب?</td>
</tr>
</tbody>
</table>
NOMINAL MORPHOLOGY
NOUNS
sun
person
bone
man/woman
tree
blood
Morphology: Interrelationships between words that result in grammatical, rather than lexical, meaning.
cat ~ cats
goose ~ geese
Russian
/kniga~knig/
Spanish
[ˈa.βlə] “I speak”
[a.ˈβlə] “s/he spoke”
a man ~ the man
men ~ the men
French
un garçon ~ le garçon
des garçons ~ les garçons
The boy eats.
The boy is eating.
The boy hears.
??The boy is hearing.
Affix: A bit of phonological material that attaches to a word.
*lix “body”
*knixt + lix “in the body of a knight”
*knixtlix “like a knight” knightly
Suffixes

cat~cats
dog~dogs
bush~bushes
Suffixes

German

Buch~Bücher

Reit~Reiter
Suffixes

Finnish
talo~talossa
Skotlanti~Skotlannissa
Helsinki~Helsingissä
Prefixes

udzi~lədəzi
ðamala~jamala
ŋini~ŋini
Circumfixes

elongate
Circumfixes

Georgian
didi “large”
sidide “size”
Infixes

bilí
binilí
bumilí
Infixes
alís
inalís
umalís
Infixes
/in + bilí/

(1) inbilí  (4)ibnilí
(2) ibilí    (5) nibilí
(3) inibilí  (6) binilí
Suprafixes

subject ~ subject
Suprafixes

Hausa

sáɾ.kíː nèː
jáː.̀ròː néː
Suprafixes

sing
sang
sung
Suprafixes
katabtu
katabat
kutub
kitaab
Suffixes: Common for inflection, derivation, or anything.
Prefixes: Less common for inflection, common for derivation.
Circumfixes: Rare, about 50/50 inflection vs. derivation.
Infixes: Vanishingly rare. Arise from prefixes, suffixes, or analogy. Inflection common; agrammatical usage common.
Suprafixes: Quite common — especially in conjunction with another affix. Inflection or derivation.
Reduplication: The repetition of part or all of a word.
Reduplication

Hawaiian

‘au = swim

‘au‘au = bathe
Reduplication

Turkish

kitap = book

kitapmitap = books and stuff
Reduplication

Japanese

toki = time

tokidoki = sometimes
Reduplication

“Do you like him, or do you like like like him?”
Reduplication

hanky-panky

loosey-goosey
topsy-turvy

harakiri > /hɛɹɪkɛɹi/
Reduplication
Attic Greek
lu- > lεlu-
pεmp- > pεpεmp-
kriː- > kεkri-
Every language uses reduplication. Many use it grammatically. Can arise ex nihilo.
Often associated with: diminutives, augmentatives, pluralization, collectives, duratives, definiteness, perfect.
EVOLVING AFFIXES
N-MOD
MOD-N
*lix “body”
*knixt + lix “in the body of a knight”
*knixtlix “like a knight”
knightly
knight’s body
MOD-N
Middleton
Pittsburgh
Anaheim
Peterson
Generally the head becomes the affix.
Middleton > Middle town
Generally affixes reduce phonologically further than the rest of the language.
NUMBER
Nominal Number: How many of a thing there is.
Count vs. Mass
Count number: Individuable units referred to separately by the grammar.
Mass number: Individuable masses referred to as a clump.
tree vs. grass
I’ve a tree on my estate.
That’s the tree there.
Do you have any trees?
These are the trees I mean.
All three trees.
*I’ve a grass on my estate.

@That’s the grass there.

?Do you have any grasses?

?These are the grasses I mean.

?*All three grasses.
my hair ~ ?my hairs
mein Haar ~ meine Haare
Singular
Dual
Trial
Plural
Singular: Ubiquitous
Dual: Not Uncommon
Trial: Vanishingly Rare
Plural: Crazy Common
Tetral: Turned out that guy was wrong.
Paucal Collective
Paucal: Uncommon
Collective: Somewhat Common
Singulative Common
Singulative: Uncommon
Common: Uncommon
Singulative

adar “birds” ~ aderyn “bird”
coed “forest” ~ coeden “tree”
plant “children” ~ plentyn
“child”
No Number
No Number: Not Uncommon
EVOLVING NUMBER
Plural
Three
Many/Much
Pile/Heap
Bunch
Reduplication
Singulative

One

Diminutive (Child, Small, Small Object, etc.)
Paucal

Hand, Palm, Handful
Arm
Gather
Collective

Gather

Group

Classifier
Dual/Trial

Two
Three
Articles

Affixes that didn’t make it.
Articles

le ~ les

la ~ las
Articles

*ille ~ *illos
*illa ~ *illas
Articles
Indefinite
one
person/individual
Articles
Definite
this/that
here/there
she, he, it
MODIFIERS
Noun-Like Modifiers
Verb-Like Modifiers
the red cat
the big cat
the soft cat
The Reds
The Blues
Red is a good color.
Blue is a good color.
Give me the big.
Give me the big one.
After rotating, the Spurs send their two bigs at Curry, and he just blows right by them.
red ≈ redness
big ≠ bigness
red ~ redder ~ reddest
big ~ bigger ~ biggest
incredible ~ *incredibler ~ *incrediblest
“We all know we are the 4th winningest franchise in NBA history.”
*??#@The Suns are a (more?) winniger franchise than the Jazz.
kum
kum pak
a man a big one
a big one man
Head-Mod
Mod-Head
Head-Mod
Suffixes
Mod-Head Prefixes
Demonstratives: Specify location, definiteness, or nearness of a noun.
Demonstratives

Usually primitives.
Demonstratives

Usually “close to me” and “not close to me”, or “close to me”, “close to you”, or “close to neither”.

112
Demonstratives

Proximal/Medial/Distal

Visible/Invisible

Base/Side/Summit
Demonstratives

Noun-Like Demonstratives
Take Case
Can Stand Alone
Demonstratives

Particle-Like Demonstratives
Don’t Take Case
Can’t Stand Alone
Tonight

(1) Create Nouns
(2) Find a Noun Case

Grammar
<table>
<thead>
<tr>
<th>English</th>
<th>Masculine SG</th>
<th>English</th>
<th>Feminine SG</th>
</tr>
</thead>
<tbody>
<tr>
<td>hut</td>
<td>ill bwrdd</td>
<td>hut cluster</td>
<td>lla fwrdd</td>
</tr>
<tr>
<td>tree</td>
<td>ill bwsc</td>
<td>forest</td>
<td>lla fwsc</td>
</tr>
<tr>
<td>egg</td>
<td>ill ew</td>
<td>eggs</td>
<td>lla ew</td>
</tr>
<tr>
<td>bone</td>
<td>ill ws</td>
<td>bones</td>
<td>lla ws</td>
</tr>
<tr>
<td>branch</td>
<td>ill rham</td>
<td>tree leaves</td>
<td>lla ram</td>
</tr>
</tbody>
</table>
NOUN CASE
Noun case: Changing the form of the noun to indicate its grammatical role in the sentence.
I saw her.
Me saw she.
The boy crossed the field by car with his friend to the other side of the valley.
The boy crossed the field by car with his friend to the other side of the valley.
The boy crossed the field by car with his friend to the other side of the valley.
The boy crossed the field by car with his friend to the other side of the valley.
Agent: _ V
Patient: V _
Theme: V _
Instrument: by/with _
Companion: with _
Goal: to(wards) _
Agent: _ V
Patient: V _ [+Partitive/Gen.]
Theme: V _ [+Partitive/Gen.]
Instrument: V _ [+Instr./Ade.]
Companion: V _ [+Gen.] kanssa
Goal: V _ [+allative/illative]
Agent: talo
Patient: taloa/talon
Theme: taloa/talon
Instrument: taloin/talolla
Companion: talon kanssa
Goal: talolle/taloon
Languages do with case what other languages do with adpositional phrases.
Case is language specific; it does *NOT* line up perfectly with semantics, theta rules, syntax—anything.
torma
torme
tormon
tormua
+ skiu

torma
torme
tormon
tormua
Grammatical Cases
Local Cases
Core Cases

Non-Core Cases
<table>
<thead>
<tr>
<th>Grammatical</th>
<th>Core</th>
<th>Non-Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core</td>
<td>Non-Core</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Grammatical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accusative</td>
<td>Dative Genitive</td>
<td></td>
</tr>
<tr>
<td>Vocative</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ablative</td>
<td></td>
</tr>
<tr>
<td>Grammatical</td>
<td>Core</td>
<td>Non-Core</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td></td>
<td>Nominative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accusative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Genitive</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>Partitive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inessive Illative Adessive, etc.</td>
</tr>
<tr>
<td>Grammatical</td>
<td>Core</td>
<td>Non-Core</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>Nominative</td>
<td>Instrumental</td>
</tr>
<tr>
<td></td>
<td>Accusative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Genitive/Dative</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>Prepositional</td>
<td>—</td>
</tr>
</tbody>
</table>
Core Cases: More commonly assigned directly by the verb; less adverbial. Less obviously compositional.
Non-Core Cases: Mostly adverbial; rarely required by verbs. Usually fairly compositional.
Nominative: talo/talot
Accusative/Genitive: talon#
Partitive: taloa/taloja*
#takes nominative plural
*frequently irregular
Inessive: talossas/taloissas
Elative: talosta/taloista
Adesive: talolla/taloilla
Ablative: talolta/taloilta
Inessive: talo-s-sa/talo-i-s-sa
Elative: talo-s-ta/talo-i-s-ta
Adesive: talo-l-la/talo-i-l-la
Ablative: talo-l-ta/talo-i-l-ta
Grammatical Cases: Direct grammatical roles (objects, etc.), or quirky cases.
Vocative: Direct address.

dāria “queen”
dārīys “Queen!”
Genitive: Possession.

dāria "queen"
dārio zaldrīzes “the queen’s dragon”
Nominative: Subject
Accusative: Direct Object
Dative: Indirect Object
Dāria zaldrīzi aōt teptas. “The queen gave you a dragon.”
Digression

I sleep. = intransitive
I hug her. = transitive
Digression

I sleep. = intransitive
I hug her. = transitive
Nominative-Accusative
Focus on the one doing the action.
Digression

Ergative-Absolutive

Focus on the one experiencing the action.
Digression

Tripartite

No focus.
Digression

Positional.

No focus.
Digression

Animacy.

“Obvious” who does what to whom.
Digression

kafu nale timoke.
/dog man bite-PST/
“The dog bit the man.”
Digression
kafu nale timokeli.
/dog man bite-PST-INV/
“The man bit the dog.”
Digression

A V P R MANY options.
Digression

1. Special R case.
2. Adposition.
3. Worder change.
4. P=R.
5. Special A case.
Local Cases: What we use prepositions for.
Adessive: At the house.
Allative: To the house.
Ablative: From the house.
Inessive: Inside the house.
Illative: Into the house.
Elative: Out from the house.
Super-: on, onto, off of
Sub-: under, to under, from under
Cont-: among, in among, from among
Perlative: by way of the road
Aversive: avoiding the road
Instrumental: with a tool
Comititative: with a person
Abessive: without something
Lots of other crazy cases, but these are specific to a system.
Case + Number

sagus ~ sagī
talossa ~ taloissa
<table>
<thead>
<tr>
<th>Category</th>
<th>Core</th>
<th>Non-Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammatical</td>
<td>90%</td>
<td>40%</td>
</tr>
<tr>
<td>Local</td>
<td>60%</td>
<td>20%</td>
</tr>
<tr>
<td>Case</td>
<td>High Valyrian</td>
<td>Singular</td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>----------</td>
</tr>
<tr>
<td>Nominative</td>
<td>vala</td>
<td></td>
</tr>
<tr>
<td>Accusative</td>
<td>vale</td>
<td></td>
</tr>
<tr>
<td>Genitive</td>
<td>valo</td>
<td></td>
</tr>
<tr>
<td>Dative</td>
<td>valot</td>
<td></td>
</tr>
<tr>
<td>Locative</td>
<td>valā</td>
<td></td>
</tr>
</tbody>
</table>
Gender = Noun Class
Gender is inherent in and inseparable from the noun it’s associated with.
By golly, it’s a boy!
Give me those red books.
Dame esos libros rojos.
Give me the red books.
Dame estos libros rojos.
Give me those red books. Dame escape bro! Help.
Give me those red books.
Dame esos libros rojos.
Quantity (Count vs. Mass)
Animacy
Shape (Physical/Phono.)
Function
Relationship with Humans
Phonology > Semantics
madre
niña
cara
esquina
canción

hombre
niño
estado
tiempo
animal
mtoto
mke
kisu
kilima

mnazi
mchungwa
jina
jiwa
Class 1: People, animals, birds, insects, fish…

Class 9: Manufactured products, places, abstracts, parts of the body, fruit, natural things…
The pie chart represents the distribution between Phonological and Semantic aspects. 75% of the data is Phonological, and 25% is Semantic.
Masculine, Feminine
Masculine, Feminine, Neuter
Animate, Inanimate
Human, Animal, Instrument, Plant \{Edible/Inedible\}
a man a big one
mtu mkubwa
mtu mkubwa
Oedipus Rēx
Oedipum Rēgem vidi.
liber ruber
Librum rubrum vidi.
EVOLVING CASE AND GENDER
Basic Words
person, man, woman, child, boy, girl, thing, rock, place, area, tool
toku “man”
mole “cook”

*moletoku > *moledogu > *moledogu > molehου > molehu “male cook”
naki "woman"
mole "cook"

*molenaki > *molenagi >
*molenayi > *molenai >
molene "female cook"
rati “group”
mole “cook”

*molerati > *moleradi >
*moleraði > *molerahi >
moleraç “cooks (M or F)”
Semantic class of generic nouns = noun class.
Can also become declension class (e.g. if nominative form has some sort of affix).
Cases > Basic Words
<table>
<thead>
<tr>
<th>Case</th>
<th>Lexical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>nominative, absolutive</td>
<td>— (unmarked noun, basic word like “person”)</td>
</tr>
<tr>
<td>ergative, agentive</td>
<td>from, with, at, near, hand</td>
</tr>
<tr>
<td>accusative, objective, patientive</td>
<td>to, at, on, against, take</td>
</tr>
<tr>
<td>dative</td>
<td>to, for, give</td>
</tr>
<tr>
<td>genitive</td>
<td>from, for, to, home, property, thing, at</td>
</tr>
<tr>
<td>Case</td>
<td>Lexical Source</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>ablative</td>
<td>come from, leave, from, fall</td>
</tr>
<tr>
<td>allative</td>
<td>arrive, go to, see, to</td>
</tr>
<tr>
<td>instrumental</td>
<td>with, take, use, from</td>
</tr>
<tr>
<td>comitative</td>
<td>comrade, follow, take</td>
</tr>
<tr>
<td>partitive</td>
<td>from, child, of</td>
</tr>
<tr>
<td>aversive</td>
<td>be, fail, love, near, want</td>
</tr>
</tbody>
</table>
Tonight

(1) Free PA
(2) New MA
# Enyarel by El_Predsjednik

<table>
<thead>
<tr>
<th>English</th>
<th>“Ram”</th>
<th>English</th>
<th>“Father”</th>
</tr>
</thead>
<tbody>
<tr>
<td>ram</td>
<td>æg edʒn</td>
<td>father</td>
<td>æg poða</td>
</tr>
<tr>
<td>ewe</td>
<td>eg esdʒn</td>
<td>chief</td>
<td>eg poðga</td>
</tr>
<tr>
<td>wool</td>
<td>ul eθdʒn</td>
<td>fatherland</td>
<td>ul poðna</td>
</tr>
<tr>
<td>mutton</td>
<td>fen ekdʒn</td>
<td>soup roll</td>
<td>fen poðʃa</td>
</tr>
<tr>
<td>sheep encl.</td>
<td>eθ eIdʒn</td>
<td>balcony</td>
<td>eθ poðfa</td>
</tr>
</tbody>
</table>
HIGH VALYRIAN
The common language of the Valyrian Freehold, a federation in Essos that was destroyed by the Doom before the series begins.
Valar morghulis.
“ALL men MUST die.”
Valar dohaeris.
“ALL men MUST serve.”
Singular, Plural, Collective
<table>
<thead>
<tr>
<th>Number Marking</th>
<th>Definite</th>
<th>Indefinite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Number</td>
<td>Singular</td>
<td></td>
</tr>
<tr>
<td>Large Number</td>
<td>Collective</td>
<td>Plural</td>
</tr>
<tr>
<td>Number Marking</td>
<td>Definite</td>
<td>Indefinite</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Small Number</td>
<td>Singular</td>
<td>Paucal</td>
</tr>
<tr>
<td>Large Number</td>
<td>Collective</td>
<td>Plural</td>
</tr>
</tbody>
</table>
Head Final
ADJ — N
kastor qintir
“green turtle”
Head Final
ADJ — N
*val ka:r
“man heap”
Head Final
ADJ — N

*valhar > *valhar > valar

“all men”
Head Final
ADJ — N
*val ont > *valon > valun
“man hand > some men”
SOUND CHANGE
Dispreference for certain _#Cs, e.g. voiced stops, laterals, voiceless non-coronals, etc.
SOUND CHANGE
Dispreference for monosyllabic words—especially in nouns (didn’t have enough weight).
SOUND CHANGE

*val > vala
*toₘm > toₘmo
*gueₙs > gueₙse
*qib > qibib
<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-e</th>
<th>-i</th>
<th>-o</th>
<th>-y</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vala</td>
<td>gue:se</td>
<td>qi:bi</td>
<td>to:mo</td>
<td>u:ly</td>
</tr>
<tr>
<td></td>
<td>a:bra</td>
<td>gelte</td>
<td>pisti</td>
<td>ovo:no</td>
<td>po:yry</td>
</tr>
<tr>
<td></td>
<td>taoba</td>
<td>korze</td>
<td>ele:ni</td>
<td>nu:mo</td>
<td>qilo:ny</td>
</tr>
<tr>
<td></td>
<td>zokla</td>
<td>nine</td>
<td>ke:li</td>
<td>melvo</td>
<td>somby</td>
</tr>
</tbody>
</table>
vala
tomo
guese
qibi

azantys
apseos
beqes
bantis
obvos ~ ronjong
“arch” ~ “hide”
doξros ~ doξron
“wall” ~ “stone”
vala ~ valar ~ valun
“man” ~ “all men” ~ “some men”
*val > vala ~ valar
*kon > kono ~ konor
*val > vala ~ valar
*kon > kono ~ konor
<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strong</strong></td>
<td>vala</td>
<td>konor</td>
</tr>
<tr>
<td><strong>Weak</strong></td>
<td>obvos</td>
<td>roŋgon</td>
</tr>
<tr>
<td>Count</td>
<td>Mass</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Strong</td>
<td>Class 1</td>
<td>Class 3</td>
</tr>
<tr>
<td>Weak</td>
<td>Class 2</td>
<td>Class 4</td>
</tr>
</tbody>
</table>
*kast > kasta
“blue/green”
kasta laːra
“blue crow”
kasta
“the blue one (Class 1)”
kast-?
“the blue one (Class 2/3/4)”
<table>
<thead>
<tr>
<th>Strong</th>
<th>Count</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>huːra</td>
<td>voːkor</td>
</tr>
<tr>
<td>Weak</td>
<td>perzys</td>
<td>tegon</td>
</tr>
<tr>
<td></td>
<td>Count</td>
<td>Mass</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Strong</td>
<td>-a</td>
<td>-or</td>
</tr>
<tr>
<td>Weak</td>
<td>-ys</td>
<td>-on</td>
</tr>
<tr>
<td>Strong</td>
<td>Count</td>
<td>Mass</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>moon</td>
<td>water</td>
</tr>
<tr>
<td>Weak</td>
<td>fire</td>
<td>dirt</td>
</tr>
<tr>
<td>Strong</td>
<td>Count</td>
<td>Mass</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>lunar</td>
<td>aquatic</td>
</tr>
<tr>
<td>Weak</td>
<td>solar</td>
<td>terrestrial</td>
</tr>
<tr>
<td>Grammatical</td>
<td>Core</td>
<td>Non-Core</td>
</tr>
<tr>
<td>-------------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>Grammatical</td>
<td>Nominative, Accusative, Genitive</td>
<td>Dative, Vocative</td>
</tr>
<tr>
<td>Local</td>
<td>Locative</td>
<td>Instrumental, Comitative</td>
</tr>
<tr>
<td>Case</td>
<td>Lunar</td>
<td>Solar</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>Nominative</td>
<td>vala</td>
<td>perzys</td>
</tr>
<tr>
<td>Accusative</td>
<td>vale</td>
<td>perzi</td>
</tr>
<tr>
<td>Genitive</td>
<td>valo</td>
<td>perzo</td>
</tr>
<tr>
<td>Dative</td>
<td>valot</td>
<td>perzot</td>
</tr>
<tr>
<td>Locative</td>
<td>valaː</td>
<td>perzyː</td>
</tr>
<tr>
<td>Instrument</td>
<td>valosa</td>
<td>perzomy</td>
</tr>
<tr>
<td>Comitative</td>
<td>valoma</td>
<td>perzomy</td>
</tr>
<tr>
<td>Vocative</td>
<td>valus</td>
<td>perzys</td>
</tr>
</tbody>
</table>
Lunar all end in a vowel.
Solar all end in /s/.
Aquatic all end in /r/.
Terrestrial all end in /n/.
Nouns that have /o/ as a theme vowel don’t have distinct accusative or locative forms.
The default plural is /i/, with a backup plural in /a/ when /i/ can’t apply.
<table>
<thead>
<tr>
<th>Case</th>
<th>Lunar</th>
<th>Aquatic</th>
<th>Lunar</th>
<th>Aquatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>vala</td>
<td>embar</td>
<td>nuːmo</td>
<td>myːr</td>
</tr>
<tr>
<td>Accusative</td>
<td>vale</td>
<td>embri</td>
<td>nuːmo</td>
<td>myːr</td>
</tr>
<tr>
<td>Genitive</td>
<td>valo</td>
<td>embro</td>
<td>nuːmoː</td>
<td>myːro</td>
</tr>
<tr>
<td>Dative</td>
<td>valot</td>
<td>embrot</td>
<td>nuːmot</td>
<td>myːrot</td>
</tr>
<tr>
<td>Locative</td>
<td>valaː</td>
<td>embraːr</td>
<td>nuːmot</td>
<td>myːrot</td>
</tr>
<tr>
<td>Instrument</td>
<td>valosa</td>
<td>embrosa</td>
<td>nuːmoso</td>
<td>myːroso</td>
</tr>
<tr>
<td>Comitative</td>
<td>valoma</td>
<td>embroma</td>
<td>nuːmoso</td>
<td>myːroso</td>
</tr>
<tr>
<td>Vocative</td>
<td>valus</td>
<td>embus</td>
<td>nuːmos</td>
<td>myːs</td>
</tr>
<tr>
<td>Case</td>
<td>Lunar</td>
<td>Aquatic</td>
<td>Lunar</td>
<td>Aquatic</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>Nominative</td>
<td>vali</td>
<td>embri</td>
<td>nuːma</td>
<td>myːra</td>
</tr>
<tr>
<td>Accusative</td>
<td>valiː</td>
<td>embriː</td>
<td>nuːma</td>
<td>myːra</td>
</tr>
<tr>
<td>Genitive</td>
<td>valoti</td>
<td>embroti</td>
<td>nuːmoti</td>
<td>myːroti</td>
</tr>
<tr>
<td>Dative</td>
<td>valoti</td>
<td>embroti</td>
<td>nuːmoti</td>
<td>myːroti</td>
</tr>
<tr>
<td>Locative</td>
<td>valoti</td>
<td>embroti</td>
<td>nuːmoti</td>
<td>myːroti</td>
</tr>
<tr>
<td>Instrument</td>
<td>valossi</td>
<td>embrossi</td>
<td>nuːmossi</td>
<td>myːrossi</td>
</tr>
<tr>
<td>Comitative</td>
<td>valommi</td>
<td>embrommi</td>
<td>nuːmossi</td>
<td>myːrossi</td>
</tr>
<tr>
<td>Vocative</td>
<td>valis</td>
<td>embis</td>
<td>nuːmas</td>
<td>myːras</td>
</tr>
</tbody>
</table>
Four Genders
Four Numbers
Six Declension Classes
Questions?
Pronouns: Variables that stand in for other arguments.
{The girl/She} is reading.
{David Peterson/I} sat on
{the chair/it}. 

First Person: Speaker
Second Person: Addressee
Third Person: Referent
First Person: Speaker
Second Person: Addressee
Third Person: Referent
<table>
<thead>
<tr>
<th>Pronouns</th>
<th>Number</th>
<th>Gender</th>
<th>Clusivity</th>
<th>Honor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>99%</td>
<td>50%</td>
<td>40%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Clusivity: In plural (usually 1st person) pronouns, whether the addressee is a part of the exchange or not.
We're going to Disneyland!

Really?!

Oh… We are. Not you.
We're going to Disneyland!

Really?!

Oh… We are. Not you.
We're going to Disneyland!

Really?! Oh... We. Not you.
We’re going to Disneyland!

Really?!

Oh… We are. Not you.
Honor: Social status of the reference with respect to the speaker.
Tu es mon ami!
Vous n’êtes pas mon ami!
wataʃi “I” (normal/formal)
watakushi “I” (very formal)
ore “I” (men mostly)
atai “I” (women)
<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>ana</td>
<td>naḥnu</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>anta/anti</td>
<td>antumaː</td>
<td>antum/antunna</td>
</tr>
<tr>
<td>3rd</td>
<td>huwa/hija</td>
<td>humaː</td>
<td>huma/hunna</td>
</tr>
</tbody>
</table>
## Hawaiian

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>au</td>
<td>kaːua</td>
<td>maːua</td>
</tr>
<tr>
<td>2nd</td>
<td>?oe</td>
<td>?olua</td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td>ia</td>
<td>laːua</td>
<td></td>
</tr>
</tbody>
</table>
EVOLVING PRONOUNS
1st Person and 2nd Person
Singular Nearly Always
Basic
1st Person Plural and 2nd Person Plural Are Often Basic
3rd Person Singular and 3rd Person Plural Are Sometimes Basic
Inclusive vs. Exclusive 1st Person Plural Pronouns Are Sometimes Basic
Dual Pronouns, Gendered Pronouns, Honorifics Are Never Basic
Third Person Pronouns > Demonstratives (this/that), Articles, Basic Words (e.g. “person”)
Plural Pronouns from Plural Affixes (If Not Basic), or Same Source as Plural Marking ("group", "bunch", etc.)
Dual/Trial Pronouns > Two/Three + Pronoun (Inclusive Often “you me”)
Formal Pronoun > Plural
French
vous = 2P > 2S Formal

German
Sie = 3P > 2S Formal
Special Words
usted > “your mercy”
boku > “servant”
odʒiːsan > “uncle”
Gender and Pronouns: If the language has a gender system, its pronouns will have gender if they derive from gendered words.
Swahili: ~10 genders, but one third person pronoun.
Arabic: Gendered second and third person pronouns, not first.

English: Gendered third person singular pronouns, not plural.
Gender Distinction
Likeliness
3 > 2 > 1
Singular > Plural > Dual
Also though…
Tibetan and Japanese: No nominal gender, but gendered pronouns.
### Wenedyk by Jan van Steenbergen

<table>
<thead>
<tr>
<th>Pres.</th>
<th>“love”</th>
<th>“hurt”</th>
<th>“sell”</th>
<th>“open”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>jemu</td>
<td>dole</td>
<td>więdu</td>
<td>oprze</td>
</tr>
<tr>
<td>2SG</td>
<td>jemasz</td>
<td>dolesz</td>
<td>więdziesz</td>
<td>oprzesz</td>
</tr>
<tr>
<td>3SG</td>
<td>jema</td>
<td>dole</td>
<td>więdzie</td>
<td>oprze</td>
</tr>
<tr>
<td>1PL</td>
<td>jemamy</td>
<td>dolemy</td>
<td>więdźmy</td>
<td>oprzemy</td>
</tr>
<tr>
<td>2PL</td>
<td>jemacie</td>
<td>dolecie</td>
<td>więdźcie</td>
<td>oprzecie</td>
</tr>
<tr>
<td>3PL</td>
<td>jemą</td>
<td>dolę</td>
<td>więdą</td>
<td>oprzę</td>
</tr>
<tr>
<td>Pres.</td>
<td>“love”</td>
<td>“hurt”</td>
<td>“sell”</td>
<td>“open”</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>1SG</td>
<td>jɛmu</td>
<td>dɔlɛ</td>
<td>viendu</td>
<td>ɔpʒɛ</td>
</tr>
<tr>
<td>2SG</td>
<td>jɛmaʃ</td>
<td>dɔlɛʃ</td>
<td>viendziʃ</td>
<td>ɔpʒɛʃ</td>
</tr>
<tr>
<td>3SG</td>
<td>jɛma</td>
<td>dɔlɛ</td>
<td>viendziɛ</td>
<td>ɔpʒɛ</td>
</tr>
<tr>
<td>1PL</td>
<td>jɛmami</td>
<td>dɔlɛmɪ</td>
<td>viendzɔmɪ</td>
<td>ɔpʒɛmɪ</td>
</tr>
<tr>
<td>2PL</td>
<td>jɛmatsiɛ</td>
<td>dɔlɛtsiɛ</td>
<td>viendzɔtsiɛ</td>
<td>ɔpʒɛtsiɛ</td>
</tr>
<tr>
<td>3PL</td>
<td>jɛmɔ̃</td>
<td>dɔlɛ̃</td>
<td>viendɔ̃</td>
<td>ɔpʒɛ̃</td>
</tr>
</tbody>
</table>

Wenedyk by Jan van Steenbergen
NEW ARROWS
→ or ← = becomes, goes to

> or < = comes from, derives from
Predicate: The part that says something about whatever the thing’s about.
My brother is fictitious.
The fish swam away.
The boy is on the ceiling.
My mom is a principal.
My brother is very.
The fish away.
The boy on the ceiling.
My mom a principal.
Verbal Predicates
Nominal Predicates
Adjectival Predicates
Locative Predicates
Nominal Predicate: Some noun is some other noun.
My cat is a champion.
My cat is a champion.
Option 1: Full Copula

Like English, Spanish, French, etc.
Option 1: Full Copula

Soy profesor.
Serás profesor.
Era profesor.
Option 2: Half Copula

Like Russian, Arabic, etc.
Option 2: Half Copula

hija t’a:liba.
ona student.
“She is a student”
Option 2: Half Copula

hija kat nat ṭāxliba. ūna bīla studēnt.
“She was a student”
Option 3: Particle

Like Hausa, Beja, etc.
Option 3: Particle

Hausa

M/P Copula: néː/nèː

F Copula: tʃéː/tʃèː
Option 3: Particle
Grade I: gámà:
Grade IV: gámè:
Grade V: gámár
Grade VI: gámó:
Grade VII: gàmú
Adjectival Predicate: Some noun is some adjective.
My cat is a pretty.
Option 1: Full Copula

Again, like English, Spanish, French, etc.
Option 1: Full Copula

Tu es belle.
Tu étais belle.
Tu seras belle.
Option 2: Half Copula

Like Russian, Arabic, etc.
Option 2: Half Copula

hija ţamiaľa. őna krasiva.
“She is beautiful.”
Option 2: Half Copula

hija kaːnat ʒamiːla. ōna bɪla krasiva.
“She was a student”
Option 2: Half Copula

krasivaja student
“the beautiful student”
Option 3: Full Predicate

Like Hawaiian, Tahitian, etc.
Option 3: Full Predicate

ka wahine nani
/the woman pretty/
“pretty woman”
Option 3: Full Predicate

Ke nani nei ka wahine. /PRES pretty now the woman/
“The woman is pretty.”
Option 3: Full Predicate

Ua nani ka wahine. /PERF pretty the woman/
“The woman was pretty.”
Option 3: Full Predicate

Ua paʻani nani ka wahine.

/PERF play pretty the woman/

“The woman played prettily.”
Option 3: Full Predicate

Anha remekak.
“"I sleep.""
Option 3: Full Predicate

Anha layafak.
“"I am happy.""
Option 3: Full Predicate

Modifying Adjectives ≈ Participles
Locative Predicate: Some noun is in some location.
My cat is in a bag.
Option 1: Full Copula

Like English, German, etc.
Option 1: Full Copula

The cat is in the bag.
The cat was in the bag.
The cat will be in the bag.
Option 2: Half Copula

Like Russian, Arabic, etc.
Option 2: Half Copula

hija ʕala attˤaxwila. ɔna na stole. “She is on the table.”
Option 2: Half Copula

hija kaːnat ṣala attˤaːwila. ˈɔna bɪla na stol̥e.
“She was on the table.”
Option 3: Locative Copula

Like Spanish, Jamaican Patois, etc.
Option 3: Locative Copula

El gato está en la mesa.
*El gato es en en la mesa.
Option 3: Locative Copula

El gato está bonito.
El gato es bonito.
EVOLVING COPULÆ
Full/half copulæ almost always basic.
ser, être, etc. > *s
For languages that make a past/non-past split, often common to have two different copular roots: One for each tense.
Particles usually come from pronouns or demonstratives.
This is where gendered particles come from (e.g. neː/tʃeː from Hausa).
Stative verbs often don’t participate in the full gamut of verbal morphology.
Japanese
wataʃi wa tabemasɯ.
“I eat.”
wataʃi wa tabete irɯ.
“I am eating.”
wataʃi wa taberu koto ga dekimasu.
“I can eat.”
* wataʃi wa taberu koto ga dekite iru.
“??I am being able to eat.”
Locative copulae almost always evolve from a verb of positioning, e.g. “stand”, “sit”, “lie”, “stay”, “wait”, etc.
estar ~ estando ~ estado
estado “state”
> *sta “to stand”
Also locative adverbs, e.g. “there”, “here”.
Yes, me friend, me friend
Yes, me friend, me friend
Dem set me free again
Yes, me friend, me friend
Dem set me free again
Yes, me friend, me friend
Yes, me friend, me friend
Dem set me free again
Yes, me friend, me friend
Me de pon street again
“De” super common in English lexifier creoles as a locative copula.
As part of MA6, you’ll need to figure out a strategy for nominal, locative, and adjectival predicates.
ACTUAL, REAL, NO FOOLIN’ VERBS
VERBAL AGREEMENT
Agreement: I am vs. you are vs. he is.
Verbs can agree with:
Subjects/Agents
Direct Objects/Patients
Indirect Objects
In:
Person
Number
Gender
Spanish: PER[NUM
Swahili: PER[NUM/GEN
English: PER[NUM + NUM
<table>
<thead>
<tr>
<th>Present</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>llamó</td>
<td>llamamos</td>
</tr>
<tr>
<td>2nd</td>
<td>llamas</td>
<td>llamáis</td>
</tr>
<tr>
<td>3rd</td>
<td>llama</td>
<td>llaman</td>
</tr>
<tr>
<td>Present</td>
<td>Singular</td>
<td>Plural</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>1st</td>
<td>-o</td>
<td>-amos</td>
</tr>
<tr>
<td>2nd</td>
<td>-as</td>
<td>-áis</td>
</tr>
<tr>
<td>3rd</td>
<td>-a</td>
<td>-an</td>
</tr>
<tr>
<td>Present</td>
<td>Singular</td>
<td>Plural</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>1st</td>
<td>am</td>
<td>are</td>
</tr>
<tr>
<td>2nd</td>
<td>art</td>
<td>are</td>
</tr>
<tr>
<td>3rd</td>
<td>is</td>
<td>are</td>
</tr>
</tbody>
</table>
### Early Modern English

<table>
<thead>
<tr>
<th>Past</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>was</td>
<td>were</td>
</tr>
<tr>
<td>2nd</td>
<td>was</td>
<td>were</td>
</tr>
<tr>
<td>3rd</td>
<td>was</td>
<td>were</td>
</tr>
</tbody>
</table>
# Early Modern English

<table>
<thead>
<tr>
<th>Person</th>
<th>Past</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>was</td>
<td></td>
<td>were</td>
</tr>
<tr>
<td>Present</td>
<td>Singular</td>
<td>Plural</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>1st</td>
<td>vstreťaju</td>
<td>vstreťajem</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>vstreťaję</td>
<td>vstreťaję́e</td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td>vstreťaję</td>
<td>vstreťajut</td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>Singular</td>
<td>Plural</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Masc.</td>
<td>vstretil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fem.</td>
<td>vstretila</td>
<td>vstretili</td>
<td></td>
</tr>
<tr>
<td>Neu.</td>
<td>vstretilo</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ja vstrjetil(a) tvaju mat.
“I met your mother.”
# Swahili

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/II</td>
<td>m-, mw-</td>
<td>wa-, w-</td>
</tr>
<tr>
<td>III/IV</td>
<td>m-</td>
<td>mi-</td>
</tr>
<tr>
<td>V/VI</td>
<td>dʒi-/Ø, dʒ-</td>
<td>ma-</td>
</tr>
<tr>
<td>VII/VIII</td>
<td>ki-, tʃ-</td>
<td>vi-, vj-</td>
</tr>
<tr>
<td>IX/X</td>
<td>n-</td>
<td>n-</td>
</tr>
<tr>
<td>XIV</td>
<td>u-, w-/uw-</td>
<td></td>
</tr>
</tbody>
</table>
# Swahili

<table>
<thead>
<tr>
<th>Agree</th>
<th>Subject</th>
<th>DO</th>
<th>A-Tense</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/II</td>
<td>a-/wa-</td>
<td>m-/wa-</td>
<td>wa</td>
</tr>
<tr>
<td>III/IV</td>
<td>u-/i-</td>
<td></td>
<td>wa-/ja-</td>
</tr>
<tr>
<td>V/VI</td>
<td>li-/ja-</td>
<td></td>
<td>la-/ja-</td>
</tr>
<tr>
<td>VII/VIII</td>
<td>ki-/vi-</td>
<td></td>
<td>tʃa-/vja-</td>
</tr>
<tr>
<td>IX/X</td>
<td>i-/zi-</td>
<td></td>
<td>ja-/za-</td>
</tr>
<tr>
<td>XIV</td>
<td>u-</td>
<td></td>
<td>wa-</td>
</tr>
</tbody>
</table>
alimpa daktari mtoto.
/I-PST-I-give doctor child/
“He gave a child to the doctor.”
kisu kilimpa daktari mtoto. /knife VII-PST-I-give doctor child/

“The knife gave a child to the doctor.”
“The child gave a knife to the doctor.”
mtoto alivipa daktari visu.

/child I-PST-VIII-give doctor knives/

“The child gave the knives to the doctor.”
“The children gave the knives to the doctor.”
mtoto aliipa daktari ndege.

"The child gave a plane to the doctor."
mtoto alizipa daktari ndege.
/child I-PST-X-give doctor planes/
“The child gave the planes to the doctor.”
visu vilizipa daktari ndege.

"The knives gave the planes to the doctor."
<table>
<thead>
<tr>
<th>Subject</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>v-</td>
<td>v-….t</td>
</tr>
<tr>
<td>2nd</td>
<td>h-/s-/Ø</td>
<td>h-/s-/Ø…-t</td>
</tr>
<tr>
<td>3rd</td>
<td>-s/-a/-o</td>
<td>-(e/a)n/-es</td>
</tr>
<tr>
<td>Object</td>
<td>Singular</td>
<td>Plural</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>1st</td>
<td>m-</td>
<td>gv-</td>
</tr>
<tr>
<td>2nd</td>
<td>g-</td>
<td>g-…-t</td>
</tr>
<tr>
<td>3rd</td>
<td>h-/s-/Ø</td>
<td>h-/s-/Ø…-t</td>
</tr>
</tbody>
</table>
Georgian

vts’er

“I write.”
Georgian

ts’er

“you write.”
Georgian

ts’ers

“s/he/it writes.”
You write to me.
Georgian

mts’ers

“S/he/it writes to me.”
Georgian
gts’ers
“S/he/it writes to you.”
Georgian
gts’er
“|I write to you.”
Georgian

gts’ert

“J/S/He/It write(s) to you all.”
PRO-DROP
Logic: If the marking on the verb is unambiguous, then you shouldn’t need a pronoun.
Spanish
(Yo) duermo.
(Tú) duermes.
(Él/Ella/Ud.) duerme.
English
I sleep.
You sleep.
S/he/it sleeps.
But…
Je dormirai.
Tu dormiras.
Il/Elle dormira.
Of course…
Je dors.
Tu dors.
Il/Elle dort.
Of course…
[ʒɜ pɔː]
[ty pɔː]  
[iɻ/ɛl pɔː]
But then…
watakushi wa tabemasu
anata wa tabemasu
kare wa tabemasu
Routine
wataʃi wa tabemasu
anata wa tabemasu
kare wa tabemasu
alimpa daktari mtoto.
“He gave a child to the doctor.”
alimpa daktari mtoto.
“He gave a child to the doctor.”
alimpa daktari.
“He gave {him/her/it} to the doctor.”
*alipa daktari mtoto.
“He gave a child to the doctor.”
alikipa daktari kisu. “He gave a knife to the doctor.”
alikipa daktari.
“He gave {it/him/her} to the doctor.”
alipa daktari kisu.
“He gave a knife to the doctor.”
alikipa daktari kisu.
“He DID give a knife to the doctor.”
EVOLVING AGREEMENT
Agreement → Pronouns or Generic Nouns
“The children gave the knives to the doctor.”
wa-toto wa-li-vi-pa vi-su
SBJ TENSE OBJ

wa-li-vi-pa
S V O

wa-li-vi-pa
Ich habe ihn gesehen.
/I have him seen/
Verb + Pronoun $\rightarrow$ Verb-Suf
Pronoun + Verb → Pref-Verb
Agreement > Pronominal Possessors
Verb → Verbal Noun
Cf. I eat vs. my eating
That’s one reason why you might get subject agreement more than sbj./obj. agreement.
Could also be a split (usually with 1st/2nd vs. 3rd). One may be old pronominal suffixes, other pronominal possessors.
Basic is always verb root + noun/pronoun. One of those can be your basic (e.g. English “we/they/you eat”).
No agreement always a possibility.
Tonight

(1) Find a sample sentence on John Q’s site.

(2) Agreement pattern with no change for at least two paradigm cells.
<table>
<thead>
<tr>
<th>Verbs</th>
<th>Imperative</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>drink</td>
<td>tsari</td>
<td>tsariːn</td>
</tr>
<tr>
<td>eat</td>
<td>hos</td>
<td>hosin</td>
</tr>
<tr>
<td>bite</td>
<td>take</td>
<td>takeːn</td>
</tr>
<tr>
<td>swim</td>
<td>tehasa</td>
<td>tehasaːn</td>
</tr>
<tr>
<td>sit</td>
<td>?ireː</td>
<td>?ireːjin</td>
</tr>
<tr>
<td>ask</td>
<td>tsen</td>
<td>tsenin</td>
</tr>
</tbody>
</table>
TENSE
Tense situates an action/event some place in time.
He will eat.
He eats.
He ate.
Future
Present
Past
Matkustan Helsinkiin.
“I travel to Helsinki.”
Matkustan Helsinkiin ensi kuussa.

“I will travel to Helsinki next month.”
Matkustan Helsinkiin ensi kuussa.
“I travel to Helsinki next month.”
Matkustin Helsinkiin.
“I traveled to Helsinki.”
I eat bagels.
I’m eating bagels.
So I walk into this store and I go up to the counter and this guy says to me, “You going to offer me a bagel or what?”
I eat.
I ate.
I will eat.
Futures really actually predictive/prospective.
Right now I am eating and watching TV.
Yesterday I ate and watched TV.
Tomorrow I eat-FUT and watch-FUT TV.
Humans can’t predict the future. Can’t talk about it like we can the present or the past.
Base Tense $\rightarrow$ Actual Use
Restrict the number of actual forms you have. Use them to their utmost before creating a new one.
Hodiernal: Done something earlier in the day as opposed to earlier than that.
Narrative/Ancient: Talking about things that happened in the distant past.
Immediate Future: To be about to do something.
Immediate Past: To just have done something (e.g. “I just ate”).
EVOLVING TENSE
Start with past vs. non-past if you’re doing tense.
Two different routes:

(1) Non-past formed from reduplication/vowel lengthening.
Idea is it emphasizes the ongoing nature of the activity.
(2) Past formed from reduplication/vowel lengthening.
Idea is it emphasizes the remoteness of the activity (also makes it different from “usual”, which is non-past).
Yes, these are exact opposites. Language is weird.
Other sources for past tense: finish, complete, put down, set down, stop, cease.
Still other sources for past tense: yesterday, then, long time, other temporal expression referring to past.
Or for present tense: now, this, here, today, etc.
LOCATION IS TIME
Near = close to the present
Far = far from the present
Words like “today” and “yesterday” and “tomorrow” sometimes basic.
Other tenses derived in apposition to your first distinction.
Future
I am going to leave.
Je vais sortir.
Voy a salir.
Future

yo comeré > comere he >
comedere habeo “I have to eat.”
Future
I will leave. (< desire)
I shall leave. (< obligation)
Future

I am to visit Finland this summer.
Future
Desire
Obligation
Motion Towards
Temporal Adverb
Other Ones
Similar things. Depends on your other tenses.
Shiväisith
V Imperfect ~ V: Perfect
-(a)n Past Tense
<table>
<thead>
<tr>
<th>Shiväisith</th>
<th>Non-Past</th>
<th>Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imperfect</td>
<td>Present</td>
<td>Past Imperfect</td>
</tr>
<tr>
<td>Perfect</td>
<td>???</td>
<td>Perfect</td>
</tr>
<tr>
<td></td>
<td>Non-Past</td>
<td>Past</td>
</tr>
<tr>
<td>-------</td>
<td>------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Imperfect</td>
<td>Present</td>
<td>Past Imperfect</td>
</tr>
<tr>
<td>Perfect</td>
<td>Hodiernal</td>
<td>Perfect</td>
</tr>
</tbody>
</table>
Shiväisith
Vurar vathe.
“I see him (now).”
Shiväisith
Vuurinar vathe.
“I saw him (in the past).”
Shiväisith Vuurir vathe.
“I saw him (at some point in time that’s still relevant, e.g. this morning).”
Tonight
(1) MA5
(2) Come up with a new metaphor (see site for details)!
### Sodna-lɛni by Sylvia Sotomayor

<table>
<thead>
<tr>
<th>IMPF</th>
<th>ITER</th>
<th>INCH</th>
<th>PERF</th>
<th>FRUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>tiŋi</td>
<td>tinna</td>
<td>tambi</td>
<td>otni</td>
<td>taŋŋi</td>
</tr>
<tr>
<td>kiŋi</td>
<td>kilna</td>
<td>kibi</td>
<td>kitti</td>
<td>kiŋi</td>
</tr>
<tr>
<td>aŋi</td>
<td>anna</td>
<td>ambi</td>
<td>onnit</td>
<td>aŋŋi</td>
</tr>
<tr>
<td>duso</td>
<td>dusna</td>
<td>duspi</td>
<td>duste</td>
<td>dusiŋi</td>
</tr>
<tr>
<td>ono</td>
<td>onna</td>
<td>onobi</td>
<td>tono</td>
<td>onoŋi</td>
</tr>
<tr>
<td>pesi</td>
<td>pesna</td>
<td>pespi</td>
<td>peste</td>
<td>pesiŋi</td>
</tr>
<tr>
<td>evi</td>
<td>evna</td>
<td>evibi</td>
<td>tavi</td>
<td>eviŋi</td>
</tr>
<tr>
<td>εmεmε</td>
<td>εmεna</td>
<td>εmεbi</td>
<td>omet</td>
<td>εmεŋi</td>
</tr>
</tbody>
</table>

Table 1. Inflections for the Verbs of Motion.
Table 1. Inflections for the Verbs of Motion.

<table>
<thead>
<tr>
<th>IMPF</th>
<th>ITER</th>
<th>INCH</th>
<th>PERF</th>
<th>FRUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>tiŋi</td>
<td>tinna</td>
<td>tambi</td>
<td>otni</td>
<td>taŋŋi</td>
</tr>
<tr>
<td>kiŋi</td>
<td>kilna</td>
<td>kibi</td>
<td><strong>kitti</strong></td>
<td>kŋi</td>
</tr>
<tr>
<td>aŋi</td>
<td>anna</td>
<td>ambi</td>
<td>onnit</td>
<td>aŋŋi</td>
</tr>
<tr>
<td>duso</td>
<td>dusna</td>
<td>duspi</td>
<td>dustə</td>
<td>dusĩŋi</td>
</tr>
<tr>
<td>ono</td>
<td>onna</td>
<td>onobi</td>
<td>tono</td>
<td>onoŋi</td>
</tr>
<tr>
<td>pęsi</td>
<td>pęsna</td>
<td>pęspi</td>
<td>pęste</td>
<td>pęsiŋi</td>
</tr>
<tr>
<td>evi</td>
<td>evna</td>
<td>evibi</td>
<td>tavi</td>
<td>evĩŋi</td>
</tr>
<tr>
<td>ęmẹẹ</td>
<td>ęmẹna</td>
<td>ęmẹbi</td>
<td>omẹt</td>
<td>ęmẹŋi</td>
</tr>
</tbody>
</table>

mava kįtti tasu.
“She went past the market.”
<table>
<thead>
<tr>
<th>IMPF</th>
<th>ITER</th>
<th>INCH</th>
<th>PERF</th>
<th>FRUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>→</td>
<td>tiŋi</td>
<td>tinna</td>
<td>tambi</td>
<td>otni</td>
</tr>
<tr>
<td>↓</td>
<td>kiŋi</td>
<td>kilna</td>
<td>kibi</td>
<td>kitti</td>
</tr>
<tr>
<td>←</td>
<td>aŋi</td>
<td>anna</td>
<td>ambi</td>
<td>onnit</td>
</tr>
<tr>
<td>↔</td>
<td>duso</td>
<td>dusna</td>
<td>duspi</td>
<td>duste</td>
</tr>
<tr>
<td>←</td>
<td>ono</td>
<td>onna</td>
<td>onobi</td>
<td>tono</td>
</tr>
<tr>
<td>→</td>
<td>pesi</td>
<td>pesna</td>
<td>pespi</td>
<td>peste</td>
</tr>
<tr>
<td>∗</td>
<td>evi</td>
<td>evna</td>
<td>evibi</td>
<td>tavi</td>
</tr>
<tr>
<td>∗</td>
<td>ememę</td>
<td>emęna</td>
<td>emębi</td>
<td>omęt</td>
</tr>
</tbody>
</table>

Table 1. Inflections for the Verbs of Motion.

mava kitti kjagat tèle.
“She avoided becoming sick.”
“She and I are talking.”
Table 1. Inflections for the Verbs of Motion.

loho log-i-dija evi.
“The sun is shining.”
<table>
<thead>
<tr>
<th></th>
<th>IMPF</th>
<th>ITER</th>
<th>INCH</th>
<th>PERF</th>
<th>FRUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>→</td>
<td>tini</td>
<td>tinna</td>
<td>tambi</td>
<td>otni</td>
<td>tanji</td>
</tr>
<tr>
<td>→</td>
<td>kili</td>
<td>kilna</td>
<td>kibi</td>
<td>kitti</td>
<td>kiji</td>
</tr>
<tr>
<td>→</td>
<td>anji</td>
<td>anna</td>
<td>ambi</td>
<td>onnit</td>
<td>anji</td>
</tr>
<tr>
<td>↔</td>
<td>duso</td>
<td>dusna</td>
<td>duspi</td>
<td>duste</td>
<td>dusini</td>
</tr>
<tr>
<td>⟵</td>
<td>ono</td>
<td>onna</td>
<td>onobi</td>
<td>tono</td>
<td>ononi</td>
</tr>
<tr>
<td>⟵</td>
<td>pesi</td>
<td>pesna</td>
<td>pespi</td>
<td>peste</td>
<td>pesini</td>
</tr>
<tr>
<td>⟵</td>
<td>evi</td>
<td>evna</td>
<td>evibi</td>
<td>tavi</td>
<td>evi�</td>
</tr>
<tr>
<td></td>
<td>evem</td>
<td>evem</td>
<td>evem</td>
<td>omet</td>
<td>evem</td>
</tr>
</tbody>
</table>

Table 1. Inflections for the Verbs of Motion.

Išėė ludįdėn tavi.
“"I took off the cloak.””
Table 1. Inflections for the Verbs of Motion.

Iεnada ludîdên omeṭ.  
“I put on the cloak.”
Dara sume kari tikuluna.
“I know a woman named Dara.”

Ain Zibi sume dove tidoluna.
“Also I know a man named Zibi.”
Dara sume kari tikuluna.
“I know a woman named Dara."

Ain Zibi sume dove tidoluna.
“Also I know a man named Zibi.”
Dara sume kari tikuluna.
“I know a woman named Dara.”

Ain Zibi sume dove tidoluna.
“Also I know a man named Zibi.”
Dara sume kari tikuluna.
“I know a woman named Dara.”

Ain Zibi sume dove tidoluna.
“Also I know a man named Zibi.”
Kudobajuna.
“_____ likes _____.“
Kudobajuna.
“_____ likes _____.”
tidoluna
“I know (a man)”
Kudobajuna.
“_____ likes _____.”

tidoluna
“I know (a man)”
Kudobajuna.
“_____ likes _____.”
tidoluna
“I know (a man)”
Kudobajuna.
“_____ likes _____.”

tidoluna
“I know (a man)”
Kudobajuna.
“_____ likes him.”

tidoluna
“I know (a man)”
Kudobajuna.
“_____ likes him.”

tikuluna
“I know (a woman)”
Kudobajuna.
“_____ likes him.”

tikuluna
“I know (a woman)”
Kudobajuna.

“_____ likes him.”

tikuluna

“I know (a woman)”
Kudobajuna.
“_____ likes him.”

tiku
“[I] know (a woman)”
Kudobajuna.
“She likes him.”

Tikuluna
“I know (a woman)”
ASPECT
Aspect: The part of the action one focuses on, and/or how it’s viewed.
Beginning  
Action  
Ending
starts to break
is breaking
is broken
breaks/broke
stops breaking
Boundedness: Whether an action has an obvious endpoint or not.
Bounded: Has an implicit endpoint.

Unbounded: Has no implicit endpoint.
Eat: unbounded
Eat an apple: bounded
Change of State: Whether the affected argument undergoes some appreciable change of state.
Eat: unbounded, no change
Eat an apple: bounded, change (apple gets eaten)
Love: unbounded, no change
Remember: bounded, no change
Grow: unbounded, change
Break: bounded, change
Languages are variously sensitive to these things.
Finnish
Söin pullaa.
/ate pulla-PART/
“I ate (but didn’t finish) some pulla bread.”
Finnish
Söin pullan.
/ate pulla-ACC/
“I ate (and finished) the pulla bread.”
Leí un libro.
"I read (and finished) a book."
Spanish
Leía un libro.
/read-IMP a book/
“I read a book (for a while).”
Spanish
Leía un libro cuando…
/read-IMP a book when/
“I was reading a book when…”
Complete vs. Incomplete
E ‘ai ana au.
“I was eating.”
“I will be eating.”
Ua ‘ai au.
“\textquoteleft\textquoteleft I ate.\textquoteright\textquoteright”
“I have eaten.”
“I will have eaten.”
I ate.
I have eaten.

Digression
I have eaten. = I ate and you should care about that.
Digression
Anterior: Past action with present relevance (according to the speaker, I guess).
I have eaten.
I have eaten.

Present tense possession
Digression

Perfective as past tense and anterior: MAYBE IF I’M TELLING YOU IT’S RELEVANT.
Complete vs. Incomplete

Replacing Tense: If an action has been completed, it is necessarily in the past. Why have a past?
Ua ‘ai au i ka lā ‘āpōpō.
/PERF eat I to the day next/
“I will have eaten tomorrow.”
Logic: If I’m using the perfective and using the future adverb “tomorrow”, what else could I mean?
Start Point
past vs. non-past
complete vs. incomplete
From there, add more stuff by evolving, or by using the same morphology in different contexts.
Bounded, Change
Completed: broke
Incomplete: was breaking
Bounded, Change
Completed: broke
Incomplete: was breaking
breaking was slow
Unbounded, Change
Completed: grew
Incomplete: was growing
endpoint imagined (adult?)

Unbounded, Change

Completed: grew

Incomplete: was growing
Unbounded, No Change
Completed: love???
Incomplete: love
Unbounded, No Change

Completed: love???

Incomplete: love

but no longer?
Bounded, No Change
Completed: remembered
Incomplete: was remembering??
Bounded, No Change
Completed: remembered
Incomplete: was remembering?
remembering a process?
New forms can emerge from the edge cases.
Bounded, Change, Completed broke
Unbounded, Change, Completed grew up
My little sister grew.
My little sister became taller over a prespecified period of time.
My little sister grew up.
My little sister became an adult (the unstated yet accepted endpoint of growth in humans).
Often

\[ V \rightarrow V + \text{Prep} \]

Unbounded $\rightarrow$ Bounded
Perhaps you can use your cases or adpositions or another strategy to mark this change. Or not.
EVOLVING ASPECT
Same formation for past vs. non-past used for complete vs. incomplete.
Also: Word for “finish”, “complete” very common for completed aspect. (And yes, usually “finish” is basic.)
For incomplete, common lexical sources are “stay”, “still”, “now”, “here”, “hold”, “maintain”, etc.
Another option (also for progressive): to be at, to be located at, to be in, locative copula + V/participle.
Inceptive
emagon “to have”
mazemagon “to get”
Inceptive Sources: “start”, “begin”, “come”, “go”, etc.
Cessative
adarimba “to serve”
adarimbopsa “to stop serving”
Cessative Sources: “stop”, “cease”, “finish”, “complete”, “end”, etc.
Completed vs. Cessative
I sang.
I stopped singing.
Beginning → Action → Ending
Tonight
(1) PA on evolving TMA
## Teonaht by Sally Caves

<table>
<thead>
<tr>
<th>1st Pers. &quot;eat&quot;</th>
<th>Form 1</th>
<th>Form 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future</td>
<td>ennives</td>
<td>esri ennive</td>
</tr>
<tr>
<td>Habitual</td>
<td>ri enivivom</td>
<td>omi ennive</td>
</tr>
<tr>
<td>Anterior</td>
<td>i eniveljar</td>
<td>jari ennive</td>
</tr>
<tr>
<td>Im. Fut.</td>
<td>ri enivead</td>
<td>adri ennive</td>
</tr>
<tr>
<td>Pst. Hab.</td>
<td>elri enivivom</td>
<td>olmi ennive</td>
</tr>
</tbody>
</table>
ASTAPORI
VALYRIAN
5,000 years before the present, the Valyrian Freehold conquered the Ghiscari Empire. High Valyrian replaced Ghiscari as the language of Ghis.
In Astapor and the other cities, Ghiscari words mixed with High Valyrian grammar and produced a creole that became Astapori Valyrian.
High Valyrian

Ghiscari

Astapori Valyrian
Background
High Valyrian Verbs
High Valyrian
Subject Agreement with
Person and Number
7 Tense/Aspect Combos
2 Modes
2 Voices
High Valyrian Tense/Aspect

- Present
- Past Incomplete
- Anterior (Past/Present)
- Future
- Habitual (Past/Present)
High Valyrian Modes
Indicative
Subjunctive
High Valyrian Voices
Active
Passive
## High Valyrian

<table>
<thead>
<tr>
<th>Present</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>vestran</td>
<td>vestri</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>vestraːː</td>
<td>vestraːːt</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>vestras</td>
<td>vestris</td>
</tr>
</tbody>
</table>
### High Valyrian

<table>
<thead>
<tr>
<th>1st Pers.</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>vestran</td>
<td>vestron</td>
</tr>
<tr>
<td>Past Inc.</td>
<td>vestrilen</td>
<td>vestrilon</td>
</tr>
<tr>
<td>Ant. Pres.</td>
<td>vestretan</td>
<td>vestreton</td>
</tr>
</tbody>
</table>
# High Valyrian

<table>
<thead>
<tr>
<th>1st Pers.</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ant. Past</td>
<td>vestreten</td>
<td>vestreton</td>
</tr>
<tr>
<td>Future</td>
<td>vestrinna</td>
<td>vestrilun</td>
</tr>
<tr>
<td>Hab. Prs.</td>
<td>vestrin</td>
<td>vestrun</td>
</tr>
<tr>
<td>Hab. Past</td>
<td>vestretin</td>
<td>vestretun</td>
</tr>
<tr>
<td>Present 1st Pers.</td>
<td>Indicative</td>
<td>Subjunctive</td>
</tr>
<tr>
<td>------------------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Active</td>
<td>vestran</td>
<td>vestron</td>
</tr>
<tr>
<td>Passive</td>
<td>vestraks</td>
<td>vestroks</td>
</tr>
</tbody>
</table>
Copula
<table>
<thead>
<tr>
<th>Present</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>iksan</td>
<td>iksi</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>ikسا:</td>
<td>iksا:t</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>issa</td>
<td>issi</td>
</tr>
</tbody>
</table>
## Low Valyrian

<table>
<thead>
<tr>
<th>Present</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>skan</td>
<td>ski</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>ska</td>
<td>skat</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>sa</td>
<td>si</td>
</tr>
</tbody>
</table>
## High Valyrian

<table>
<thead>
<tr>
<th>Present</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>ilan</td>
<td>ili</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>ilaː</td>
<td>ilaːt</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>ilza</td>
<td>ilzi</td>
</tr>
</tbody>
</table>
## Low Valyrian

<table>
<thead>
<tr>
<th>Present</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>lan</td>
<td>li</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>la</td>
<td>lat</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>las</td>
<td>lis</td>
</tr>
</tbody>
</table>
sagon $\rightarrow$ sayo

ilagon $\rightarrow$ layo
sayo → equative copula
layo → locative copula
Nominal Copula

зи това са ме ражеро.
“The boy is a friend.”
Adjectival Copula

\[ j \text{ tova sa kreni.} \]

“The boy is (always) happy.”

\[ j \text{ tova las kreni.} \]

“The boy is happy (atm).”
Locative Copula
3i tova las vi linto be.
“The boy is on the house.”
<table>
<thead>
<tr>
<th>Present</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>vetran</td>
<td>vetri</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>vetra</td>
<td>vetrat</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>vetras</td>
<td>vetris</td>
</tr>
<tr>
<td>Present</td>
<td>Indicative</td>
<td>Subjunctive</td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>1st Pers.</td>
<td>sindin</td>
<td>sindi</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>sindi</td>
<td>sindit</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>sindis</td>
<td>sindizi</td>
</tr>
</tbody>
</table>
Agreement patterns resisted sound changes where nominal paradigms accelerated them.
Result: Verb agreement more or less in tact, while noun cases disappeared.
Tense/Aspect

Many High Valyrian Tense/Aspect Combinations Kept; Some Replaced; Some Destroyed.
Tense/Aspect

HV

Present

Future

Imperfect

Prs. Complete

LV

Present

Subjunctive

Imperfect

Preterite
Tense/Aspect

HV
Past Complete
Pres. Habitual
Past Habitual

LV
Ø
Conditional
Ø
Tense/Aspect

High Valyrian
ziyo t vestragon sytiliːbas.
“She should tell her.”
Tense/Aspect

Low Valyrian

ʒi vetrozlivas.

“She will tell her.”
<table>
<thead>
<tr>
<th>Present</th>
<th>Indicative</th>
<th>Subjunctive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Pers.</td>
<td>vetrozlivan</td>
<td>vetrozlivi</td>
</tr>
<tr>
<td>2nd Pers.</td>
<td>vetrozliva</td>
<td>vetrozlivat</td>
</tr>
<tr>
<td>3rd Pers.</td>
<td>vetrozlivas</td>
<td>vetrozlivis</td>
</tr>
</tbody>
</table>
Modality, Etc.

The composite passive voice and subjunctive mode of High Valyrian were both lost.
Modality, Etc.
As mentioned, the High Valyrian future became the Low Valyrian subjunctive (now just used in the present).
Modality, Etc.

The passive was replaced by a prolix expression.
Modality, Etc.

ma.ze.'ma.go → maz.'ma.yo
“to obtain”
Modality, Etc.

mazman doerari.
“I am served.”
Modality, Etc.

Other prolix expressions used for progressive and anterior.
Questions?
MODALITY AND FRIENDS
Modality: Anything that’s not explicitly tense or aspect.
Valence = next week. Don’t worry about causatives, passives, or applicatives yet.
“Verby” Bunch
Infinitive
Participle
Gerund
Infinitive saber (to) know
Infinitive

I want to know it.
You may know it.
Infinitive

Bare form of the verb; nominalization (gender marker, etc.); “time”, “way”, “style”, etc.
Participle = Adjectival Form
Gerund = Nominal Form
Participle > Adjectival Morphology

Gerund > Nominal Morphology
“Aspecty” Bunch
Durative/Continuous
Momentane
Habitual
Gnomic
Repetitive
Durative, Continuous, etc.
look at vs. stare
to “keep/continue” xing
to x again and again
Durative, Continuous, etc. “stay”, “be at”, reduplication, vowel lengthening, “still”, “hold”, “maintain”, etc.
Momentane
walk vs. step out
look vs. glance
Momentane
“once”, “quick”, etc.
Habitual
I ate a hot dog yesterday.
I ate hot dogs while I was at Berkeley.
Habitual
Present/Imperfect > Habitual
“stay”, “keep”, “long”, etc.
Gnomic
Birds fly.
Dogs bark.
Gnomic

Present > Gnomic

Lack of morphology that would ordinarily be present.

Same as Habitual.
Repetitive
I redid did it.
I hammered at it.
I pumped the bellows.
Repetitive
“Again”, “new”, “back”, “return”, etc.
“Have to” Bunch
Permissive
Weak Obligation
Strong Obligation
Permissive
I let him leave.
You may leave.
Permissive
“Leave”, “loose”, “drop”,
“give”, “power, might,
etc.” (same as Potential—or
from Potential)
Weak Obligation
I should eat. (I don’t have to, but I probably should.)
Weak Obligation

“Owe”, “debt”, etc.

(something where someone else requires you to do something.)
Strong Obligation
I have to eat. I must eat.
Strong Obligation

“Power, might, etc.” (same as Potential), possession, “debt”, “owe”, etc.
“Can” Bunch
Potential (Event)
Potential (Ability)
Potential (Event)
We might leave.
It can happen.
Potential (Ability)
I can lift four kittens.
Potential (Either)
(1) “Power”, “might”, “strength”
(2) “Know”, “see” (in the sense of knowing how to do something)
“Cause I Said So” Bunch
Hortative
Imperative
Hortative
Let’s go!
Let’s make cats our rulers!
Imperative
Go!
Eat!
Imperative

Bare form of verb; affective change (like vocative); some verb like “do” or “make” or “go”.
Hortative
Imperative; some non-finite
form plus a dative/allative;
auxiliary with suggestability;
“yes/no”.
The **hortative** (ˈhɔr.tətɪv; abbreviated **HORT**) is a group of semantically similar deontic modalities in some languages. Hortative modalities encourage or urge. In English, there are seven hortative modalities: the adhortative, exhortative, suprahortative, cohortative, dehortative, inhortative, and infrahortative. They differ by intensity, attitude (for or against), and—in the case of the cohortative—person.

**Contents** [hide]

1. Behavior
Imperative-hortative systems

Many languages have imperative-hortative systems in which modalities dealing with commands and encouragement are grouped together. This is not the case in English and results in some disagreement among linguists. Imperatives and hortatives both involve the expression of a wish.
“Maybe” Bunch
Optative
Subjunctive
Conditional
May we feast on mulberries!
I hope to eat mulberries!

Optative
Subjunctive
I hope he comes.
Conditional
If you go, I’ll go.
He would like to do that.
All these “moods” are crazy. Every single language uses every single one differently. There is no standard definition or usage of ANY of them.
Sources
“Want”, “hope”, future, antiquated verb forms, potential, past tense of any of these…
Evidentiality
Indirectivity
Evidentiality: Indicating how likely to be true the information one is presenting is.
Indirectivity
Turkish
geldi “he came”
gelmİf “he must have come”
Evidentiality
Witness vs. Non-Witness
First-hand vs. Second/Third
Saw vs. Heard
No Evidence, but Inferred
Evidentiality

Quechua

-\text{m(i)} = \text{experienced}

-\text{tfr(a)} = \text{inferred}

-\text{ʃ(i)} = \text{hearsay}
MA 6
-Figure out your copulæ.
-Decide on past/non-past or complete/incomplete.
-Build out as desired.
For “Augments”
- Must be composite.
- Must show source.
- Must explain how it interacts with other elements.
- Must show what happens when it fails to apply.
-en ≈ inchoative

It darkened quickly after 8 p.m.
Source is actually -en causative (PIE *-no; opaque before that).
When It Fails

dark = adj.
darken = grow dark
bizarre = adj.
bizarren = grow bizarre
Repair Strategy
The movie got/grew/became bizarre.
CONLANG VERBAL MORPHOLOGY ASSIGNMENT
Spokaans by Rolandt Tweehuysen

Jân kette ef mimpit ón Elsa.
“Jan gives the book to Elsa.”

Jân ef mimpit kette ón Elsa.
“Jan gave the book to Elsa.”

Kette Jân ef mimpit ón Elsa.
“Jan will give the book to Elsa.”
SYNTAX AND PRAGMATICS
The boy saw himself.
The boy saw himself.
The boy saw himself.
The happy cat slept.
*Happy the cat slept.
*Happy cat the slept.
*Happy slept cat the.
*Slept cat happy the.
VALENCY
Valency: What arguments can appear with which verbs.
Something that requires batteries!!!
Something that requires batteries!!!
Intransitive: One argument (monovalent).

Transitive: Two arguments (divalent/bivalent).

Ditransitive: Three arguments (trivalent).
The cat ate the steak.
I put the cat in the rocket.
eat { \(\alpha[NOM]eater, (\beta[ACC]eaten)\) }

put { \(\alpha[NOM]putter, \beta[ACC]puttee, \text{PREP } \gamma[\_\_]location\) }
The cat V the steak.
NP ate NP.
The cat ate the steak.
The cat licked the steak.
The cat ate the steak last Saturday on a park bench with a pigeon.
The cat licked the steak *last Saturday* on a park bench with a pigeon.
The cat danced last Saturday on a park bench with a pigeon.
Languages allow verbs to do things to/with the arguments they specify, and to add to or decrease their number.
Valency Reducing: Getting rid of a core argument.

Valency Increasing: Adding a core argument.
Valency Reducing
Passivization
Antipassivization
$V \{ \alpha[C_X], \beta[C_Y] \}$
V' \{ a[C_x] \}
Passivization
I saw him.
NOM V ACC
Passivization
I saw him.
NOM V ACC
Passivization

I saw him.

NOM V ACC
Passivization
He was seen.
NOM PASS V-AGR
Antipassivization
Sena toru val.
The boy ate the apple.
**ERG V ABS**
Antipassivization
Sena toru val.
The boy ate the apple.
ERG V ABS
The boy ate the apple.

ERG V ABS
Antipassivization
Sen torule.
The boy ate.
ABS V-ANT
Passivization

The boy saw the girl and ran.
Passivization

The girl was seen by the boy and ran.
The boy saw the girl and ran.

Antipassivization
See = transitive (seer = ergative, seeee = absolutive)
Run = intransitive (runner = absolutive)
Therefore in ergative-absolutive languages, coordination is with transitive objects and intransitive subjects.
Antipassivization
The boy saw the girl and ran.
Antipassivization
The boy saw of the girl and ran.
I came, I saw, I conquered.
I came, I saw, I conquered.
I came, I was seen, I was conquered.
Passives apply to direct objects mostly; sometimes others.
I gave an apple to the boy.
The apple was given to the boy.
The boy was given an apple.
The boy was given an apple.

*The boy was given an apple.
Antipassives apply to ergative arguments.
IF you can optionally reintroduce the removed argument, it’s done with an oblique strategy.
I was seen by the bird. He shot at the student.
Not usually done with a special case. Reintroduced agents use more agentive morphology (instrumental, etc.)…
Reintroduced absolutives use more patientive morphology (partitive, allative, dative, etc.).
Generally core cases are not used (nominative, ergative, absolutive, accusative).
Sources for Passives
“Eat”, “fall”, “get”, “suffer”, “see”, reflexive, third person plural.
Sources for Passives
Nzua a-mu-mono.
John they-him-saw.
“They saw John.”
Sources for Passives
Nzua a-mu-mono (kwa meme).
John they-him-saw (by me).
“John was seen (by me).”
Sources for Antipassives
Reflexives, “do”, “go”, sources for intransitives.
Source may suggest marking for reintroduced argument.
Antipassive Example
I hugged the fish.
Antipassive Example
I did-hugging.
Antipassive Example
I did-hugging to the fish.
Digression

Usual Passive
I eat a fish.
A fish is eaten by me.
I have him bound. → I have bound him.
Digression

Present Completed State → Anterior → Past Tense
Digression

Usual Passive

I eat a fish.

A fish is eaten by me.
A fish is eaten by me.

“In the present, a fish is in the state of having been eaten by me.”
I eat a fish. → Present
A fish is eaten by me. → Past
Digression
BUT
With the loss of the passive as a regular morphological construction, what does this look like?
Digression

I eat a fish. → Present
A fish is eaten by me. → Past
I eat a fish. → Present
A fish is eaten by me. → Past
Digression

A eat P. → Present
S is eaten A. → Past
The result is split ergativity: Accusative in the present, ergative in the past.
Digression

Happened in Hindi, Georgian, and many others.
Valency Increasing Causativization Applicativization
Causativization: When someone makes someone do something.
V \{ \alpha[C_X] (\beta[C_Y]) \}
$V' \{ \gamma[C_X], \alpha[C_{\{X/Y/Z\}}] (\beta[C_Y]) \}$
Causativization
I pet the cat.
The dog made me pet the cat.
Causativization
The pot is black.
I blackened the pot.
Causativization

I made the pot.
I made him.
I made him eat a vegetable.
Causativization
I made the pot.
I made him.
I made him eat a vegetable.
Luo
Koth no-miyo wa-bedo e tiend yath.
“The rain made us stay at the foot of the tree.”
Luo
Koth no-miyo wa-bedo e tiend yath.
no = 3SG miyo = give
wa = 1PL bedo = stay
Subordination vs. Non-Subordination
Causee Groups with Matrix vs. Groups with Subordinate Clause
High Valyrian
qurdot paːletille goːvileːdan.
/table-DAT crown-ACC vi/
“I put the crown under the table.”
Twi

o-de né nnípa fòro bépow.

/he-take his men ascend mountain/

“He makes his men ascend the mountain.”
“He makes his men ascend the mountain.”
Sources for Causatives

“Take”, “give”, “make”, “do”, “force”, etc.
Applicativization: When a non-core argument is raised to a non-nominative/absolutive core argument.
I ran faster than him.
I outran him.
I outran him.
*I outran.
V \{ \alpha[C_X] (\beta[C_Y]) \}
V' \{ \alpha[c_X], \gamma[c_Y] (\beta[c_Y]) \}
Yagua sìjchitírya javanu quiichitya. “He poked the meat with a knife.”
Yagua

sjčhítítyara quiichiyy.

“He poked something with a knife.”
Yagua

sĩ́chítítyara quiíchiy.

“He jabbed the knife.”
Sometimes…

Intransitive + X = Causative

Transitive + X = Applicative
Seko Padang jambu mirène’. “The guava fell.”
Seko Padang
Matius marrène’ing jambu.
“Matthew dropped the guava.”
Seko Padang
Yeni mangala kinanneː.
“Jenny is getting rice.”
Seko Padang

Yeni mangalaing kinanne:\adinna.

“Jenny is getting rice for her brother.”
Sometimes…
He played basketball.
She outplayed him.
*She outplayed him basketball.
But Sometimes… Umugóre arakorera umuhuungu igitabo. “The woman read the boy the book.”
Types of Applicatives
Benefactive/Malefactive, Instrumental, Locative, Comitative, Allative, Purposive…
Applicatives ≈ Cases
Sources of Applicatives ≈ Sources of Cases/Adpositions
Noun → Adposition → Adverb → Applicative
ADVERBS
Adverbs: Modify the action of the sentence in some way (sometimes also adjectives).
Adverb Types
Temporal
Locative
Manner
Locative

Often basic in the same way demonstratives are (so if “this” and “that” are basic, “here” and “there” will be).
Locative
Others derived from cases (either fossilized or never fully realized).
Locative
ahead
aside
abroad
afoot
ashore
Locative

an (i.e. “on”) + N
Temporal

Some basic (words for “now”, “today”, “yesterday”, “tomorrow”, “then” often basic).
Temporal
If not, formed from cases, or via metaphorical extension (e.g. “after” and “before”).
Manner
quickly
well
awesomely
Manner

ADJ + SUFFIX

PREFIX + ADJ

ADJ
Manner
Many languages make no distinction whatsoever between adjectives and manner adverbs.
Manner
For affixes: “body”, “like”, “way”, “mind”, “style”, “type”, etc.
Manner
Spanish
la niña rapida
el niño rapido
Manner
Spanish
rapidamente
*rapidomente
Manner
Spanish
rapida mente
Manner
Spanish
mente > mente (L.) > mens
Manner
Spanish
mens = feminine
Manner
Spanish
mente = ablative
Manner
Spanish
rapida mente = from/of a quick mind
Manner
Spanish
Adverb always formed on feminine adjective because it modified feminine noun originally.
Tonight

(1) PA16: Create 10 tradable nouns (info on site).

(2) Radio reporter coming tomorrow.
Kì Tsar cì kìsìmb ca kataìgr, *kaskì* kì Xròk ca kahòrs. “The lion *scratches* the tiger *that bites* the horse.”

Kì Tsar cì kìsìmb ca kataìgr, *kìskì* kì Xròk ca kahòrs. “The lion *that bites* the horse *scratches* the tiger.”

Kì Tsar cì kìsìmb ca kataìgr, *kìska* kì Xròk cì kìhòrs. “The lion *scratches* the tiger *that* the horse *bites.*”
WORD ORDER
SOV 41%  VOS 2%
SVO 35%  OVS 1%
VSO  7%  OSV 0.3%
SOV  41%    VOS  2%
SVO  35%    OVS  1%
VSO  7%     OSV  0.3%
No Dominant Order ~14%!
(1) The thing you’re talking about.
(2) What you’re saying about it.
N-MOD
Rock
Rock a big one, as it turns out
Eating an acorn, as it happens
V-O
N-MOD

O-V
MOD-N
Modifiers
Adjectives
Possessors
Relative Clauses
Adpositions follow suit because they usually come from verbs modifying objects or nouns possessed by other nouns.
face (of the) mountain in front of the mountain
P-N < N-MOD
mountain(s) face
the mountain in front
N-P < MOD-N
touch mountain to the mountain
P-N ≺ V-O
mountain touch the mountain to N-P < O-V
Determiners (that, the, a, this, etc.) often treated like heads in syntax.
DET-N = head-initial
N-DET = head-final
Oedipus Rex

Oedipus, who is the king, as it happens
I saw that man.
I saw that one, and it happened to be a man.
Relative Clause-Noun Order

R-N

N-R
Relative Clause-Noun Order

R-N 17%  N-R 70%
There are constraints on language that exist simply because of the way humans are and perceive time.
Heavy Shift: Big stuff tends to get pushed off to the end, chronologically.
I gave him the book.
I gave the book to him.
I gave him the book I was telling you about the other day that my friend Jackie was absolutely *raving* about.
I gave the book I was telling you about the other day that my friend Jackie was absolutely *raving* about to him.
It’s too long! We forget what the hell verb it was!
Relative clauses, by definition, tend to be longer and more complex than simple nouns (they’re little clauses, after all).
Thus, this is quite common:

SOV
N-P
MOD-N
G-N
N-REL
Also the reason why you see alternate possessive strategies.
He’s the son of that guy I was telling you about the other day.
He’s that guy I was telling you about the other day’s son.
This stuff isn’t impossible, just harder to process. Easier to do something different.
Like everything else, word order can change over time.
Things that drive word order change:
- Loss of case.
- Emphasis.
- Deemphasis.
Latin
SOV
Case

Romance
SVO
No Case
La mujer le llamó al director.
Deemphasis: Taking a full NP and pushing it later in the clause.
Spanish

La mujer le llamó al director.

She called him, the director.
Notice: Spanish pronouns still have case!
La mujer el director llamó.

Spanish

Potentially ambiguous!
Spanish

La mujer le llamó.

Not ambiguous, but now we don’t know who she called!
La mujer le llamó al director.
¡Perfecto!
Emphasis: Taking a full NP and pulling it out to first position.
Him I like!

“Hooray!” the boy said/said the boy.
First position is always privileged and always a potential slot for emphasis because it’s the first thing you say.
Dothraki
Tih mahrazh khales.
/saw man-NOM khal-ACC/
“The man saw the khal.”
Dothraki
Mahrazh tih khales.
/man-NOM saw khal-ACC/
“The man saw the khal.”
French
grand homme “great man”
homme grand “tall man”
All three of these things CAN happen, but they never NEED to happen.
Questions?
Questions
Yes/No Questions
WH-Questions
Yes/No Questions or Polar Questions: Questions that call for an answer of “yes” or “no”, usually.
Are you going to the sock hop?
Do you enjoy talking about sock hops?
Question Particle
Verb Form
Both
Intonation
Word Order Change
Question Particle
Katabat haḍa al-kitab.  
“She wrote this book.”

Hal katabat haḍa al-kitab?  
“Did she write this book?”
Question Particle
Kono-hon o kakimashita.
“She wrote this book.”

Kono-hon o kakimashita ka?
“Did she write this book?”
Question Particle Sources
Words like “whether/if”, “yes”, “no”, “perhaps/maybe”, “come”, “or”.
Are we going to the store, or…?
Verb Form
eƛ’e-čó-y
/go-PRES-Q/
“Are you going?”
Verb Form Sources
Similar to “conditional” or other “optative”-style modalities. Also same as question particles.
Intonation

Mi mamá me llamó ayer.
¿Mi mamá me llamó ayer?
Habe ich jetzt vier Bücher?

Ich habe jetzt vier Bücher.
Verb is pulled out in front (result of emphasis).
WH-Questions: Questions that have a word that has a “w” and “h” in it in English: where, what, who, when, why, how.
Intonation often differs:
Did you eat the crackers?
Who ate the crackers?
The cat ate the crackers.
Two major placements for WH-Words:
(1) Sentence-initially
(2) In situ
Spanish
Pregunté a Ernesto.
¿A quién preguntaste?
¿Preguntaste a quién?
Many languages *allow* WH-words to be in situ (with a meaning difference); some require it.
Who(m) did you talk to?
You talked to who(m)?
The “movement”, again, just emphasis: Initial position is privileged.
Restrictions on two WH-words usually reducible to restrictions on two points of emphasis.
Placement

WH-Word Initial: 29%

WH-Word Elsewhere: 68%

Mixed Placement: 3%
Sources for WH-Words
Usually a basic “WH”-y word. It’s then built into others.
Sources for WH-Words
Many languages don’t distinguish “what” and “who” or “what” and “which”.
Sources for WH-Words
Other WH-words usually reducible to “what time”, “what place”, “what way”, “what one”, etc.
RELATIVE CLAUSES
Relative Clause: A full sentence whose function is to describe another noun.
¡El carro, que me vendió, es un limón!
“The car that he sold me is a lemon!”
¡El carro, *que me vendió*, es un limón!

“The car *that he sold me* is a lemon!”
Relative clause *usually* has a role for the target of relativization.
the squirrel that I saw
Relative Clause

the squirrel that I saw

Target of Relativization
Strategies for ToR Gap
Resumptive Pronoun
Internally Headed
the squirrel that I saw ___
Gap Strategy

the squirrel that I saw ___
Resumptive Pronoun

the squirrel that I saw saw him
Internally Headed

I saw the squirrel ran away. My daughter loves I saw the squirrel.
Unrelated

The cat my mother talked to my aunt is happy.
The cat there’s a TV show is happy.
Accessibility Hierarchy

Subject/Absolutive > Direct Object/Ergative > Indirect Object > Oblique > Genitive > Object of Comparative
the cat that saw me
the cat I saw
the cat I gave a fish
the cat for whom I slave
the cat whose tail is long
the cat I’m larger than
the cat that saw me
*the cat I saw
the cat that saw me
the cat that I saw it
Agreement with Gap
the cat that I saw ___
the cat whom I saw ___
that = invariant
who = case marked
Relative Pronouns = generally agree with case/gender/number of the role of the embedded clause.
The cat that I saw is happy.
The cat that I saw is happy.
The cat whom I saw is happy.
Pronoun Placement

The cat whom I saw is happy.
Pronoun Placement

The cat I saw whom is happy.
Relative Clause Placement

Havzi me tih anha layafa.
"The cat I saw is happy."

/cat that saw I is-happy/
Relative Clause Placement

Havzime tih anha layafa.
/cat that saw I is-happy/
“The cat I saw is happy.”
Relative Clause Placement

"The cat I saw is happy."

"I saw whom cat happy is/"

“Undan lue kēli kirine issa. /I-saw whom cat happy is/ “The cat I saw is happy.”
Relative Clause Placement

Undan lue kēli kirine issa.
/I-saw whom cat happy is/
“The cat I saw is happy.”
Relative Clause Word Order

Havzi me tih anha layafa.

/cat that saw I is-happy/

“The cat I saw is happy.”
Relative Clause Word Order

Havzi me tih anha layafa.

/ NOM COMP V NOM V/

“The cat I saw is happy.”
Old Dothraki
Tih anha hrazef.
/saw I horse/
“I saw the horse.”
Modern Dothraki
Anha tih hrazef.
/I saw horse/
“I saw the horse.”
Relative clauses often (not always, but often) preserve old word order.
Der Hund, der mich sah, ist freundlich.
German
SOV > SVO
Relative Clause Decisions

(1) Are my relative clauses going to come before or after my targets of relativization?
Relative Clause Decisions

(2) Are my relative clauses going to use a gap, a resumptive pronoun, or be internally-headed?
Relative Clause Decisions

(3) Are relative clauses going to use an invariant complimentizer or a relative pronoun?
Relative Clause Decisions

(4) How many nominal arguments in the hierarchy can be relativized?
Complementizer Sources

“That”, “this”, “the”, WH-word (e.g. “which” or “where”), “for”, nominalization, genitive.
Complementizer Sources

The man of my seeing.
The man seen by me.
Relative Pronoun

“That”, “this”, “the”, WH-word (e.g. “who” or “what”), older pronouns no longer used.
Eternally Confusing

Give it to me, who(?) want(s?) to have it.
Tonight

(1) PA: Write up your new nouns!
Okuna by Matt Pearson

Na halmà totsait teunyi. 
“S/he put the book on the table.”

Hi Motlama totsait teunyi. 
“Motla put it on the table.”

To Motlama halmà teunyi. 
“Motla put the book there.”
Japanese
お火事が近所の子供
{に/にじotte}起こった。
“The fire happened because
of the neighborhood child.”
takeʃi ga petto no inu ni finareta.
“Takeshi had his pet dog die.”
Japanese

takeʃi ga petto no inu ni
ʃinareta.

“Takeshi was died by pet
dog.”
Japanese

takeʃi ga petto no inu ni
ʃinaʃeʃeta.

/Takeshi NOM pet GEN dog
OBL died/
Borrowing

Word meaning dependent on how the borrowers use the word.
Borrowing

Sometimes a language will adopt a new phoneme (e.g. genre). Most times it will not.
Borrowing

If borrowing a word that’s already present, it will take on a specialized sense.
salsa > sauce
Borrowing

Sometimes an English word doubles up to clarify.
Borrowing salsa sauce
Borrowing
the alcohol
the algebra
el alhambra
Borrowing
attorney-general
attorney-general
attorney-generals
Borrowing

tamal ~ tamales
tamale ~ tamales
Grice’s Maxims

These are rules all speakers have in their heads as defaults. When flouted, they trigger various effects.
Grice’s Maxims

Maxim of Quantity
Maxim of Quality
Maxim of Relation
Maxim of Manner
Maxim of Quantity

Have you done your MA?
Maxim of Quantity
I’ve downloaded it and have started to really go through it, and I have kind of a lot of it almost done, and I’m feeling pretty good about it!
Maxim of Quantity

No.
Maxim of Quantity

Wow, your brother got married in Vegas? That’s so exciting! What was the wedding like?
Maxim of Quantity

Good.
Maxim of Quantity
It was cool! There was a juggler, a magician, three Elvises, and they bungee-jumped off the Stratosphere when they said “I do!”
Maxim of Quantity
When the maxim of quantity is flouted, it’s because the *truth* is the simple answer, but the circumstances aren’t simple.
Maxim of Quality

Are you excited about the new Disturbed album?
Maxim of Quality

I’m breathless with anticipation...
Maxim of Quality

No.
Maxim of Quality

When the maxim of quality is flouted on purpose, it’s usual for the sake of irony or sarcasm.
Maxim of Relation

I really want Top Dog, but I forgot my wallet!
Maxim of Relation

I’ve got a five.
Maxim of Relation
I have five dollars, which is enough to pay for one Top Dog, so I’ll loan you this five dollars to purchase a Top Dog, and you can repay me.
Maxim of Relation
This maxim is flouted *constantly*, because we often do not need someone to explain every single detail of an utterance.
Maxim of Relation

“I’m against picketing, but I don’t know how to show it.”

-Mitch Hedberg
Maxim of Relation

It’s funny, because if you’re opposed to something, you picket it. But if you’re against picketing, then you won’t picket it.
Maxim of Relation

So if you show opposition by picketing something, how do you oppose picketing? It’s logically impossible.
Maxim of Relation

In short: It’s cooler when you figure out how a statement is relevant.
Maxim of Manner

Do you want to go to Baja Sonora or Papa Piló’s?
Maxim of Manner

Yes.
Maxim of Manner

Papa Pilo’s.
The Cooperative Principle
Topicalization
Subordination
Negation
Topicalization: Pulling something out in front that you’re talking about (when it ordinarily wouldn’t be there, usually).
Him I know.
Topic - Comment
Qu’est-ce que c’est que ça?
Qu’est-ce que c’est que ça?
What is it that it is that that is?
Est-ce que tu as mangé?
Est-ce que tu as mangé?
Is it that you have eaten?
Topicalization Done With Intonation
It-Cleft Special Particle
Him I like.
Digression

All my friends are penguins.
My friends all are penguins.
My friends are all penguins.
It’s mulberries I like.
What do I like?
I. Sahondra no nanapaka ity hazo ity.

“It was Sahondra who cut this tree.”
I. Sahondra no nanapaka ity hazo ity.
“It was Sahondra who cut this tree.”
Japanese

ga = nominative

o = accusative

wa = topic
Japanese
Who are you?
watashi wa devido desu
/I TOP David am/
Who is David?

わたしがDavidです。
Topicalization Sources

Demonstratives, deictics, articles, words that end up meaning “about” or “regarding”, pronouns.
It-Cleft Specifically

Dummy equative clause (it is x, he is x, it has x, comes x, etc.)
Subordination: When some clause crucially depends on another clause.
Often introduced by before, after, because, if, so, that, when, while, etc.
While you were dancing.
I played an entire game of *Risk* while you were dancing.
While you were dancing I played an entire game of Risk.
I hope (that) you go to the store to get more ice cream.
I want (that) you go to the store to get more ice cream.
I want you to go to the store to get more ice cream.
I want him to go to the store to get more ice cream.
hope ~ want
I want a book.
I want {him/her/it}. 
I hope a book. (???)
I hope {it/him/her}. (???)
I want him to...
I hope that...
Subordination Possibilities
I hope (that) he comes.
Ojalá que venga.
I hope for his coming.
Be Aware…
“Before”, “after”, “if”, “lest”, “while”, etc.
Dothraki

Hash me jada, hash anha vaddrivak mae.

“If he comes, then I will kill him.”
Dothraki

Kash me remek, kash anha fich sajoes mae.

“While he was sleeping, (___) I took his horse.”
Non-Subordinating Coordination

“And”, “but”, “or”, “so”...
Coordinating Conjunctions

“I walked to the store and he stayed home.”
Coordinating Conjunctions

“I petted a cat for 20 minutes, but you’ll go to Idaho in the spring for cockroaches.”
and $\approx$ but
“And” = these two things are related and go together.

“But” = these two things contrast and go together.
Negation: Saying something’s not happening, etc.
I don’t eat onions.
I’m not eating onions.
I eat no onions.
There are negative words and actual negative grammatical particles/affixes/words.
I never eat onions.
I do not eat onions.
Crucial: How you do negation will determine whether or not the grammar changes in negation.
German

Ich weiß. “I know.”

Ich weiß nicht. “I don’t know.”
German
Ich habe einen Hund.
“I have a dog.”
Ich habe keinen Hund.
“I don’t have a dog.”
German
Ich habe ein Boot.
“I have a boat.”
Ich habe kein Boot.
“I don’t have a boat.”
Spanish
Tengo dos pájaros en mis pantalones.
Spanish

No tengo dos pájaros en mis pantalones.
Spanish
Tengo unos lápices.
Spanish
No tengo lápiz.
Finnish
En puhu suomea.
Et puhu suomea
Ei puhu suomea.
Negation Strategies
Negative Particle
Negative Verb
Negative Adverb
Negative Particle/Adverb
For particle, decide placement.
For adverb, it goes where adverbs go.
Negative verbs generally inflect fully for tense, aspect, and modality, and agree the way other verbs do.
Sources of Negation

Words like “lack”, “leave”, “to abandon”, “to lose”, “to miss”, “to let”, etc. Also “without” and other abessive sources.
Sources of Negation
Also words for the smallest part of something.
French
Je ne mange rien.
Je ne vais pas.
Je n’écris point.
Sources of Negation

Negative particle sometimes basic. Also sometimes a word meaning “there isn’t” is basic.
"There are(n’t) books on the bed."

Turkish
Yatakta kitaplar var.
Yatakta kitaplar yok.
“There are(n’t) books on the bed.”
Fulfulde o waasii debbo makko.

/he lost wife his/

“He lost his wife.”
Fulfulde ko miin waasi amde.
/FOC me NEG dance-INF/
“It’s me who didn’t dance.”
Fulfulde ko miin waasi amde. /FOC me NEG dance-INF/ “It’s me who lost dancing.”
Notice!
When negation comes from a transitive verb, the main verb is in the infinitive.
Tonight
(1) PA: More animals!
(2) MA7!
Qbyn gài by Henrik Theiling

“Do not eat yellow snow.”

“Do NOT EVER eat yellow snow!”

“You should TOTALLY eat yellow snow!”
One More Thing…
Negative Verb Forms
Swahili
Ninasoma Kiswahili.
“I am studying Swahili.”
Tunasoma Kiswahili.
“We are studying Swahili.”
Swahili
Sisomi Kiswahili.
“I am not studying Swahili.”
Hatusomi Kiswahili.
“We aren’t studying Swahili.”
Perfectly possible to have a negative verb form. Same evolution: Just make it a verbal affix.
IRATHIENT
Irathient is the language of the Irathient people, from the planet now called Casti. They reject technology, for the most part, and prefer a more nomadic existence.
The Votans are made up of lots of alien races, one more different than the next.

And they all lived together in the Votanis System thousands of years ago.
Head-Initial
VOS
NA
NR
NG
PN
Intransitive

“The woman is sleeping.”
Intransitive

zenie enelige zmaine.

“The woman is sleeping.”
Transitive

‘The woman is watching the river.’
Transitive

"The woman is watching the river."
Agreement

“The woman is sleeping.”
Agreement

The stranger is sleeping.

“The stranger is sleeping.”
Agreement

“The bird is sleeping.”
Agreement

“The family is sleeping.”
<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i</td>
<td>ι</td>
<td>u</td>
</tr>
<tr>
<td>Low</td>
<td>ε</td>
<td>θ</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td>Front</td>
<td>Central</td>
<td>Back</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>High</td>
<td>i</td>
<td></td>
<td>u</td>
</tr>
<tr>
<td>Low</td>
<td>Ε</td>
<td>θ</td>
<td>a</td>
</tr>
</tbody>
</table>
Passive

"The woman is watching the river."
Passive

ტუა უთტუ ულიკე.

“The river is being watched.”
Verb Change
εττυ  →  ụtụ
Auxiliary Change

\( \zeta \rightarrow \text{twa} \)
Passive

twa uttu ulike tha zmaine.

“The river is being watched by the woman.”
Causative

“The woman is eating.”
Causative

“The woman feeds.”
Causative

“The woman feeds the bird.”
Auxiliary Change

$\epsilon z \rightarrow \epsilon gn \bar{e}$
Verb Change
ελυ → ελυθε
Word Order Change
AVS → AOVS
Applicative

“The woman is eating.”
The woman is eating for someone.
Applicative

"The woman is eating for the boy."
Verb Change
εlu → εluhε
Word Order Change
AVS $\rightarrow$ AOVS
Verbal suffix denotes special argument comes before it. Context determines what its role is.
Yes/No Question

"The woman is eating for the boy."
Yes/No Question

“Is the woman eating for the boy?”
WH-Question

“Who is eating for the boy?”
WH-Question

“Who is the woman eating for?”
Negation

“The woman is eating.”
Negation

“Negate the noun maine, i.e. negate it. The woman is not eating.”
Relative Clauses

“The woman is eating.”
Relative Clauses

The woman who watched the river is eating.”
ToR Change

zmains → zmains
Verb Change
Aux+Agr/Tns V → V+Agr/Tns
Gap for ToR
Adjective at end which agrees with ToR (-on).
“The woman who is watching the river is eating.”
Relative Clauses

“The woman whom the river watched is eating.”
Relative Clauses

“The woman whom the river is watching is eating.”
Relative Clauses

“The woman who watched the river is eating.”
Relative Clauses

“The stranger who watched the river is eating.”
Relative Clauses

“The bird who watched the river is eating.”
Relative Clauses

"The woman who watched the river is eating."
Adjectives
zmainę
“woman”
tipasku
“bird”
Adjectives

zmainə zupimə
“beautiful woman”
tipasku tipima
“beautiful bird”
Relative Clauses

“The woman who watched the river is eating.”
Relative Clauses

“The woman for whom the stranger watched the river is eating.”
Questions?
Tonight

(1) PA: Find a non-Roman writing system.
(2) MA8
CONLANG SYNTAX ASSIGNMENT
Elephant’s Memory by Timothy Ingen Housz

“Do you hear the frog shout?”

“I am so happy that you are pregnant”
ORTHOGRAPHY
Orthography > ortho-
"correct" + graph- “write”
Orthography: The way a group of speakers use a writing system to record their language.
Writing system: A system of glyph shapes mapped to sounds and a method for combining them and writing them down.
Glyph: The smallest whole unit of a writing system.
Glyph

あ 璋 a ᵃ ᶘ $
Writing System
あうふげれまぱボドロワキ
エンザガカホラ、ロギャじ
両世塚扈改那鞴好폇下七爾
Writing System
Orthography

食べました
*たべました
*タベマシタ
*食べました
Romanization

tabemasita

tabemashita

tabemashta

tah-bay-mosh-tah
食べました

tabemashita

/ta.be.ma.si.ta/

[ˈta.be.ma.ʃi.ta]

“ate”
食べました

```
tabemashita
/ta.be.ma.si.ta/
['ta.be.ma.si.ta]
“ate”
```
食べました

tabemashita

/ta.be.ma.si.ta/

[ˈta.be.ma.ʃi.ta]

“ate”
dothrakhqoyi
/do.θrax.qo.ji/
[ˈdθərəx.ʔɔɪ.ɡi]
“bloodrider”
Orthography

Below is the orthography for Thawayan. This includes all graphemes as defined in the language's phonology settings - excluding the non-distinct graphemes/polygraphs.

<table>
<thead>
<tr>
<th>Orthography</th>
<th>Thawayan</th>
</tr>
</thead>
<tbody>
<tr>
<td>'!!n</td>
<td>/\n</td>
</tr>
<tr>
<td>'n</td>
<td>/n</td>
</tr>
<tr>
<td>'!!n</td>
<td>/\n</td>
</tr>
<tr>
<td>'n</td>
<td>/n</td>
</tr>
<tr>
<td>'!!n</td>
<td>/\n</td>
</tr>
<tr>
<td>'On</td>
<td>/\j\</td>
</tr>
<tr>
<td>!!</td>
<td>/n</td>
</tr>
<tr>
<td>!!</td>
<td>/n</td>
</tr>
<tr>
<td>!!'</td>
<td>/\j\</td>
</tr>
<tr>
<td>!!g</td>
<td>/n</td>
</tr>
<tr>
<td>!!h</td>
<td>/n</td>
</tr>
<tr>
<td>!!n</td>
<td>/\n</td>
</tr>
<tr>
<td>!!q</td>
<td>/\q/\n</td>
</tr>
<tr>
<td>!!q'</td>
<td>/\q'/\n</td>
</tr>
<tr>
<td>!!qh</td>
<td>/\q'/\n</td>
</tr>
<tr>
<td>!!x</td>
<td>/\x/\n</td>
</tr>
<tr>
<td>!!x'</td>
<td>/\x'/\n</td>
</tr>
<tr>
<td>ḛ</td>
<td>/b/\n</td>
</tr>
<tr>
<td>d</td>
<td>/d/\n</td>
</tr>
<tr>
<td>l</td>
<td>/l/\n</td>
</tr>
<tr>
<td>l'</td>
<td>/l'/\n</td>
</tr>
<tr>
<td>g</td>
<td>/g/\n</td>
</tr>
<tr>
<td>h</td>
<td>/h/\n</td>
</tr>
<tr>
<td>n</td>
<td>/n/\n</td>
</tr>
<tr>
<td>q</td>
<td>/q/\n</td>
</tr>
<tr>
<td>q'</td>
<td>/q'/\n</td>
</tr>
<tr>
<td>qh</td>
<td>/q'/\n</td>
</tr>
<tr>
<td>x</td>
<td>/x/\n</td>
</tr>
<tr>
<td>x'</td>
<td>/x'/\n</td>
</tr>
<tr>
<td>l</td>
<td>/l/\n</td>
</tr>
<tr>
<td>l'</td>
<td>/l'/\n</td>
</tr>
<tr>
<td>g</td>
<td>/g/\n</td>
</tr>
<tr>
<td>h</td>
<td>/h/\n</td>
</tr>
<tr>
<td>n</td>
<td>/n/\n</td>
</tr>
<tr>
<td>q</td>
<td>/q/\n</td>
</tr>
<tr>
<td>qh</td>
<td>/q'/\n</td>
</tr>
<tr>
<td>x</td>
<td>/x/\n</td>
</tr>
<tr>
<td>x'</td>
<td>/x'/\n</td>
</tr>
<tr>
<td>ṭ</td>
<td>/ṭ/\n</td>
</tr>
<tr>
<td>ṭ'</td>
<td>/ṭ'/\n</td>
</tr>
<tr>
<td>ṭg</td>
<td>/ṭ\g/\n</td>
</tr>
<tr>
<td>ṭh</td>
<td>/ṭ\h/\n</td>
</tr>
<tr>
<td>n</td>
<td>/n/\n</td>
</tr>
<tr>
<td>q</td>
<td>/q/\n</td>
</tr>
<tr>
<td>qh</td>
<td>/q'/\n</td>
</tr>
<tr>
<td>x</td>
<td>/x/\n</td>
</tr>
<tr>
<td>x'</td>
<td>/x'/\n</td>
</tr>
<tr>
<td>ṫq</td>
<td>/ṭ\q/\n</td>
</tr>
<tr>
<td>ṫqh</td>
<td>/ṭ\q/\n</td>
</tr>
<tr>
<td>ṫx</td>
<td>/ṭ\x/\n</td>
</tr>
<tr>
<td>ṫx'</td>
<td>/ṭ\x'/\n</td>
</tr>
<tr>
<td>g</td>
<td>/g/\n</td>
</tr>
<tr>
<td>h</td>
<td>/h/\n</td>
</tr>
<tr>
<td>n</td>
<td>/n/\n</td>
</tr>
<tr>
<td>q</td>
<td>/q/\n</td>
</tr>
<tr>
<td>qh</td>
<td>/q'/\n</td>
</tr>
<tr>
<td>x</td>
<td>/x/\n</td>
</tr>
<tr>
<td>x'</td>
<td>/x'/\n</td>
</tr>
<tr>
<td>Ṫ</td>
<td>/Ṭ/\n</td>
</tr>
<tr>
<td>Ṫq</td>
<td>/Ṭ\q/\n</td>
</tr>
<tr>
<td>Ṫqh</td>
<td>/Ṭ\q/\n</td>
</tr>
<tr>
<td>Ṫx</td>
<td>/Ṭ\x/\n</td>
</tr>
<tr>
<td>Ṫx'</td>
<td>/Ṭ\x'/\n</td>
</tr>
<tr>
<td>ṭ</td>
<td>/ṭ/\n</td>
</tr>
<tr>
<td>ṭg</td>
<td>/ṭ\g/\n</td>
</tr>
<tr>
<td>ṭh</td>
<td>/ṭ\h/\n</td>
</tr>
<tr>
<td>TM</td>
<td>/TM/\n</td>
</tr>
</tbody>
</table>
### Orthography

Below is the orthography for Qaati. This includes all graphemes as defined in the language's phonology settings - excluding the non-distinct graphemes/polygraphs.

<table>
<thead>
<tr>
<th>Orthography</th>
<th>?</th>
<th>Qaati</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aa</strong></td>
<td>/ä/</td>
<td></td>
</tr>
<tr>
<td><strong>Çç</strong></td>
<td>/ç/</td>
<td></td>
</tr>
<tr>
<td><strong>Ḫḫ</strong></td>
<td>/χ/</td>
<td></td>
</tr>
<tr>
<td><strong>ẊẊ</strong></td>
<td>/x/</td>
<td></td>
</tr>
<tr>
<td><strong>ẊẊ</strong></td>
<td>/x/</td>
<td></td>
</tr>
<tr>
<td><strong>Cc</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>Cc</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>Dd</strong></td>
<td>/t/</td>
<td></td>
</tr>
<tr>
<td><strong>?</strong></td>
<td>/ʔ/</td>
<td></td>
</tr>
<tr>
<td><strong>Gg</strong></td>
<td>/k/</td>
<td></td>
</tr>
<tr>
<td><strong>Ii</strong></td>
<td>/ɪ/</td>
<td></td>
</tr>
<tr>
<td><strong>Jj</strong></td>
<td>/j/</td>
<td></td>
</tr>
<tr>
<td><strong>Kk</strong></td>
<td>/k/</td>
<td></td>
</tr>
<tr>
<td><strong>KW kw</strong></td>
<td>/kʰ/</td>
<td></td>
</tr>
<tr>
<td><strong>Ll</strong></td>
<td>/l/</td>
<td></td>
</tr>
<tr>
<td><strong>Ll 1</strong></td>
<td>/l/</td>
<td></td>
</tr>
<tr>
<td><strong>Mm</strong></td>
<td>/m/</td>
<td></td>
</tr>
<tr>
<td><strong>Nn</strong></td>
<td>/n/</td>
<td></td>
</tr>
<tr>
<td><strong>N n</strong></td>
<td>/n/</td>
<td></td>
</tr>
<tr>
<td><strong>Pp</strong></td>
<td>/p/</td>
<td></td>
</tr>
<tr>
<td><strong>Qq</strong></td>
<td>/q/</td>
<td></td>
</tr>
<tr>
<td><strong>Q' q'</strong></td>
<td>/q/</td>
<td></td>
</tr>
<tr>
<td><strong>QW qw</strong></td>
<td>/qʰ/</td>
<td></td>
</tr>
<tr>
<td><strong>Ss</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>SH sh</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>Tt</strong></td>
<td>/t/</td>
<td></td>
</tr>
<tr>
<td><strong>TL tl</strong></td>
<td>/t/</td>
<td></td>
</tr>
<tr>
<td><strong>TS ts</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>TS ts</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>TŠ tš</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>TL tš</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>TŠ tš</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
<tr>
<td><strong>Ww</strong></td>
<td>/w/</td>
<td></td>
</tr>
<tr>
<td><strong>Xx</strong></td>
<td>/χ/</td>
<td></td>
</tr>
<tr>
<td><strong>ẊẊ xw</strong></td>
<td>/x/</td>
<td></td>
</tr>
<tr>
<td><strong>Zz</strong></td>
<td>/z/</td>
<td></td>
</tr>
<tr>
<td><strong>ŁŁ</strong></td>
<td>/ʃ/</td>
<td></td>
</tr>
</tbody>
</table>

1. Contrastive only at the beginning of words

» Distribution
Orthography

Below is the orthography for Peyatic. This includes all graphemes as defined in the language’s phonology settings - excluding the non-distinct graphemes/polygraphs.

<table>
<thead>
<tr>
<th>Orthography</th>
<th>Peyatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aa</td>
<td>/ɑ/</td>
</tr>
<tr>
<td>Âa</td>
<td>/æ:/</td>
</tr>
<tr>
<td>Êê</td>
<td>/e/</td>
</tr>
<tr>
<td>Ôô</td>
<td>/ɔ/</td>
</tr>
<tr>
<td>Ïï</td>
<td>/i/</td>
</tr>
<tr>
<td>Òò</td>
<td>/ɔ/</td>
</tr>
<tr>
<td>Bb</td>
<td>/b/</td>
</tr>
<tr>
<td>Cc</td>
<td>/ʃ/</td>
</tr>
<tr>
<td>Dd</td>
<td>/d/</td>
</tr>
<tr>
<td>Ee</td>
<td>/ɛ/</td>
</tr>
<tr>
<td>Ff</td>
<td>/f/</td>
</tr>
<tr>
<td>Gg</td>
<td>/ɡ/</td>
</tr>
<tr>
<td>Hh</td>
<td>/h/</td>
</tr>
<tr>
<td>Ii</td>
<td>/i/</td>
</tr>
<tr>
<td>Jj</td>
<td>/j/</td>
</tr>
<tr>
<td>Kk</td>
<td>/k/</td>
</tr>
<tr>
<td>Ll</td>
<td>/l/</td>
</tr>
<tr>
<td>Mm</td>
<td>/m/</td>
</tr>
<tr>
<td>Nn</td>
<td>/n/</td>
</tr>
<tr>
<td>Oo</td>
<td>/o/</td>
</tr>
<tr>
<td>Pp</td>
<td>/p/</td>
</tr>
<tr>
<td>Rr</td>
<td>/r/</td>
</tr>
<tr>
<td>Ss</td>
<td>/s/</td>
</tr>
<tr>
<td>Tt</td>
<td>/t/</td>
</tr>
<tr>
<td>Uu</td>
<td>/u/</td>
</tr>
<tr>
<td>Vv</td>
<td>/v/</td>
</tr>
<tr>
<td>Ww</td>
<td>[w]</td>
</tr>
<tr>
<td>Yy</td>
<td>/j/</td>
</tr>
<tr>
<td>Zz</td>
<td>/zd/, [z]</td>
</tr>
</tbody>
</table>

* Unknown alphabetical order

1. z becomes s after a voiceless stop

Distribution

Articles

Latest 8 related articles listed below.

- **Peyatic Verbs**
  Peyatic Verbs don't decline for person or number, but they d... 10-Sep-16 15:31

- **Peyatic Morphological Rules**
  Peyatic word merging is regulated through the following morp... 01-Sep-16 16:38
### Orthography

Below is the orthography for Koman. This includes all graphemes as defined in the language's phonology settings - excluding the non-distinct graphemes/polygraphs.

<table>
<thead>
<tr>
<th>Orthography</th>
<th>Koman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aa</td>
<td>/a/</td>
</tr>
<tr>
<td>Ää</td>
<td>/æ/</td>
</tr>
<tr>
<td>Üü</td>
<td>/y/</td>
</tr>
<tr>
<td>Bb</td>
<td>/b/</td>
</tr>
<tr>
<td>Cc</td>
<td>/dʒ/</td>
</tr>
<tr>
<td>Dd</td>
<td>/d/</td>
</tr>
<tr>
<td>DH dh</td>
<td>/ð/</td>
</tr>
<tr>
<td>Ee</td>
<td>/e/</td>
</tr>
<tr>
<td>Gg</td>
<td>/g/</td>
</tr>
<tr>
<td>Hh</td>
<td>/h/</td>
</tr>
<tr>
<td>Ìi</td>
<td>/i/</td>
</tr>
<tr>
<td>Jj</td>
<td>/ʒ/</td>
</tr>
<tr>
<td>Kk</td>
<td>/k/</td>
</tr>
<tr>
<td>KH kh</td>
<td>/h/</td>
</tr>
<tr>
<td>LI</td>
<td>/l/</td>
</tr>
<tr>
<td>Mm</td>
<td>/m/</td>
</tr>
<tr>
<td>Nn</td>
<td>/n/</td>
</tr>
<tr>
<td>NG ng</td>
<td>/ŋ/</td>
</tr>
<tr>
<td>Oo</td>
<td>/o/</td>
</tr>
<tr>
<td>Pp</td>
<td>/p/</td>
</tr>
<tr>
<td>Rr</td>
<td>/ɾ/</td>
</tr>
<tr>
<td>Ss</td>
<td>/s/</td>
</tr>
<tr>
<td>Tt</td>
<td>/t/</td>
</tr>
<tr>
<td>TH th</td>
<td>/θ/</td>
</tr>
<tr>
<td>Uu</td>
<td>/u/</td>
</tr>
<tr>
<td>Vv</td>
<td>/β/</td>
</tr>
<tr>
<td>Ww</td>
<td>/w/</td>
</tr>
<tr>
<td>Yy</td>
<td>/j/</td>
</tr>
<tr>
<td>ZZ</td>
<td>/z/</td>
</tr>
<tr>
<td>Òò</td>
<td>/ɔ/</td>
</tr>
<tr>
<td>Şş</td>
<td>/ʃ/</td>
</tr>
<tr>
<td>Üü</td>
<td>/u:/</td>
</tr>
<tr>
<td>Ää</td>
<td>/a:/</td>
</tr>
<tr>
<td>Ėē</td>
<td>/e:/</td>
</tr>
<tr>
<td>Ğğ</td>
<td>/u:/</td>
</tr>
<tr>
<td>İı</td>
<td>/i:/</td>
</tr>
</tbody>
</table>

*Unknown alphabetical order*
Orthography

Below is the orthography for Čihken. This includes all graphemes as defined in the language's phonology settings - excluding the non-distinct graphemes/polygraphs.

<table>
<thead>
<tr>
<th>Orthography</th>
<th>Čihken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aa /ɑ/, [ŋ]1</td>
<td>Áá /ɑ:/</td>
</tr>
<tr>
<td>Ėé /æ:/</td>
<td>Íí /i:/</td>
</tr>
<tr>
<td>Óó /ɔ:/</td>
<td>Úú /u:/</td>
</tr>
<tr>
<td>Ýý /ɔː/</td>
<td>BH bh /v/, [ʊ]2</td>
</tr>
<tr>
<td>Cc /k'/</td>
<td>CC cc /k'/</td>
</tr>
<tr>
<td>Ėé /æː/</td>
<td>Dd /d/, [ŋ]3, [ŋ]4</td>
</tr>
<tr>
<td>DD dd /dː/, [ŋː]5</td>
<td>Ee /ɛ/, [ə]6</td>
</tr>
<tr>
<td>Gg /ɡ/</td>
<td>GG gg /ɡː/, [ŋɡ]9</td>
</tr>
<tr>
<td>HD hd /d⁰/</td>
<td>HDD hdd /dː/</td>
</tr>
<tr>
<td>HG hg /ŋ/</td>
<td>HGG hgg /g/</td>
</tr>
<tr>
<td>HK hk /k/</td>
<td>HKK hkk /kː/</td>
</tr>
<tr>
<td>HT ht /t/</td>
<td>HTT htt /tː/</td>
</tr>
<tr>
<td>Ii /i/</td>
<td>Ii /i/</td>
</tr>
<tr>
<td>Kk /k/</td>
<td>Kk /k/</td>
</tr>
<tr>
<td>Ll /l/</td>
<td>LL ll /l/</td>
</tr>
<tr>
<td>Nn /n/</td>
<td>NN nn /n/</td>
</tr>
<tr>
<td>Oo /o/</td>
<td>PH ph /f/</td>
</tr>
<tr>
<td>Ss /s/</td>
<td>Tt /t/</td>
</tr>
<tr>
<td>TT tt /tː/</td>
<td>Uu /u/, [ʊ]7</td>
</tr>
<tr>
<td>Yy /j/</td>
<td>Yy /j/</td>
</tr>
<tr>
<td>Šš /ʃ/</td>
<td>Čč /tʃ/</td>
</tr>
<tr>
<td>ČČ čč /tʃː/</td>
<td>Dd /d/</td>
</tr>
</tbody>
</table>

1. after labiodentals
2. word initially
3. before front vowels
4. word initially
5. before front vowels
6. after labiodentals
The Alphabet:

<table>
<thead>
<tr>
<th>Letter</th>
<th>Name</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, a</td>
<td>a</td>
<td>pronounced as 'ah' [a] when stressed, or 'uh' [ə] when unstressed</td>
</tr>
<tr>
<td>B, b</td>
<td>b</td>
<td>[b] same as in English</td>
</tr>
<tr>
<td>C, c</td>
<td>c</td>
<td>pronounced as [k], except before e and i, where is sounds like ch [tʃ] in church.</td>
</tr>
<tr>
<td>D, d</td>
<td>d</td>
<td>[d] same as in English</td>
</tr>
<tr>
<td>E, e</td>
<td>e</td>
<td>pronounced as 'eh' [ɛ] when stressed, or [ə] when unstressed</td>
</tr>
<tr>
<td>F, f</td>
<td>f</td>
<td>pronounced as [v], silent as a final letter</td>
</tr>
<tr>
<td>G, g</td>
<td>g</td>
<td>same as in English: the hard sound as in gas [ɡ], except before e and i where it has the soft sound as in general [dʒ]</td>
</tr>
<tr>
<td>H, h</td>
<td>h</td>
<td>ach very lightly sounded, if at all [h]</td>
</tr>
<tr>
<td>I, i</td>
<td>i</td>
<td>pronounced as 'ee' [i] when stressed, or 'ih' [ɪ] when unstressed</td>
</tr>
<tr>
<td>K, k</td>
<td>k</td>
<td>[k] same as in English</td>
</tr>
<tr>
<td>L, l</td>
<td>l</td>
<td>[l] same as in English</td>
</tr>
<tr>
<td>M, m</td>
<td>m</td>
<td>[m] same as in English</td>
</tr>
<tr>
<td>N, n</td>
<td>n</td>
<td>[n] same as in English</td>
</tr>
<tr>
<td>O, o</td>
<td>o</td>
<td>pronounced as 'aw' or 'augh'</td>
</tr>
<tr>
<td>P, p</td>
<td>p</td>
<td>[p] same as in English</td>
</tr>
<tr>
<td>R, r</td>
<td>r</td>
<td>trilled [r] as in Spanish or Italian</td>
</tr>
<tr>
<td>S, s</td>
<td>s</td>
<td>pronounced as [z] between vowels, otherwise as ss [s]</td>
</tr>
<tr>
<td>T, t</td>
<td>t</td>
<td>[t] same as in English</td>
</tr>
<tr>
<td>U, u</td>
<td>u</td>
<td>[ʌ], a central unrounded vowel, like 'i' pronounced in the middle of the mouth. It can be long or short.</td>
</tr>
<tr>
<td>W, w</td>
<td>w</td>
<td>same as in English, sometimes used as a vowel pronounced as 'oo' as in boot</td>
</tr>
<tr>
<td>Y, y</td>
<td>i</td>
<td>greg pronounced as 'ee' [i] when stressed [u], or 'oo' as in book when unstressed [ʊ].</td>
</tr>
</tbody>
</table>
Brithenig
Spoken on Earth in an alternate timeline where the Romans (with their alphabet) stay in England.
Other Artlangs
Some universe where Earth doesn’t exist, let alone the Romans or their alphabet.
Brithenig
Romanization = Orthography
Its construction is part of the fiction and an artistic choice.
Other Artlangs
An exercise in pointlessness.
If the romanization has no existence within the fictional universe, it’s for *us*—those in the real world. It should not involve “creativity”.
Creativity is for the actual, real orthography.
Sa vesayon keynam-ikan tiganeri nay kaytanyeri sino nay kamo. Ri toraytos tenuban nay iprang, nay ang mya rankyon sitanyās ku-netu.
.i iâpabla xén ta igém êcmig vilc ol,ta fnân ol kirotedon ta délvèdén ûmro.
[î ʔâbła kṣen ta igem ðmig vilʃ olta fnan ol kirotødon ta delvëden ûmro]
Maxims of Orthography
Encode Language
Be Easy to Write
Be Easy to Read
Be Unambiguous
Encode Language

I’m the expert?
Encode Language

I’m the expert?
I’m the expert?
I’m the expert?
# Encode Language

<table>
<thead>
<tr>
<th></th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL INTONATION</strong></td>
<td><strong>Fully Explicit</strong></td>
<td><strong>Hard to Use</strong></td>
</tr>
<tr>
<td><strong>BASIC STUFF</strong></td>
<td><strong>Easy to Use</strong></td>
<td><strong>Ambiguous</strong></td>
</tr>
</tbody>
</table>
Be Easy to Write
Be Easy to Write

北京的名胜很多，一个人就是在这儿呆上几个星期，离开时也没能把主要的景点看完。
Be Easy to Write

The sights of Beijing are so numerous that one can spend several weeks here and leave without having seen all of the important ones.
Be Easy to Write

Chinese = 40 characters
English = 132 characters
Be Easy to Write

<table>
<thead>
<tr>
<th></th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPLEX GLYPHS</td>
<td>Compact</td>
<td>Hard to Learn/Use</td>
</tr>
<tr>
<td>SIMPLE GLYPHS</td>
<td>Easy to Learn/Use</td>
<td>Lengthy</td>
</tr>
</tbody>
</table>
Be Easy to Read

David J. Peterson
Be Easy to Read
Be Easy to Read

Glyphs that are different shapes are more easily distinguished, which tends to make them easier to read.
Be Easy to Write

<table>
<thead>
<tr>
<th></th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIFORM GLYPHS</td>
<td>Easier to Write</td>
<td>Harder to Read</td>
</tr>
<tr>
<td>VARIED GLYPHS</td>
<td>Easier to Read</td>
<td>Harder to Write</td>
</tr>
</tbody>
</table>
Be Unambiguous
there
their
they’re
there’re
Be Unambiguous

dher
Be Unambiguous

Dher thriy cats in may ruwm.
# Be Easy to Write

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHONETIC SPELLING</td>
<td>Potentially Confusing</td>
</tr>
<tr>
<td>Predictable Spelling</td>
<td></td>
</tr>
<tr>
<td>LEXICAL SPELLING</td>
<td>Irregular Spellings</td>
</tr>
<tr>
<td>Richer Signal</td>
<td></td>
</tr>
</tbody>
</table>
WRITING AS ART
Good orthography ≠ pretty glyphs.
The system is what makes writing systems interesting; not the glyphs.
TYPES OF WRITING SYSTEMS
Alphabet
Abjad
Abugida
Syllabary
Complex
Alphabet
1 Glyph = 1 Sound
Alphabet

А = /a/  Б = /b/  В = /v/  Г = /g/
Д = /d/  Е = /jɛ/  Ж = /ʒ/
З = /z/  И = /i/  Й = /j/  К = /k/
Alphabet

thought = /θɑt/
six = /sɪks/

говорить = /gəvɔˈritʃ/  
его = /jɛvɔ/
Гавайий = /havaii/
Alphabet

Only invented once. All other alphabets descended from or were inspired by that alphabet.
Abjad

1 Glyph = 1 Consonant
Consonantal alphabet: The only ones that get *full* glyphs are consonants.
Abjad

ا = /b/ ب = /t/ ت = /θ/ ث
ج = /ʒ/ = /3/ ح = /ħ/ خ = /x/ د = /d/ ذ
د = /ð/ ر = /r/ ز = /z/ س = /s/
Abjad

کتب = /kətəbebə/ “he wrote”
کتب = /kutub/ “books”
Abjad
Abjad

ا = /æ/
ی = /j/ ی = /ɪ:/
و = /w/ یو = /u:/
Abugida

1 Glyph = 1 Consonant (But Also Vowel Modifiers)
<table>
<thead>
<tr>
<th></th>
<th>ka</th>
<th>ke</th>
<th>ki</th>
<th>ko</th>
<th>ku</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindi</td>
<td>क</td>
<td>के</td>
<td>कि</td>
<td>को</td>
<td>कु</td>
</tr>
<tr>
<td>Tamil</td>
<td>க</td>
<td>கெ</td>
<td>கி</td>
<td>கோ</td>
<td>கு</td>
</tr>
<tr>
<td>Cham</td>
<td>ஒ</td>
<td>ஒங்</td>
<td>ஒங்</td>
<td>ஒங்</td>
<td>ஒங்</td>
</tr>
</tbody>
</table>
Abugida

क /ka/
क् /k/
ऋ /ka/
ॠ /k/
Syllabary
1 Glyph = 1 Syllable
<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-i</th>
<th>-u</th>
<th>-e</th>
<th>-o</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>か</td>
<td>き</td>
<td>く</td>
<td>け</td>
<td>こ</td>
</tr>
<tr>
<td>t</td>
<td>た</td>
<td>ち</td>
<td>つ</td>
<td>て</td>
<td>と</td>
</tr>
<tr>
<td>n</td>
<td>な</td>
<td>に</td>
<td>ん</td>
<td>ん</td>
<td>の</td>
</tr>
</tbody>
</table>
Syllabary

Japanese kana ≈ Greek alphabet
Complex
1 Glyph = ?
明天我的朋友会为我做生日蛋糕。
Míngtiān wǒ de péngyou huì wèi wǒ zuò shēngrì dàngāo.
“Tomorrow my friends will make a birthday cake for me.”
明天我的朋友會為我做生日蛋糕。
Míngtiān wǒ de péngyou huì wèi wǒ zuò shēngrì dàngāo.
“Tomorrow my friends will make a birthday cake for me.”
Complex

ndm bjt tn

“This honey is sweet.”
Complex

ndm bjt tn

“This honey is sweet.”
Land Ho!

じょう りく

上陸！

も

燃える島パンクハザード

The Burning Island, Punk Hazard
Land Ho!

上陸！

燃える島パンクハザード

The Burning Island, Punk Hazard
2pm for first movie (Bloodsport). After that The Warriors.

Wasn't Father's Day last week? Am I being trolled

June 18th. Look it up.

Lol

My dad. DID NOT CORRECT ME

I leave on Saturday morning :( 9am

You're not living life correctly.

I'm going to Disneyland here in a few. Can I pick you guys up something from 711 and say hey?


Talk later!

Or Saturday.
Tonight

(1) PA20 = Come up with some pictorial sources for glyphs!
Idrani by Trent Pehrson
Tonight

(1) PA21 = Details of your orthography!
Alphabet
Abugida
Abjad
Direction of Writing
The boy read a book.
手绘书法作品
Spaces Between Words
The boy read a book.
མཐོང་བུགས་པོ་ཞེང་།
བདེན་གུང་བོག་
དབང་པོ་སྐྱེལ་བུ
ངོ་བོའི་རྒྱལ་པོ
དངོས་པོའི་དབུས་པ།
Writing Implements and Surface
### Kēlen Ceremonial Interlace Alphabet by Sylvia Sotomayor

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>Ñ</th>
<th>E</th>
<th>L</th>
<th>O</th>
<th>I</th>
<th>IE</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W, PH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J, CH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H, KH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EVOLUTION OF WRITING
<table>
<thead>
<tr>
<th></th>
<th>Proto-Canaanite</th>
<th>Early Phoenician</th>
<th>Greek</th>
<th></th>
<th>Proto-Canaanite</th>
<th>Early Phoenician</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>ג</td>
<td>ק</td>
<td>א</td>
<td></td>
<td>ג</td>
<td>ק</td>
<td>א</td>
</tr>
<tr>
<td>b</td>
<td>א</td>
<td>ג</td>
<td>ב</td>
<td></td>
<td>א</td>
<td>ג</td>
<td>ב</td>
</tr>
<tr>
<td>c</td>
<td>ג</td>
<td>ע</td>
<td>ג</td>
<td></td>
<td>ג</td>
<td>ע</td>
<td>ג</td>
</tr>
<tr>
<td>d</td>
<td>א</td>
<td>ד</td>
<td>ד</td>
<td></td>
<td>א</td>
<td>ד</td>
<td>ד</td>
</tr>
<tr>
<td>e</td>
<td>ב</td>
<td>ה</td>
<td>ה</td>
<td></td>
<td>ב</td>
<td>ה</td>
<td>ה</td>
</tr>
<tr>
<td>f</td>
<td>ג</td>
<td>י</td>
<td>י</td>
<td></td>
<td>ג</td>
<td>י</td>
<td>י</td>
</tr>
<tr>
<td>g</td>
<td>ז</td>
<td>ק</td>
<td>ק</td>
<td></td>
<td>ז</td>
<td>ק</td>
<td>ק</td>
</tr>
<tr>
<td>h</td>
<td>י</td>
<td>ק</td>
<td>ק</td>
<td></td>
<td>י</td>
<td>ק</td>
<td>ק</td>
</tr>
<tr>
<td>i</td>
<td>ג</td>
<td>ב</td>
<td>ב</td>
<td></td>
<td>ג</td>
<td>ב</td>
<td>ב</td>
</tr>
<tr>
<td>j</td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
<td></td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
</tr>
<tr>
<td>k</td>
<td>ה</td>
<td>ה</td>
<td>ה</td>
<td></td>
<td>ה</td>
<td>ה</td>
<td>ה</td>
</tr>
<tr>
<td>l</td>
<td>י</td>
<td>י</td>
<td>י</td>
<td></td>
<td>י</td>
<td>י</td>
<td>י</td>
</tr>
<tr>
<td>m</td>
<td>ק</td>
<td>ק</td>
<td>ק</td>
<td></td>
<td>ק</td>
<td>ק</td>
<td>ק</td>
</tr>
<tr>
<td>n</td>
<td>וב</td>
<td>נ</td>
<td>נ</td>
<td></td>
<td>וב</td>
<td>נ</td>
<td>נ</td>
</tr>
<tr>
<td>o</td>
<td>א</td>
<td>א</td>
<td>א</td>
<td></td>
<td>א</td>
<td>א</td>
<td>א</td>
</tr>
<tr>
<td>p</td>
<td>ב</td>
<td>ב</td>
<td>ב</td>
<td></td>
<td>ב</td>
<td>ב</td>
<td>ב</td>
</tr>
<tr>
<td>q</td>
<td>ג</td>
<td>ג</td>
<td>ג</td>
<td></td>
<td>ג</td>
<td>ג</td>
<td>ג</td>
</tr>
<tr>
<td>r</td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
<td></td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
</tr>
<tr>
<td>s</td>
<td>ה</td>
<td>ה</td>
<td>ה</td>
<td></td>
<td>ה</td>
<td>ה</td>
<td>ה</td>
</tr>
<tr>
<td>t</td>
<td>י</td>
<td>י</td>
<td>י</td>
<td></td>
<td>י</td>
<td>י</td>
<td>י</td>
</tr>
<tr>
<td>u</td>
<td>ק</td>
<td>ק</td>
<td>ק</td>
<td></td>
<td>ק</td>
<td>ק</td>
<td>ק</td>
</tr>
<tr>
<td>v</td>
<td>וב</td>
<td>נ</td>
<td>נ</td>
<td></td>
<td>וב</td>
<td>נ</td>
<td>נ</td>
</tr>
<tr>
<td>w</td>
<td>א</td>
<td>א</td>
<td>א</td>
<td></td>
<td>א</td>
<td>א</td>
<td>א</td>
</tr>
<tr>
<td>x</td>
<td>ב</td>
<td>ב</td>
<td>ב</td>
<td></td>
<td>ב</td>
<td>ב</td>
<td>ב</td>
</tr>
<tr>
<td>y</td>
<td>ג</td>
<td>ג</td>
<td>ג</td>
<td></td>
<td>ג</td>
<td>ג</td>
<td>ג</td>
</tr>
<tr>
<td>z</td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
<td></td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
</tr>
</tbody>
</table>

111
Digression

Why “lucky duck”? Because it rhymes. Languages where those words don’t rhyme (or aren’t similar) would never have that expression.
Digression

Same with glyphs. Why *this* particular animal that happens to have a word with *this* phonetic shape? Because it happens to.
Modern
AD 2nd C
Modern

600T
AD 2nd C
Modern
AD 2nd C
Modern
C → L
I → 1
I → 6001
Most glyphs evolve from pictographs ultimately.
1. Borrowing.
2. Change of writing tools.
3. Change of writers.
4. Systemic change.
Borrowing

Phoenician

strconv 127
Borrowing

Greek
Borrowing

\[ \begin{align*}
\times & \quad A \\
\equiv & \quad E \\
\equiv & \quad H \\
0 & \quad O
\end{align*} \]
Borrowing
Phoenician
żg
<btj>
[betix]
Borrowing Mater lectionis: Using consonants to mark long vowels in an abjad.
Borrowing

Crucial: *ONLY* at the end of words (otherwise how would you know the difference between …C# and …CV#?).
Borrowing

Note: All Phoenician words begin with a consonant (words we think of as V-initial begin with /ʔ/).
Borrowing Phoenician

\[ \zeta [j] \text{ or } [i:\!\!\!\!\!] \]
Borrowing

Greek

No [j], but they do have [i] and [iː]...
Borrowing

Greek

$z \rightarrow |$
Borrowing

Cuneiform was developed for the Sumerian language.
Borrowing

The Sumerians and Akkadians dug each other. Had lots of dealings.
Borrowing

The Sumerians shared their purely pictographic writing with the Akkadians.
Borrowing

But...they’re different languages.
Borrowing

Sumerian = Highly agglutinating; minimal inflection.
Borrowing

Akkadian = Highly inflectional; not very agglutinating.
Borrowing

Sumerian Cuneiform

Word = Glyph

Sentence = Word + Word + Word + Word
Borrowing
Akkadian Cuneiform
Glyph = The Sumerian word sounds a little like x.
Word = Built out of glyphs so they sound like our word.
Change of Writing Tools &
NA TVS POPVLVS QVEROMAN.

CAESARIDIVINERVAEFN.

IANO AVGGERMDACICOP.

IMOTRIBPOTXVIMPVICOS.

DECLARANDVMOVANTAEALTIV.

SETLOCVSTANEBVSSI TEG.
sag
'head'

gin
'to walk'

šu
'hand'

še
'barley'

ninda
'bread'

a
'water'
sag
'head'

gin
'to walk'

šu
'hand'

še
'barley'
Change of Writers

Who’s writing in your language? What are they writing?
Change of Writers
Hieroglyphs = Formal, official, stone.
Hieratic = Economic/administrative documents, letters, legal briefs.
Change of Writers

A vs. a
B vs. b
C vs. c
D vs. d
Change of Writers

Monks invented Carolingian miniscule to write more quickly, and to allow the script to be read more easily.
Change of Writers

Lower case kind of jump started the spread of the Roman script.
## Systemic Change

<table>
<thead>
<tr>
<th>3200 BCE</th>
<th>3000 BCE</th>
<th>2400 BCE</th>
<th>1000 BCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sag</strong></td>
<td><img src="image" alt="sag 3200 BCE" /></td>
<td><img src="image" alt="sag 3000 BCE" /></td>
<td><img src="image" alt="sag 2400 BCE" /></td>
</tr>
<tr>
<td>'head'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>gin</strong></td>
<td><img src="image" alt="gin 3200 BCE" /></td>
<td><img src="image" alt="gin 3000 BCE" /></td>
<td><img src="image" alt="gin 2400 BCE" /></td>
</tr>
<tr>
<td>'to walk'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>šu</strong></td>
<td><img src="image" alt="šu 3200 BCE" /></td>
<td><img src="image" alt="šu 3000 BCE" /></td>
<td><img src="image" alt="šu 2400 BCE" /></td>
</tr>
<tr>
<td>'hand'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>še</strong></td>
<td><img src="image" alt="še 3200 BCE" /></td>
<td><img src="image" alt="še 3000 BCE" /></td>
<td><img src="image" alt="še 2400 BCE" /></td>
</tr>
<tr>
<td>'barley'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ninda</strong></td>
<td><img src="image" alt="ninda 3200 BCE" /></td>
<td><img src="image" alt="ninda 3000 BCE" /></td>
<td><img src="image" alt="ninda 2400 BCE" /></td>
</tr>
<tr>
<td>'bread'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>a</strong></td>
<td><img src="image" alt="a 3200 BCE" /></td>
<td><img src="image" alt="a 3000 BCE" /></td>
<td><img src="image" alt="a 2400 BCE" /></td>
</tr>
<tr>
<td>'water'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ud</strong></td>
<td><img src="image" alt="ud 3200 BCE" /></td>
<td><img src="image" alt="ud 3000 BCE" /></td>
<td><img src="image" alt="ud 2400 BCE" /></td>
</tr>
<tr>
<td>'day'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>mušen</strong></td>
<td><img src="image" alt="mušen 3200 BCE" /></td>
<td><img src="image" alt="mušen 3000 BCE" /></td>
<td><img src="image" alt="mušen 2400 BCE" /></td>
</tr>
<tr>
<td>'bird'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHOENICIAN</td>
<td>EARLY HEBREW</td>
<td>EARLY ARAMAIC</td>
<td>EARLY GREEK</td>
</tr>
<tr>
<td>------------</td>
<td>--------------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>א</td>
<td>א</td>
<td>א</td>
<td>א</td>
</tr>
<tr>
<td>ב</td>
<td>ב</td>
<td>ב</td>
<td>ב</td>
</tr>
<tr>
<td>ג</td>
<td>ג</td>
<td>ג</td>
<td>ג</td>
</tr>
<tr>
<td>ד</td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
</tr>
<tr>
<td>ה</td>
<td>ה</td>
<td>ה</td>
<td>ה</td>
</tr>
<tr>
<td>ו</td>
<td>ו</td>
<td>ו</td>
<td>ו</td>
</tr>
<tr>
<td>ז</td>
<td>ז</td>
<td>ז</td>
<td>ז</td>
</tr>
<tr>
<td>ח</td>
<td>ח</td>
<td>ח</td>
<td>ח</td>
</tr>
<tr>
<td>י</td>
<td>י</td>
<td>י</td>
<td>י</td>
</tr>
<tr>
<td>ק</td>
<td>ק</td>
<td>ק</td>
<td>ק</td>
</tr>
<tr>
<td>ל</td>
<td>ל</td>
<td>ל</td>
<td>ל</td>
</tr>
<tr>
<td>מ</td>
<td>מ</td>
<td>מ</td>
<td>מ</td>
</tr>
<tr>
<td>נ</td>
<td>נ</td>
<td>נ</td>
<td>נ</td>
</tr>
<tr>
<td>א</td>
<td>א</td>
<td>א</td>
<td>א</td>
</tr>
<tr>
<td>פ</td>
<td>פ</td>
<td>פ</td>
<td>פ</td>
</tr>
<tr>
<td>צ</td>
<td>צ</td>
<td>צ</td>
<td>צ</td>
</tr>
<tr>
<td>ק</td>
<td>ק</td>
<td>ק</td>
<td>ק</td>
</tr>
<tr>
<td>ח</td>
<td>ח</td>
<td>ח</td>
<td>ח</td>
</tr>
<tr>
<td>י</td>
<td>י</td>
<td>י</td>
<td>י</td>
</tr>
<tr>
<td>ו</td>
<td>ו</td>
<td>ו</td>
<td>ו</td>
</tr>
<tr>
<td>ז</td>
<td>ז</td>
<td>ז</td>
<td>ז</td>
</tr>
<tr>
<td>ה</td>
<td>ה</td>
<td>ה</td>
<td>ה</td>
</tr>
<tr>
<td>ד</td>
<td>ד</td>
<td>ד</td>
<td>ד</td>
</tr>
<tr>
<td>כ</td>
<td>כ</td>
<td>כ</td>
<td>כ</td>
</tr>
</tbody>
</table>
Systemic Change

As with reduplication and vowel lengthening, there are iconic/affective changes in scripts.
Systemic Change
Latin
VOVE
Systemic Change

Modern Latin

ū ō ē
Systemic Change

Other Romance

á é í ó ú
Systemic Change

Common affective strategies: Ascending/descending line, dot, writing a character larger or smaller, inversion, etc.
Systemic Change

Basically: *Something* to indicate “this is the same, but different kind of”.
Systemic Change

Most often applied to stress, vowel length, tone, intonation—secondary features (not voicing, etc.).
Systemic Change

Sumerian

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>10</th>
<th>60</th>
<th>600</th>
<th>3,600</th>
<th>36,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000 BCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2500 BCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Systemic Change

Latin
annus
/annus/

Spanish
año
/ño/
Systemic Change

Latin *nn

Spanish ɲ
Systemic Change

Old Spanish \( \text{n} \) \( \text{n} \)  Spanish \( \tilde{n} \) \( \tilde{n} \)
Systemic Change

Old German
Mutter
Muetter

German
Mutter
Mütter
Systemic Change

Old German
Mutter

German
Mutter
Mütter
Systemic Change

German
Goethe
Systemic Change

\[ j > i \]
\[ i > l \]
\[ w > vv \]
\[ u > v \]
Systemic Change

æ > ae
œ > oe
ð > ij
ıo > lou
Systemic Change
Systemic Change

Tamil

பி [pi] ~ ஫ி [fi]

dʒi [dʒi] ~ சி [zi]
SPELLING
Spelling: How users match symbols to their language.
Spellings are standardized first by scribes (may differ by scribe).
Spellings are further standardized when writing spreads amongst all classes.
Important: It *REALLY* matters what the language sounds like at the time that spellings are standardized!
knight [knixt]
Why didn’t it change?
Because no one was in charge.
Now, though, no one accepts variants spellings—even if they’re understood.
The Nites of the Round Table
Spanish has mostly kept up with pronunciation changes, because they literally change them.
Real Academia Española ruled, among other things, that LL and CH wouldn’t be separate letters in 1994.
More progressive than the Academie Française.
Generally, when a word’s spelling is standardized, it’s hard to change.
Also, when writing develops, sounds that are in the language at that time tend to be encoded (so proto-systems, not modern).
General Maxim
Words are spelled how they’re pronounced.
Spanish

tu ~ tú
si ~ sí
que ~ qué
mi ~ mí
French

cent [sã] “one hundred”
sang [sã] “blood”
sens [sã] “(I) feel”
sans [sã] “without”
Syllabic Spelling

/kotan/
Syllabic Spelling

こたん
<kotan>
/kotan/
Syllabic Spelling

कोतन

<ko-ta-na>

/kotan/
Syllabic Spelling

कोतन्

<ko-ta-n>

/kotan/
Syllabic Spelling

कोें
<kotān>
/kotan/
# Syllabic Spelling

/kotan/

<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-e</th>
<th>-i</th>
<th>-o</th>
<th>-u</th>
</tr>
</thead>
<tbody>
<tr>
<td>k-</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
</tr>
<tr>
<td>t-</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
</tr>
<tr>
<td>n-</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
<td>margins</td>
</tr>
</tbody>
</table>
Syllabic Spelling

ןزة
<ko-ta-na>
/kotana/
Syllabic Spelling

<ko-ta-ne>
/kotan/
Syllabic Spelling

<ko-ta-na>
/kotan/
Syllabic Spelling

<ko-ta-nä>
/kotana/
Syllabic Spelling

Synharmonic Deletion

CV x CV x # → CV x C #
Syllabic Spelling

Synharmonic Cancellation

CV_xCV_x# → CV_xCV_x#
Syllabic Spelling

elika
Syllabic Spelling

ऐलिक
<e-li-ka>
Syllabic Spelling

Vowel Carrier: Empty consonant that houses vowels.
Syllabic Spelling

Usual culprits: ? and h.
# Syllabic Spelling

<table>
<thead>
<tr>
<th>ø</th>
<th>अ</th>
<th>ए</th>
<th>इ</th>
<th>ओ</th>
<th>उ</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>क</td>
<td>के</td>
<td>कि</td>
<td>को</td>
<td>कु</td>
</tr>
<tr>
<td>p</td>
<td>प</td>
<td>पे</td>
<td>पि</td>
<td>पो</td>
<td>पु</td>
</tr>
<tr>
<td>t</td>
<td>त</td>
<td>ते</td>
<td>ति</td>
<td>तो</td>
<td>तु</td>
</tr>
</tbody>
</table>
Syllabic Spelling

Tamil

क = ka  का = kā
की = ki  की = kī
कु = ku  कु = kū
Syllabic Spelling
Tamil

dehyde = ke  dey = kē
deypan = ko  deypaṇ = kō
deha = kai  dehamaṇa = kau
<table>
<thead>
<tr>
<th></th>
<th>LAB</th>
<th>COR</th>
<th>PAL</th>
<th>VEL</th>
<th>GLOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
<td>b</td>
<td>t</td>
<td></td>
<td>k</td>
<td></td>
</tr>
<tr>
<td>FRIC</td>
<td>f</td>
<td>s</td>
<td></td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPR</td>
<td>l</td>
<td>j</td>
<td></td>
<td>w</td>
<td></td>
</tr>
</tbody>
</table>
## Intervocalic Voicing

<table>
<thead>
<tr>
<th></th>
<th>LAB</th>
<th>COR</th>
<th>PAL</th>
<th>VEL</th>
<th>GLOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOP</td>
<td>b</td>
<td>t/d</td>
<td></td>
<td>k/g</td>
<td></td>
</tr>
<tr>
<td>FRIC</td>
<td>f/v</td>
<td>s/z</td>
<td></td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>NASAL</td>
<td>m</td>
<td>n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPR</td>
<td>l</td>
<td>j</td>
<td></td>
<td>w</td>
<td></td>
</tr>
</tbody>
</table>
Intervocalic Voicing

*bata → bada
*akena → agena
*safi → savi
*meso → mezo
Loss of Initial Unstressed V

*akena → *agena → gena
*itina → *idina → dina
Loss of Geminates

*tosa → *toza → toza
*tossa → *tossa → tosa
Order

(1) Proto-Stage
(2) Intervocalic Voicing
(3) #V Ø (Unstressed)
(4) Degemination
Tonight

(1) MA9 = Orthography. May require physical paper! (Those who have tablets, that can work well!)
Ilaksh by John Quijada
Ilaksh by John Quijada
CASTITHAN
Castithan is the language of the Castithan people. They’re the political and cultural force in their galaxy, who believe their place is at the center of the universe.
The Votans are made up of lots of alien races, one more different than the next.

And they all lived together in the Votanis System thousands of years ago.
Castithan writing system is an abugida called [ˈfa.dʒi.zwa.li.no]. It’s written from left to right with spaces between words.
შესწავლა
<br>
<fa-ti-z<wa-lī-nu>
[ˈfa.dʒi.zwa.li.no]
አስመራን

<фа-ти-зва-ли-ну>

['fa.dʒi.zwa.li.nu]
Sample Sentences

"I beg your forgiveness."
Sample Sentences

I swear by our love and liro.

"I swear by our love and liro."
Original system chiseled on stone for ornamental reasons and burial texts. (Above ground pedestals.)
Later scrolls developed (thinnish paper).
Մեծանուշակ գիրք

Մեծանուշակ

388x15 240
777 - 7 = 7

1 2 3 4

ף ג ד ח
Phonological Change

The writing system was created at a time before some large scale phonological changes.
Phonological Change

Original Vowels

a aː
i iː
u uː
Phonological Change

Original Diphthongs

ai au
ia iu
ua ui
Phonological Change

High Vowel Reduction

*V → [-high] / _#
*i, *u → je, wo / ' _
Phonological Change

Diphthong Loss

*ai, *au → e, o

*V_{x}[+high] → [-voc] / _V_y
Phonological Change

Loss of Long Vowels

*Vː > V
Result

Original Set
ka ki ku
kā kī kū
kau kai kia kiu kua kui
Result

Final Set
ka {ki/ke/kje} {ku/ko/kwo}
ka ki ku
ko ke kja kju kwa kwi
Phonological Change

Original Set

\[
p \ p' \ t \ t' \ k \ k' \\
\text{s} \ \text{s}^\text{ᵣ} \ \text{z} \ \text{z}^\text{ᵣ} \\
b \ b \ d \ d \ ɡ \ ɡ \ ɡ^\text{ᵣ} \\
\text{m} \text{b} \ ń \text{d} \ ń \text{ɡ} \\
\]
Phonological Change

Intervocalic Lenition

*C[-emph, +voice] → [+cont]

&

*C[-emph] → [+voice] / V_V
Phonological Change

Intervocalic Lenition

*C[+cont, -strident, -back] → h / V_V
*C[+cont, +back] → Ø / V_V
Phonological Change

Loss of Pre-Nasalized Stops

*ₙC → C / #_ 
*ₙC → nC / V_
Phonological Change

Loss of Emphatic Consonants

*C → [-emph]
Phonological Change

Original Set

p p’ t t’ k k’

s sˤ z zˤ

b b d d g g

ᵐb ᵃd ᵇɡ
Phonological Change
Modern Set

\{p/b\} p \{t/d\} t \{k/g\} k
\{s/z\} s z z
\{b/v\} b \{d/\ddot{o}\} d \{g/h\} g
\{b/mb\} \{d/nd\} \{g/\eta g\}
Phonological Change

Also Palatalization for Non-Emphatic Coronals

*t, *d, *s, *z → tʃ, dʒ, ʃ, ʒ
# Modern System

<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-ā</th>
<th>-i</th>
<th>-ī</th>
<th>-u</th>
<th>-ū</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
</tr>
<tr>
<td>p’</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
</tr>
<tr>
<td>b</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
</tr>
<tr>
<td>b’</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
<td>⏳</td>
</tr>
</tbody>
</table>
# Modern System

<table>
<thead>
<tr>
<th></th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Phonological Change

\*C[+lab]^w \rightarrow C
Result

\[ \text{p} \text{a} \]
\[ \text{p}\text{ā} \]
\[ \text{p}\text{w} \text{a} \]
\[ \text{p}\text{’} \text{a} \]
\[ \text{p}\text{’} \text{ā} \]
\[ \text{p}\text{’} \text{w} \text{a} \]

= \[ [\text{p} \text{a}] \]
## Modern System

<table>
<thead>
<tr>
<th>mb</th>
<th>-a</th>
<th>-ā</th>
<th>-i</th>
<th>-ī</th>
<th>-u</th>
<th>-ū</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>วิ</td>
<td>วี</td>
<td>วิ</td>
<td>วิ</td>
<td>วิ</td>
<td>วิ</td>
</tr>
<tr>
<td>v</td>
<td>มี</td>
<td>มี</td>
<td>มี</td>
<td>มี</td>
<td>มี</td>
<td>มี</td>
</tr>
<tr>
<td>Ø</td>
<td>กุ</td>
<td>กะ</td>
<td>กะ</td>
<td>กะ</td>
<td>กะ</td>
<td>กะ</td>
</tr>
</tbody>
</table>
# Modern System

<table>
<thead>
<tr>
<th>mb</th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>🅰️</td>
<td>🅱️</td>
<td>🅲️</td>
<td>🅳️</td>
<td>🅴️</td>
<td>🅵️</td>
</tr>
<tr>
<td>f</td>
<td>🅶️</td>
<td>🅷️</td>
<td>🅸️</td>
<td>🅹️</td>
<td>🅺️</td>
<td>🅻️</td>
</tr>
<tr>
<td>v</td>
<td>🅼️</td>
<td>🅴️</td>
<td>🅵️</td>
<td>🅶️</td>
<td>🅷️</td>
<td>🅸️</td>
</tr>
<tr>
<td>Ø</td>
<td>ṡ</td>
<td>ṡ</td>
<td>Ṣ</td>
<td>ṣ</td>
<td>ṣ</td>
<td>ṣ</td>
</tr>
</tbody>
</table>
## Modern System

<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-ā</th>
<th>-i</th>
<th>-ī</th>
<th>-u</th>
<th>-ū</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>ṭ</td>
<td>ṭā</td>
<td>ṭi</td>
<td>ṭī</td>
<td>ṭu</td>
<td>ṭū</td>
</tr>
<tr>
<td>t’</td>
<td>ṭ</td>
<td>ṭā</td>
<td>ṭi</td>
<td>ṭī</td>
<td>ṭu</td>
<td>ṭū</td>
</tr>
<tr>
<td>d</td>
<td>ḍ</td>
<td>ḍā</td>
<td>ḍi</td>
<td>ḍī</td>
<td>ḍu</td>
<td>ḍū</td>
</tr>
<tr>
<td>ḍ</td>
<td>ḍ</td>
<td>ḍā</td>
<td>ḍi</td>
<td>ḍī</td>
<td>ḍu</td>
<td>ḍū</td>
</tr>
</tbody>
</table>
## Modern System

<table>
<thead>
<tr>
<th></th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
</tr>
<tr>
<td>t'</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
</tr>
<tr>
<td>d</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
</tr>
<tr>
<td>d</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
<td>![glyph]</td>
</tr>
<tr>
<td></td>
<td>-a</td>
<td>-ā</td>
<td>-i</td>
<td>-ī</td>
<td>-u</td>
<td>-ū</td>
</tr>
<tr>
<td>--------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>ṇd</td>
<td>ṇ</td>
<td>ṇā</td>
<td>ṇi</td>
<td>ṇī</td>
<td>ṇu</td>
<td>ṇū</td>
</tr>
<tr>
<td>s</td>
<td>ṡ</td>
<td>ṡā</td>
<td>ṡi</td>
<td>ṡī</td>
<td>ṡu</td>
<td>ṡū</td>
</tr>
<tr>
<td>ssˤ</td>
<td>Ṧ</td>
<td>Ṧā</td>
<td>Ṧi</td>
<td>Ṧī</td>
<td>Ṧu</td>
<td>Ṧū</td>
</tr>
<tr>
<td>z</td>
<td>ṭ</td>
<td>ṭā</td>
<td>ṭi</td>
<td>ṭī</td>
<td>ṭu</td>
<td>ṭū</td>
</tr>
</tbody>
</table>
## Modern System

<table>
<thead>
<tr>
<th></th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td>nd</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
</tr>
<tr>
<td>s</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
</tr>
<tr>
<td>sf</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
</tr>
<tr>
<td>z</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
<td>ṇ班组</td>
</tr>
</tbody>
</table>
**Modern System**

<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-ā</th>
<th>-ī</th>
<th>-ī</th>
<th>-u</th>
<th>-ū</th>
</tr>
</thead>
</table>
# Modern System

<table>
<thead>
<tr>
<th></th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td>![zs]</td>
<td>![m]</td>
<td>![n]</td>
<td>![ŋ]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
</tr>
<tr>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
</tr>
<tr>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
</tr>
<tr>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
<td>![m]</td>
</tr>
</tbody>
</table>
### Modern System

<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-ā</th>
<th>-i</th>
<th>-ī</th>
<th>-u</th>
<th>-ū</th>
</tr>
</thead>
<tbody>
<tr>
<td>k</td>
<td>🅌</td>
<td>🅱️</td>
<td>🅰️</td>
<td>🅴</td>
<td>🅵</td>
<td>🅶</td>
</tr>
<tr>
<td>k'</td>
<td>🅒</td>
<td>🅱️</td>
<td>🅰️</td>
<td>🅴</td>
<td>🅵</td>
<td>🅶</td>
</tr>
<tr>
<td>g</td>
<td>🅟</td>
<td>🅫</td>
<td>🅳</td>
<td>🅴</td>
<td>🅵</td>
<td>🅶</td>
</tr>
<tr>
<td>g'</td>
<td>🅟</td>
<td>🅫</td>
<td>🅳</td>
<td>🅴</td>
<td>🅵</td>
<td>🅶</td>
</tr>
</tbody>
</table>
## Modern System

<table>
<thead>
<tr>
<th></th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>k</strong></td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
</tr>
<tr>
<td><strong>k’</strong></td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
</tr>
<tr>
<td><strong>g</strong></td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
</tr>
<tr>
<td><strong>g’</strong></td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
<td>📩</td>
</tr>
</tbody>
</table>
Modern System

<table>
<thead>
<tr>
<th></th>
<th>-a</th>
<th>-ā</th>
<th>-i</th>
<th>-ī</th>
<th>-u</th>
<th>-ū</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɳg</td>
<td>ṝ</td>
<td>ṝ̄</td>
<td>ṝ</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
</tr>
<tr>
<td>h</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
</tr>
<tr>
<td>θ</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
</tr>
<tr>
<td>_does</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
<td>ṝ̄</td>
</tr>
<tr>
<td></td>
<td>-e</td>
<td>-o</td>
<td>-ja</td>
<td>-ju</td>
<td>-wa</td>
<td>-wi</td>
</tr>
<tr>
<td>-------</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>ṇg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>θ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ð</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-a</td>
<td>-ā</td>
<td>-i</td>
<td>-ī</td>
<td>-u</td>
<td>-ū</td>
</tr>
<tr>
<td>--------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>ɾ</td>
<td>ɾã</td>
<td>ɾã</td>
<td>ɾã</td>
<td>ɾã</td>
<td>ɾã</td>
<td>ɾã</td>
</tr>
<tr>
<td>l</td>
<td>ɭã</td>
<td>ɭã</td>
<td>ɭã</td>
<td>ɭã</td>
<td>ɭã</td>
<td>ɭã</td>
</tr>
</tbody>
</table>
## Modern System

<table>
<thead>
<tr>
<th></th>
<th>-e</th>
<th>-o</th>
<th>-ja</th>
<th>-ju</th>
<th>-wa</th>
<th>-wi</th>
</tr>
</thead>
<tbody>
<tr>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
New Glyphs

\[ /zwa/ \]
\[ /zwi/ \]
\[ /zwe/ \]
\[ /zwo/ \]
New Glyphs

/zja/
/zju/
/zje/
/zjo/
Spelling

<e-ti-lī-nu>
[ˈe.dʒi.li.no]
“gear”
Spelling

<e-ti-li-nu>  <di-mi-di-ru>
[ˈe.dʒi.li.no]  [ˈdʒe.mi.dʒi.ro]
“gear”  “anyway”
Spelling

<nyu-vu-lā>  [ˈɲu.hu.la]  “complains”

<nyu-vwa>  [ˈɲu.va]  “complained”
Spelling

 előnik <fā-hi-ⁿdū> ['fjen.du] “to own”

 előlik <fje-ⁿdū> ['fjen.du] “to own”
Spelling

<ta-to> ['ta.to] “dad”

<ho-p’i-sje> ['ho.pi.je] “beautiful”
Spelling

अम "sunrise"

न्यो "danger"
Mistakes

<hu-kju-lū>
[ˈwo.kju.lu]
“to sleep”
Mistakes
Mistakes

_da-hi-ka-n_di> [ˈdai.gan.dʒe] “hot”
Mistakes

نهام
Spelling

<ə-pi>/[ˈa.be]/“if”

<ā-θu>/[ˈa.ðo]/“eleven”
Spelling

ก = <a>  แ = <ā>
\[ \Lambda \Lambda = \rho \alpha \]
\[ \Lambda_0 \Lambda = \rho \delta \]
\[ v = a \]
\[ \frac{a}{2} = c \]
Mistakes

But I mixed up the glyphs in the font editor.
Mistakes

By the time I realized my mistake it was too late: It was on signage that had been filmed. :(

296
Questions?
Tonight

(1) PA23 = Share a word in your orthography from your language!

(2) MA10: Your orthography!
CONLANG ORTHOGRAPHY ASSIGNMENT
“The song of the starlings speaks of heroic deeds
In the morning rain the heron does its laundry
In the night the lark worships the stars
Who sees the true nature of birds?”
/s/ > [ʃ] / #_
TRANSLATION
Translation ≠ Writing
Generally, one can translate from one language to another, even if one has to use more words or non-standard words.
Generally, one can translate from one language to another, even if one has to use more words or non-standard words.
Este cuarto tiene cuatro rincones y cuatro esquinas.
This room has four corners and four corners.
This room has four inside corners and four outside corners.
<table>
<thead>
<tr>
<th>Corner Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>rincón</td>
<td>4/1,000</td>
</tr>
<tr>
<td>esquina</td>
<td>4/1,000</td>
</tr>
<tr>
<td>inside corner</td>
<td>0.0004/1,000</td>
</tr>
<tr>
<td>outside corner</td>
<td>0.0004/1,000</td>
</tr>
</tbody>
</table>
He banged his hip on the corner of the desk.
wonderful
marvelous
awesome
incredible
fantastic
terrific
That’s a wonderful book.
That’s a marvelous book.
That’s an awesome book.
That’s an incredible book.
That’s a fantastic book.
That’s a terrific book.
That’s a wonderful book.
That’s a marvelous book.
That’s an awesome book.
That’s an incredible book.
That’s a fantastic book.
That’s a terrific book.
Dude, that’s a marvelous laptop!
Dude, that’s a sick laptop!
Dude, that’s an awesome laptop!
maravilloso
increíble
fantástico
marvelous ≠ maravilloso
The Problem
If you write in English and go to translate the English, you’re going to be translating *English* sentences/word choices.
The Problem

Dude, that’s an awesome laptop!
The Problem

Dude, that’s an awesome laptop!
The Problem

awesome (adj.) delvek, asanek, misek
The Problem

marvelous (adj.) asanek, delvek, kilek
The Problem

Delvek (#1 definition of “awesome”) used in mainly religious contexts; not as common.
The Problem

Asanek (#1 definition of “marvelous”) used more commonly amongst all people.
The Problem

Kilek (#3 definition of "marvelous") used more often by young people; uncommon elsewhere.
The Problem

By choosing “delvek”, the translator has mapped English frequency onto the new language.
Consequence 1

Dothraki
athirarido (n.) dream
thirat atthhiraride (v.) to dream
Consequence 1

Dothraki

Atthirarido m’anhoon she jalan.
/dream with-me in night/
“I had a dream last night.”
Consequence 1

Dothraki
Thir atthhiraride she jalan. /lived dream at night/
“I dreamt last night.”
Consequence 1

English
I had a dream last night.
I dreamt last night.
Consequence 1

Dothraki
I had a dream last night.
I dreamt last night.✅
Consequence 1

Both Dothraki strategies are perfectly grammatical.
Consequence 1
The English translation biases the translator, with the result being that the Dothraki is more anglophone.
Consequence 2

Dothraki

nhazhof (n.) a situation/problem that’s more trouble than it’s worth
Consequence 2

Dothraki

lanlekhi (n.) when you eat one of something, and then you immediately want to eat more for a while
Consequence 2

Dothraki

azhkemokan (n.) gift given specifically to a bride on her wedding day
Consequence 2

Out of sight, out of mind.
Consequence 2
Translating from English, you end up using the conlang vocab most readily and easily translated to English.
Consequence 2

Composing in English you get the same problem.
Consequence 2

A native speaker has the words in mind and can use them at will. A non-native speaker doesn’t.
Common Conlang Problem

Conlangers often forget the cool words they create that don’t easily translate to English.
Solution

Better tagging!
Solution

prūmia (n.) heart
Solution

prūmia [ˈpruː.mia] (n.) heart
Solution

prūmia [ˈpruː.mia] (n.l) heart
Solution

prūm·ia, -ī, -ŷn, - iar
[ˈpruː.miə] (n.l) heart
Solution

prūm·ia, -ī, -ŷn, -iar (prumia, prūmia) [ˈpruː.mia] (n.l) heart
Solution

prūm·ia, -ī, -īn, -iar (prumia, prūmia) [ˈpruː.mia] (n.l) {00} heart
Solution

\{00\} = basic
\{10\} = technical/artsy
\{01\} = potentially insulting
\{11\} = uncommon insult
Solution

\{00\} = \text{hero}
\{10\} = \text{nonpareil}
\{01\} = \text{jerk}
\{11\} = \text{Philistine}
Solution

More complexity possible: You just have to remember your system.
Solution

daoriot jem·agon (vp.) {00}* to not matter (to s/o, use the [com.])
Your Translation

Let us discuss!
Your Translation

Create/write some connected narrative.
Your Translation

• Creation myth.
• Origin of writing.
• Origin of plant/animal/place.
Your Translation

• Battle with other nation.
• Great deed by great leader.
• Founding of the nation.
• Hero story.
Your Translation

- Ghost/taboo story.
- Marriage/birth/death rite.
- Disaster tale.
Tonight!

1. PA 24: Post what kind of story you’re doing in the #asoiaf channel.
<table>
<thead>
<tr>
<th>Category</th>
<th>Prefix</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive</td>
<td>v(e)-</td>
<td>riel vemarlis “beautiful woman”</td>
</tr>
<tr>
<td>Purposive</td>
<td>p(a)-</td>
<td>tornil pamurmlir “sleeping bag”</td>
</tr>
<tr>
<td>Material</td>
<td>g(a)-</td>
<td>teleg galdar “wooden leg”</td>
</tr>
<tr>
<td>Size</td>
<td>m(a)-</td>
<td>caras mabeleg “large house”</td>
</tr>
<tr>
<td>Color</td>
<td>d(e)-</td>
<td>curunar demith “gray wizard”</td>
</tr>
<tr>
<td>Shape</td>
<td>t(a)-</td>
<td>palag tacom “round table”</td>
</tr>
<tr>
<td>Count</td>
<td>b(e)-</td>
<td>lhibai becaer “ten fingers”</td>
</tr>
<tr>
<td>Age</td>
<td>l(a)-</td>
<td>cair lorseinnon “ancient ship”</td>
</tr>
<tr>
<td>Origin</td>
<td>h(a)-</td>
<td>sinair harhun “eastern manners”</td>
</tr>
</tbody>
</table>
DERIVATION
Taking a word with X meaning and doing something with it to get X’ meaning.
\[ X \rightarrow X' \]
\[ X \rightarrow Y_x \]
gato ~ gatito ~ gaticito
N ~ N ~ N
value
revalue
devalue
misvalue
Zero Derivation: Taking a word and using it in some other lexical class without changing it at all.
subject (v.) ~ subject (n.)
store (v.) → store (n.)
run (v.) → run (n.)
Google (n.) → google (v.)
Xerox (n.) → xerox (v.)
Warrior (n.) → Warrior (adj.)
The Warrior players are taking the court.
bake (v.) → bakery (n.)
teach (v.) → teacher (n.)
brother (n.) → brotherly (adj.)
black (adj.) → blacken (v.)
red (adj.) → reddish (n.)
teach (v.) → teaching (adj.)
incredible ~ incredibility
incredible ~ incredibleness
red ~ *reddity
red ~ redness
park → parkovat
start → startovat
lanzen → tantsjevat
organize → organizovat
Common Derivations
Use of Noun as Verb
Quality of Adjective
Verbal Noun
Common Derivations

Noun-Like

Becoming an Adjective

Participles
Common Derivations

V $\rightarrow$ N

Agent/Experiencer
Place Where V Happens
Usual Object
Instrument
Nonstandard Derivations

écrire “to write”
écrivant “writing”
Nonstandard Derivations

défendre “to defend”
défendant “defending”
Nonstandard Derivations

salir “to leave”

salida “left”
Nonstandard Derivations

Present Participle = agent
Passive Participle = patient
Nonstandard Derivations

new ~ news
Nonstandard Derivations

*These news travel fast.
Nonstandard Derivations

Down in the dumps.
Got the munchies.
Case of the Mondays.
Nonstandard Derivations

No such thing as an affix that "means" something. Everything can be reused.
COLOR
COLOR
Basic Color Term: A color term that you can’t say is some other type of color.
Red cannot be described as dark pink. 
Blue cannot be described as deep green. 
Green isn’t halfway between blue and yellow.
Lime is light green. Mauve is a kind of purple. Ocher is a dark yellow. Aquamarine is halfway between blue and green.
11 Basic Color Terms
Black, White, Red, Green, Yellow, Blue, Brown, Orange, Purple, Gray, Pink
Stage I: Black vs. White
Stage II: + Red
Stage III: + Green or Yellow
Stage IV: Both Green and Yellow
Stage V: + Blue
Stage VI: + Brown
Stage VII: The Rest
Stage I: Black vs. White
Stage II: + Red
Stage III: + Green or Yellow
Stage IV: Both Green and Yellow
Stage V: + Blue
Stage VI: + Brown
Stage VII: The Rest
Stage I: Black vs. White
Stage II: + Red
Stage III: + Green or Yellow
Stage IV: Both Green and Yellow
Stage V: + Blue
Stage VI: + Brown
Stage VII: The Rest
Stage IV

Black + White = Basic
Red = Maybe Basic
Green + Yellow = Derived
Stage IV

Blue = Green if lighter; black if darker.
Purple + Gray = Black, most likely.
Pink = White or red.
Orange = Yellow or red.
Sources

Black, White and Red may be basic; maybe Green or Yellow.
Sources

Others: Names based on things that are that color—or plants that get you that color dye or ink.
Most common way to get color terms: Borrowing.
Tonight

Work on your final!
Kash by Roger Mills

sisa “to love” ~ sisa-matisa “to love one another”
leka “to argue” ~ leka-mandeka “to argue back and forth”
handa “to load” ~ handa-makanda “to load and unload cargo”
cati “to face" ~ cati-manjati “to confront”
procañ “to bargain” ~ proca-mambrocañ “to negotiate”
Twinkle, twinkle, little star,
How I wonder what you are!
The hell is “twinkle”?
What’s the verb form?
What case is “little star”?
What’s your version of the (very British) expression “How x!”
How I enjoy motoring!
How I adore toffees!
How I miss Buckfastleigh!
How I wish to be a seeeee!
Figure out what the equivalent of that is first before even getting to the real content.
What you are = That which you are.
What are you doing if you have a null copula?
What do you do about “that which”?
Is this even the best translation for your language? Maybe it should be “How I ponder your nature”? 
What’s “nature”?
Good luck with “wonder”!
If the whole thing is a command, how are commands formed in your language?
Emerald City (2017)

Mimic me, you crude and jarring skeletons / And dance together, stir my dark portent.
Emerald City (2017)

Flesh and blood cast out their rigor mortis / Of all you dead cold sister come embrace / And bid farewell a kiss the last between.
Emerald City (2017)
The lock, the key – a girl, now what’s within… / His mind undone, she’ll creep inside to look / And steal what secrets dark and precious keep. But caution be if bonds break weak and lie / Together they will fall beneath the black / And madness take their feeble hearts’ desire.
“Keep Ya Head Up”
2Pac (1993)

And, uh, I know they like to beat you down a lot
When you come around the block, brothers clown a lot
But please don’t cry, dry your eyes, never let up
Forgive but don’t forget, girl, keep your head up

And when he tells you you ain’t nothin’, don’t believe him
And if he can’t learn to love you, you should leave him
Cause sister you don’t need him
“Keep Ya Head Up”
2Pac (1993)

And, uh, I know they like to beat you down a lot
When you come around the block, brothers clown a lot
But please don’t cry, dry your eyes, never let up
Forgive but don’t forget, girl, keep your head up

And when he tells you you ain’t nothin’, don’t believe him
And if he can’t learn to love you, you should leave him
Cause sister you don’t need him
“Keep Ya Head Up”
2Pac (1993)

And, uh, I know they like to beat you down a lot
When you come around the block, brothers clown a lot
But please don’t cry, dry your eyes, never let up
Forgive but don’t forget, girl, keep your head up

And when he tells you you ain’t nothin’, don’t believe him
And if he can’t learn to love you, you should leave him
Cause sister you don’t need him
Tonight!

1. PA 25: Post a picture from or related to class on #general or #memes!
Phonology

a p b ps bɔ m pʃ bʒ w o f v m
u θ ð æ t d ts dʒ s z ʃ ʒ n tʃ dʒ
r r [r] l e ç n j e k g ks ɡz x y ɡ
kʃ ɡʒ i q h h?
Megdevi by David Peterson
lezin
“ostrich”
"the act of being an ostrich"
"ostrich tool/implement which ostriches"
“ostrich habitat”
lazon
“something that got bit by an ostrich”
“the study of ostriches”
ləzìn

“imbued of the true essence of an ostrich”
lûzûn

“ostrich-like”
"ostriching"
luzæn
“ostriched”
læzən

“like an ostrich habitat”
“ostrich-colored”
ləzənə!
“Be an ostrich!”
Become an ostrich!
lezni
“ostrich juice”
lozæn

“Ostrich Second”
luzung

“Ostrich Minute”
lizníks

“Ostrich Hour”
lazno

“Ostrich Day”
ležen

“Ostrich Month”
“Ostrich Season”
lojzun

“Ostrich Year”
lazunow

“Ostrich Decade”
melizinin
“Ostrich Century”
lajzněθ

“Ostrich Millennium”
2003  Linguistics BA
2000  Linguistics 5
      Conlang-L
<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Linguistics</td>
<td>MA</td>
</tr>
<tr>
<td>2003</td>
<td>Linguistics</td>
<td>BA</td>
</tr>
<tr>
<td>2000</td>
<td>Linguistics</td>
<td>5</td>
</tr>
</tbody>
</table>
17 years $\rightarrow$ 1 course
1 course → 6 weeks
What now?
Hollywood will pay for something that has a perceived value.
In order for this to continue, the perceived value of conlanging must not only be maintained, but must increase.
More people (industry people and audience members) have to be able to discern quality conlanging from garbage.
You now know!
FINAL CONLANG PROJECT