

September 29, 2017

A Historical Overview of Language Creation



1. Explain Newton's First Law of Motion in your own words.



!



Yakka Foob Mog. Grug
Pubbawup zink wattoo
Gazork. Chumble Spuzz.



I LOVE
LOOPHOLES.



Why make up a language?

Some common motivations

- Mystical/divine revelation
- Correcting “imperfections” in natural languages
- International communication
- Fleshing out a fictional world
- Artistic enjoyment
- Exploring linguistic possibility spaces

Pre-Modern Conlangs



Lingua Ignota

- Created by **Hildegard von Bingen** (1098–1179)
- Latin for “unknown language”
- Hildegard best known for *Scivias*, a religious text approved of by Pope Eugenius III, which made her into a famous traveling mystic.
- Also interested in science, but claims divine inspiration for Lingua Ignota.



Structure of Lingua Ignota

- LI consists of 1012 nouns, which are substituted for Latin nouns in Latin texts. Some examples:

- aigonz “God”
- aieganz “angel”
- inimois “human being”
- iur “man”
- vanix “woman”
- peueriz “father”
- maiz “mother”
- limzkil “infant”

- subizo “servant”
- zizia “beard”
- galschiriz “battle axe”
- ualueria “bat”
- gabia “quail”
- gluziaz “spearmint”
- orschibuz “oak”
- sapiduz “bee”

Lingua Ignota embedded in Latin

- An example of five Lingua Ignota words interspersed in Latin (in Hildegard's "In dedicatione ecclesiae"):
 - O **orzchis** Ecclesia, armis divinis praecincta, et hyacinto ornata, tu es **caldemia** stigmatum **loifolum** et urbs scienciarum. O, o tu es etiam **crizanta** in alto sono, et es **chorzta** gemma.
 - O **orzchis** Ecclesia, girded with divine arms, and adorned with hyacinth, you are the **caldemia** of the wounds **of the loifol**, and the city of sciences. O, o, you are the **crizanta** in high sound, and you are the **chorzta** gem."

Phonology of Lingua Ignota

- **Phonology**: the study of the patterns of speech sounds/signs in human languages.
- Aspects of English phonology tell us:
 - *Cat* [k^hæt] is a possible word of English.
 - **Dcatn* [dk^hætn] is not.
- ‘Cat’ obeys English **phonotactics**; ‘*dcatn’ does not.
- **Phonotactics**: restrictions on the arrangement and co-occurrence of speech sounds in a language.

Phonology of Lingua Ignota

- Latin phonotactics don't allow:
 - [z] at the end of the word, clusters like [lsch], [rsch], [mzk].
- Knowing a little about Latin phonology, look again at our word list.
 - aigonz “God”
 - aieganz “angel”
 - inimois “human being”
 - iur “man”
 - vanix “woman”
 - peueriz “father”
 - maiz “mother”
 - limzkil “infant”
 - subizo “servant”
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Morphology of Lingua Ignota

- Another important part of linguistics is *morphology*: the internal structure of words.
- Not all words are "atoms"; some have separate parts, called **morphemes**, e.g.:
 - *de-cipher-ed*
 - *cat-s*
 - *un-decid-able*
- Interestingly, even though LI words are atomic in the dictionary, ***loifolum*** is actually:
 - *loifol* - *um*
person - GENITIVE.PLURAL

Is Lingua Ignota just a word list?

- In a sense, yes.
- **But** it also has structure which seems intentional:
 - Phonotactics different from Latin (allows words like *aiegannz*, *limzkil*, *galschiriz*)
 - Works with Latin morphology:
 - *loifol* 'person',
 - *loifolum* 'of the people'
 - Dictionary arranged according to metaphysical taxonomy: God at the top, then angels, humans, non-human animals, plants, etc.
- Interesting properties like these are valued by conlangers today, 838 years after Hildegard's death.

Balaibalan

- Probably created by a Sufi mystic in in the 14th or 15th century.
- Only surviving dictionary kept in French national library
- Properties:
 - Vocabulary drawn from Persian, Turkish, and Arabic, and made up out of nothing.
 - Turkish-like morphology.
 - Used for mystical and religious poetry, much like Lingua Ignota.
- Unfortunately, fairly little is known about this conlang. But as far as I know, it is the first recorded non-European conlang.

The Lords Prayer.

Handwritten text in a cursive script, likely a historical form of the Lord's Prayer.

1 2 3 4 5 6 7 8 9 10
Our Parent who art in Heaven, Thy Name be Hallowed,
11 12 13 14 15 16 17 18 19 20 21 22 23 24
Kingdome come, Thy Will be done, so in Earth as in Heaven,
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41
to us on this day our bread expedient and forgive us our trespasses
42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57
we forgive them who trespass against us, and lead us not
58 59 60 61 62 63 64 65 66 67 68 69
temptation, but deliver us from evil, for the Kingdome
70 71 72 73 74 75 76 77 78 79
Power and the Glory is thine, for ever and ever, Amen. So
Eccc

Philosophical Languages

Conlangs in the early modern period

John Wilkins' philosophical language

- John Wilkins (1614-1672), English clergyman and scientist.
- Like many of his time, he was concerned with the *arbitrariness* of word meanings.
- Simplex words don't tell us anything about their meaning; we have to memorize it. Cf:
 - English *dog*
 - Japanese *inu*
 - French *chien*
 - Zapotec *bekw*
- Wilkins vision: a language where words automatically reveal their meanings.



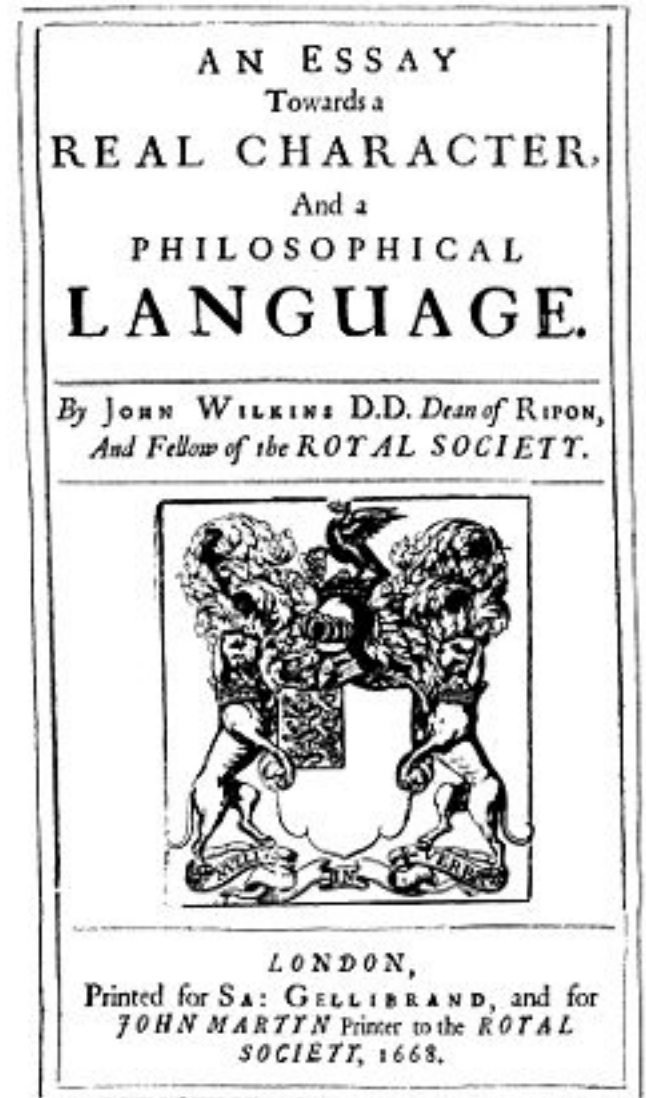
Wilkins' philosophical language

- Wilkins' idea: Let each letter or pair of letters be an atom of meaning.
 - *de* 'element'
 - *deb* 'fire' (the primary "element")
 - *deba* 'part of the first element'

 - *zi* 'beasts/mammals ("genus")'
 - *zit* 'rapacious beasts of the dog-kind'
 - *zita* 'dog (species)'

Wilkins' systematization

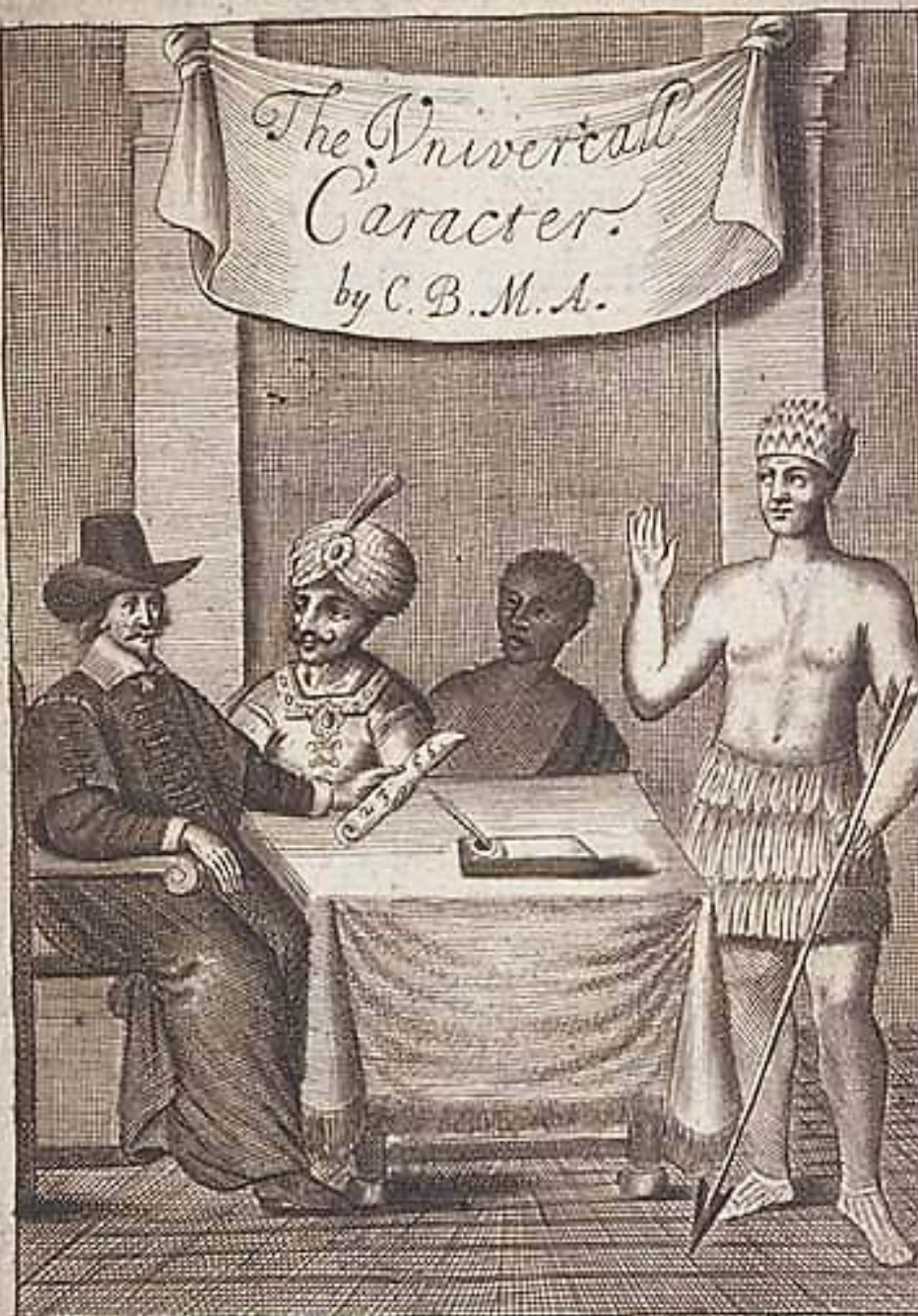
- There is actually a bit more structure to Wilkins' universe of words:
 - The two letters of a word indicate its **genus**. There are 40 genera. This is like the **zi-** in *zita* 'dog'
 - Next, letters can be added to indicate **differences**. This is like the 'wild, rapacious' **-t** in *zita*.
 - Next comes the **species** letters, e.g. the **-a** in *zita*.
- Note that this was all published 39 years before Carl Linnaeus introduced the familiar genus and species of modern taxonomy.





Borges' essay on Wilkins

- Argentinian writer Jorge Luis Borges (1899-1986) was fascinated by 17th century philosophical languages, but observed a flaw.
- Wilkins' and others' division of the world into categories was supposed to be universal. But was it really?
 - These ambiguities, redundancies and deficiencies remind us of those which doctor Franz Kuhn attributes to a certain Chinese encyclopaedia entitled 'Celestial Empire of benevolent Knowledge'. In its remote pages it is written that the animals are divided into: (a) belonging to the emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies.
- No languages exist with these category distinctions encoded. But they raise an important question about universality of concepts.



Cave Beck's language

- Another Englishman, Cave Beck, published *The Universal Character* (1657) around the same time.
- The idea is similar to Wilkins':
 - 3 'abatement'
 - p3 'a man who abates'
 - pf3 'a woman who abates'
 - R3 'abatement'
 - x3 'act of abating'

 - q317 'bold'
 - qq317 'bolder'
 - qq317 'boldest'

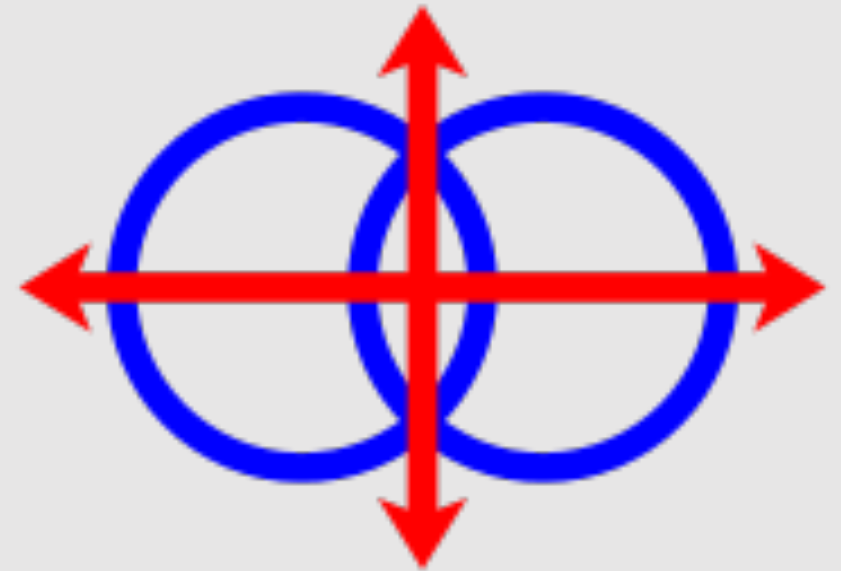
Sold by T. Rothwell att y^e Fountaine in Cheap-side

Novelty and continuity

- Wilkins' and Beck's are just two examples of many philosophical languages from the 17th century. The practice was a fad among intellectuals of the day.
- Clearly, there are many differences here from pre-modern languages like Lingua Ignota.
 - Philosophical languages were intentionally devised; divine inspiration irrelevant.
 - Part of a general move toward developing new **scientific** notations.
- But:
 - Lingua Ignota had already partially introduced the notion of carving up the world into meaningful categories.

Philosophical languages today

- The goal of creating a "perfect" philosophical language continues among conlangers today.
- Some 20th/21st century takes on this problem:
 - Loglan, Lojban, and related "logical languages"
 - Ithkuil
 - Toki Pona
 - Láadan





International Auxiliary Languages

Esperanto : Eŭropa Kaj Universala ponto-lingvo
Esperanto : Lingua-ponte Europea ed Universale

Volapük: on a mission from God

- Johann Martin Schleyer (1831-1912): German Catholic priest and inventor of Volapük.
- Claimed that God told him in a dream to create an international second language for the world.
- Created language in 1879-1880.



The first widely spoken conlang?

- Today, only a few dozen people speak Volapük
 - (though visit volapük.com if you want to change that!)
- But Volapük had astounding success. By 1889:
 - 283 Volapük clubs
 - 25 periodicals
 - 316 textbooks
 - 1 million speakers/learners!g



A conlang milestone

- “In August 1889 the third convention was held in Paris. About two hundred people from many countries attended. And, unlike in the first two conventions, people spoke only Volapük. For the first time in the history of mankind, sixteen years before the Boulogne convention [the first international Esperanto convention], an international convention spoke an international language.”

(André Cherpillod, *Konciza Gramatiko de Volapuko*)

Volapük's simplification

- Volapük was the first major constructed language designed for ease of learning:
 - Schleyer decided to have only [l] and no [r], to help speakers of Asian languages learn the language.
 - Realized that it's impractical to have **allomorphy**:
 - The morphemes, or parts of a word, always have the same form.
 - In English, we have several **allomorphs** of the plural marker:
 - Cat-**s**, ox-**en**, child-**ren**, antenna-**e**, etc.
 - In Volapük, the plural is always [-s], no exceptions!
 - This holds for every morpheme in the language.
 - These show an impressive level of thought and ingenuity.

Volapük's simplification

- Schleyer realized that he could simplify even further with **stress**.
- In English, stress is a bit of a mess:
 - América 3rd-to-last syllable
 - invitátion 2nd-to-last syllable
 - cónvict 2nd-to-last syllable
 - convíct last syllable
- The same is true of many other languages:
 - Spanish *teléfono, problema, sartén*

Volapük's simplification

- Schleyer made stress **regular**.
- So all words in Volapük have final stress.
 - *Gudík* 'good'
 - *Gudikó* 'well'
 - *Vól* 'world'
 - *Volá* 'of the world'

Oversimplification?

- Despite a lot of initial success, many people thought Volapük looked and sounded very strange.
- Words were changed quite a bit from their source languages:

• English		Volapük
<u>w</u> oman	>	vom
<u>f</u> ather	>	fat
wor <u>l</u> d	>	vol
speak	>	pük
bread	>	bod
<u>a</u> nimal	>	nim

The Milwaukee Sentinel

A charming young student of Grük
Once tried to acquire Volapük
But it sounded so bad
That her friends called her mad
And she quit it in less than a wük.

(Source: Arika Okrent 2009)

What did it sound like?

- [Spoken Volapük](https://www.youtube.com/watch?v=txyARVSxiZQ) <https://www.youtube.com/watch?v=txyARVSxiZQ>

Esperanto

- Published by **L. L. Zamenhof** a Polish-Russian-Jewish eye-doctor in 1887.
- Basically replaced Volapük as “the” IAL.
- Motivated by Zamenhof’s humanistic vision for the world: no more divisions based on nationality, ethnicity, religion, etc.
- Grew up in a town with lots of ethnic conflict, linguistic divisions.



Esperanto

- It's not exactly clear *why* Esperanto led to the downfall of Volapük.
- Peterson attributes this to Zamenhof handing over control.
- Other IALs were being published at the time. (IAL-construction soon became a fad, like philosophical languages 200 years earlier.)

Planned, but natural-looking

- A lot of thought went into making Esperanto.
 - Like in Volapük, every Esperanto morpheme has exactly one form (no allomorphs!).
 - Stress is **always** on the second-to-last syllable.
- But in comparison, Esperanto looked much more familiar to its early European audience:
 - Birdoj flugas en la ĉielo. 'Birds fly in the sky.'
 - La kato vidas la hundon. 'The cat sees the dog.'
 - Mi trinkas kafon. 'I drink coffee.'
 - Esperanto estas facila por multaj eŭropanoj.

ESPERANTO



Esperanto's success

- Since its publication in 1887, Esperanto has taken off.
- Even though it suffered greatly under Nazism and Stalinism, and has never caught on the way Zamenhof hoped, it has an estimated **2 million speakers**.
- Numerous books, movies, bands, plays, conventions, clubs.
- Many new IALs have been developed, but Esperanto is so well-established that none have surpassed it in number of speakers.

Structure of Esperanto

- Zamenhof knew that to make a language easy, he would have to solve the **vocabulary problem**.
- Take an average dictionary. There are too many words to learn.
- Solution: break up words into morphemes:

• pentri	'to paint'	bon-a	'good'
• pentr-isto	'painter'	bon-e	'well'
• pentr-ado	'the act of painting'	bon-i	'to be good'
• pentr-aĵo	'painting' (thing)	bon-o	'good (noun)'
• pentr-ilo	'painting tool'	bon-eco	'goodness'

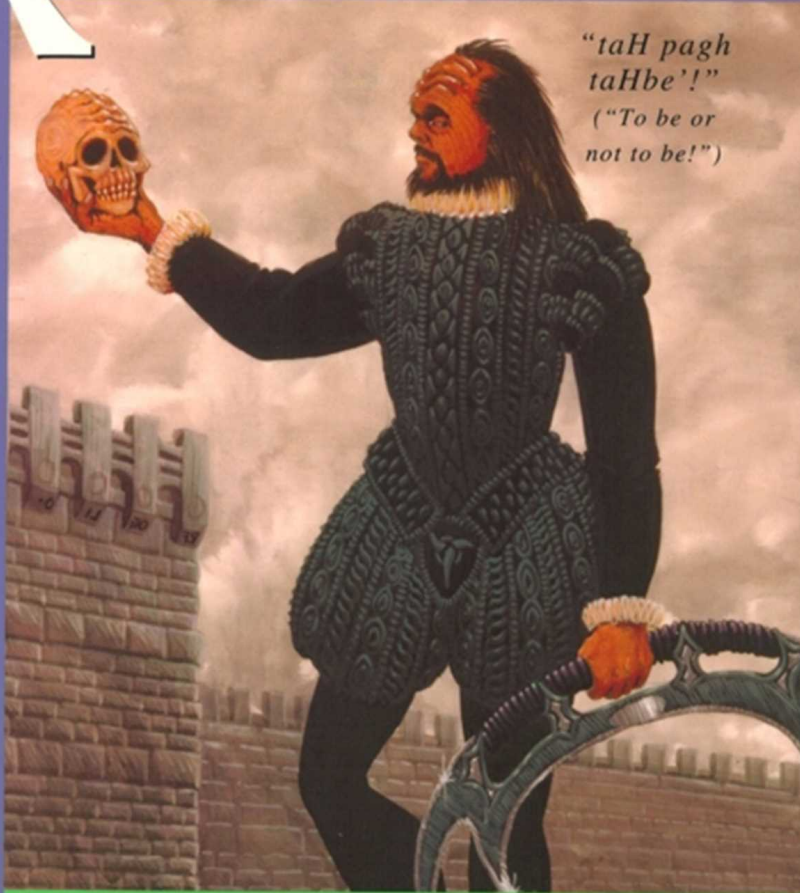
First conlang with native speakers?

- Esperanto is designed to be a universal **second** language.
- Not being attached to a particular nation makes it neutral.
- But surprisingly, Esperanto has many native speakers: perhaps around 2000.
- It turns out children acquire Esperanto without changing it in any major ways. We'll be talking a lot more about this later!



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Prepared by the Klingon Language Institute

Artistic Languages

Conlangs for artistic enjoyment

- So far we've seen conlangs made for practical purposes.
- But a huge motivation for many conlangers is pure artistic enjoyment.



Tolkien's languages

- J.R.R. Tolkien is famous for including conlangs in *The Lord of the Rings* and his other works.
- Tolkien's languages are the first well-developed and published **artistic languages**, or **artlangs**.
- Calling it his “secret vice”, Tolkien considered his novels a backdrop for his greater artistic project of language creation.

Tolkien's aesthetics

- Tolkien appreciated the beauty of grammar in ways that many people don't:
 - "[Finding a book on Finnish grammar] was like discovering a complete wine-cellar filled with bottles of an amazing wine of a kind and flavour never tasted before. It quite intoxicated me." (Tolkien, *Letters*:214)
- Tolkien was interested in nice-sounding words:
 - Finnish, Welsh, and Greek are "languages which have a very characteristic and in their different ways beautiful word-form."
- [Tolkien reciting a poem in Quenya](https://www.youtube.com/watch?v=dUAlX0dibMo):
<https://www.youtube.com/watch?v=dUAlX0dibMo>

Constructing a language family

- Tolkien didn't just create one language. What people often call "Elvish" is a **language family**.
- Languages change over time. When a single language splits into multiple new languages, we say that these form a **family**.
- Tolkien two Elvish languages from **Primitive Quendian**:
 - **Quenya** – inspired (but very different from) Finnish
 - **Sindarin** – inspired (but very different from) Welsh
- Lots of effort in making the historical changes realistic.

Fictional etymologies

- **Etymology:** a word's "ancestry"; what word(s) gave rise to it, what did they mean, etc.
- In conlangs, etymology is usually:
 - Non-existent when the vocabulary is *a priori*.
 - Not very interesting when the vocabulary is *a posteriori*.
- But Tolkien wanted **history** for his languages. For example:
 - **MBUD-** project. **mbundu*: Q *mundo* snout, nose, cape; N *bund*, *bunn*. Cf. **andambundâ* long-snouted, Q *andamunda* elephant, N *andabon*, *annabon*. (Q = Quenya, N = Noldorin (Sindarin))

Elvish numeral comparisons

• 1: MINI	<i>Q minë</i>	<i>S min</i>
2: AT(AT)	<i>Q atta</i>	<i>S tad</i>
3: NEL(ED)	<i>Q neldë</i>	<i>S neledh</i>
4: KÁNAT	<i>Q canta</i>	<i>S canad</i>
5: LEPEN	<i>Q lempë</i>	<i>S leben</i>
6: ÉNEK	<i>Q enquë</i>	<i>S eneg</i>
7: OTOS/OTOK	<i>Q otso</i>	<i>S odog</i>
8: TOL-OTH/OT	<i>Q tolto</i>	<i>S toloth</i>
9: NÉTER	<i>Q nertë</i>	<i>S neder</i>
10: KAYAN/KAYAR	<i>Q cainen</i>	<i>S caer</i>

- Source: "[Tolkien's Not-So-Secret Vice](#)"

Orthography

- An **orthography** is a writing system.
- For an auxlang or a philosophical language, no real reason to make a complicated new orthography.
- But for **artlangs**, why not?
- This is essential if, like Tolkien, you make your languages for a fictional world.
- [Tengwar](https://en.wikipedia.org/wiki/Tengwar): <https://en.wikipedia.org/wiki/Tengwar>

No need to be practical

- We've seen that auxlangs and philosophical languages are very regular. Adding unnecessary complications to them doesn't make sense.
- But artlangers can let their imagination run wild.
- For example, Sindarin has **consonant mutation** (like actual Celtic languages, Finnish, and others):
 - *pân* 'plank' *i bân* 'the plank'
 - caw* 'top' *i gaw* 'the top'
 - tâl* 'foot' *i dâl* 'the foot'
 - bess* 'woman' *i vess* 'the woman'
- (Source: "[Sindarin – the Noble Tongue](#)")

Plural umlaut in Sindarin

- *tâl* 'foot' *tail* 'feet'
 cant 'shape' *caint* 'shapes'
 lavan 'animal' *levain* 'animals'
 aran 'king' *erain* 'kings'

- edhel* 'Elf' *edhil* 'Elves'
 ereg 'holly tree' *erig* 'holly trees'
 certh 'rune' *cirth* 'runes'

- orch* 'orc' *yrch* 'orcs'
 toll 'island' *tyll* 'island'

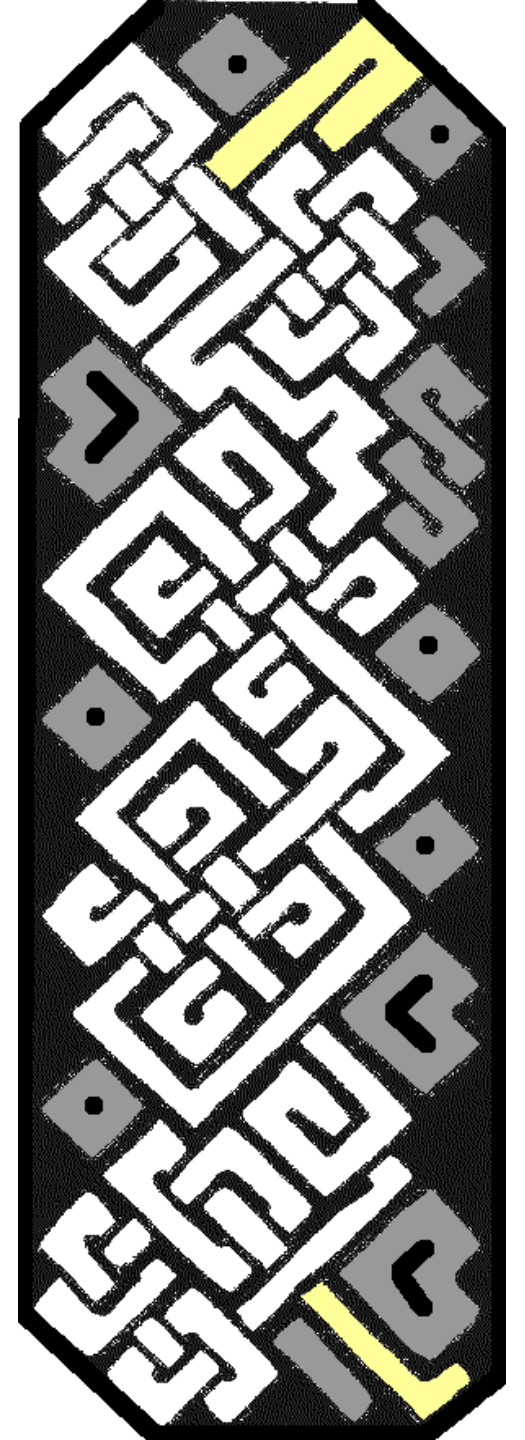
Klingon

- Created by Marc Okrand for *Star Trek* franchise
- Designed to have *alien* grammar
 - However, still possible for humans to speak.
- [Used for many artistic purposes, as Chancellor Gorkon points out in *Star Trek VI*.](#)
- We'll be talking quite a bit about Klingon when we discuss phonology (sound patterns), morphology (word structure), and syntax later in the course.



Personal artistic languages

- There are **many** other artistic languages (**artlangs**) made especially for literature, film, TV, and games.
- But there are also **thousands** of entirely personal artlangs:
 - **Kēlen** by Sylvia Sotomayor, a language without verbs (example of ceremonial script on the right)
 - Example:
ōrra ñi jacēla jahūwa lā;
PAST NI N.sg(bowl) N.sg(broken) EMPH
"The bowl broke!"



gjâ-zym-byn

- By Jim Henry:

gjâ-zym-byn is a personal language I use pretty much every day, thinking in it, praying in it, sometimes talking to myself even on days when I don't happen to read or write in it. I started working on it in early 1998, as a psychological experiment; I aimed for a balance of exoticity and learnability so I could try out new grammatical and semantic structures and see how they affect my thinking — and whether in fact I would be able to learn to use them fluently. I also stocked the phoneme inventory with several exotic sounds that I could (at the time I created the language or added them to it) just barely pronounce. To compensate, I severely limited the ways consonants can cluster.

Engineered Languages

- Many engineered languages are personal artlangs.
- Designed to address a specific purpose or test a specific idea.
 - **Loglan, Lojban**: based on formal logic, designed to be totally unambiguous and test how language affects thinking
 - **Toki Pona**: only has around 120 words, minimal grammar; designed to express Taoist, minimalist philosophy
 - **The Gripping Language**: non-spoken language of hand and finger gestures for people who are holding hands

Contemporary Linguistic Analysis

An Introduction



William O'Grady John Archibald Seventh Edition

Linguistic Analysis

Tolkien's Ring Inscription

Ash nazg durbatulûk, ash nazg gimbatul,

One ring to rule them all, one ring to find them,

ash nazg thrakatulûk agh burzum-ishi krimpatul

one ring to bring them all, and in the darkness bind them

Hichop!

<https://www.youtube.com/watch?v=v2bjc6U0tjl>

Hlchop.

rol ghajbogh tlrvo' HlghoS.

Hoch ram SuDbogh tl SuD retlhDaq

DIng, DIng, qammaj tIDIngmoH.

waqveth tltuQ 'ej paHvam vltuQ jIH.

Hlchop

'ej choS chIS blngDaq Hlchop.

HIDev.

ravDaq Hov Huv blngDaq

jIHvaD ghlt ylpep

DaH QoQ ylchu' 'ej ml'jaj wewbogh ghew

bochtaHmo' maS chIs

DaH Hlchop.

Hlchop.

Duj puylu'pu'bogh retlhDaq

bang bom tlbom, jagh Hom tljaD.

HlchuH.

tlqwlj'e' qa'ang.

He 'angbogh vavll' pu'jIn tIQ wltlha'.

Bite me

Come to me from the grain that has a beard

Each night beside the vegetation which is green

Spin, spin, make our feet spin

Wear those shoes and I will wear this gown

Bite me

And bite me underneath the white twilight

Lead me

on the floor under the unobstructed stars

Lift your open hand for me.

Now play the music and make the glowing bugs dance

because the white moon shines

Now bite me

Bite me

In the area beside the ship that has been wrecked

Sing love songs, throw the enemy's bones

Hit me.

I will show you my very heart

We will follow the way your father's ancient map reveals.