# tlhIngngutlh

# The syllabic Klingon writing system

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The tlhIngngutlh is a syllable based writing system for Klingon. It is written from up to down, left to right. The name tlhIngngutlh comes from the Klingon words tlhIngan and ngutlh which mean klignon and letter, written character.

In tlhIngngutlh each sound in the language is represented by one character. These sound characters are then combined to syllable characters in a certain way. Each sound character is either diagonal, horizontal or neutral. These differences come to play when defining the layout of the syllable.

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# The sound characters

## Vowels

There are two type of vowels in tlhIngngutlh: neutral and horizontal.

### Neutral vowels:

| a | e | o |
|---|---|---|
| | | |

### Horizontal vowels:

| I | u |
|---|---|
| | |

# Consonants

There are three types of consonants: neutral, vertical and horizontal. The glottal ' is also considered a consonant as usual.

## Neutral consonants:

| D | S | j | t | w | p | ng |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| l | r | Q | q | tlh | ch | ' |
| | | | | | | |

## Vertical consonants:

| b | n | v | H | m |
|---|---|---|---|---|
| | | | | |

## Horizontal consonants:

| gh | y |
|---|---|
| | |

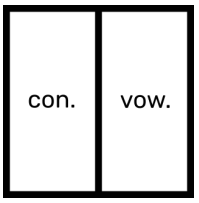
# Syllabic character layouts

The sound characters have a hierarchy that defines in which way the syllables are assembled. A rule of a thumb is that horizontal consonants are the most defining ones, followed by vertical consonants and then horizontal vowels. Neutral characters are the most flexible ones and do not play an important role in deciding the layout of the syllable.

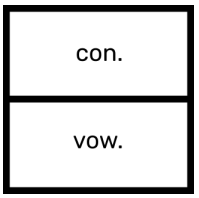
Assembling the sound characters into syllabic characters goes according to the following rules.

## Syllables with two sounds

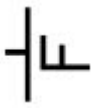
Most of the syllables with two sounds have the vertical layout.




However if the syllable has a horizontal consonant or a horizontal vowel with a neutral consonant, the layout becomes horizontal. Note that horizontal vowel with a vertical consonant has a vertical layout.

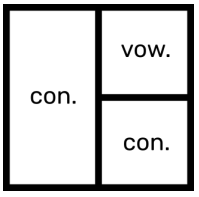



### Examples

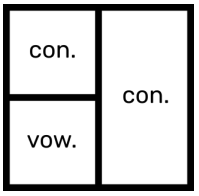
| Da | bl | jl | gho | yu |
|---|---|---|---|---|
| |  | | | |

## Syllables with three sounds

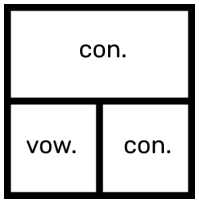
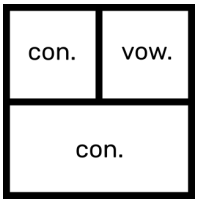
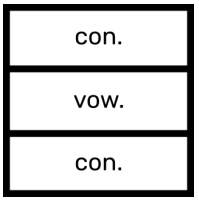
The most common layout for a three sound syllable is the first consonant on left and vowel and second consonant on top of each other on the right. This is the case with syllables with only neutral consonants like **`Duj`**, as well as syllables that start with a vertical consonant followed by a vertical or neutral consonant like nong or **`nIm`**.



Then there is the mirrored version used when the first consonant is neutral and the second consonant is vertical, like **DaH**.




However, when there is a horizontal consonant in the syllable, it always gets to have the horizontal space it needs. The possible layouts are shown below.

| The first consonant is horizontal. Second consonant can be anything. | The second consonant is horizontal but the first one is not. | In the rare case that **all** sound characters in the syllable are horizontal. |
|---|---|---|
|   |   |   |

## Examples

| Duj | bIH | DaH | ghaH | ghogh | bogh | ghugh |
|---|---|---|---|---|---|---|
| | | | | | | |

## Syllables with four sounds

In Klingon there are a couple of four sound syllables. These are syllables that end with **w'**, **y'** or **rgh**. In these cases the last two sounds of the syllable are marked with single character ligature and otherwise the layout works as if it was a three sound syllable. **y'** is considered a horizontal character, whereas **w'** and **rgh** are neutral.

| -w' | -y' | -rgh |
|---|---|---|
| | | |

### Examples

| nargh | paw' | yay' | Hay' | ghuy' |
|---|---|---|---|---|
| | | | | |

## The hierarchy of the sound characters

Now that we know in which way the syllable characters are assembled, we can form a hierarchy for the sound characters. On the top of the hierarchy are the sound chracters that, if in the syllable, will always define the layout (which usually means they will get the biggest area in the syllable character).

| |
|---|
| horizontal first consonant |
| horizontal second consonant |
| vertical first consonant |
| vertical second consonant |
| horizontal vowel |

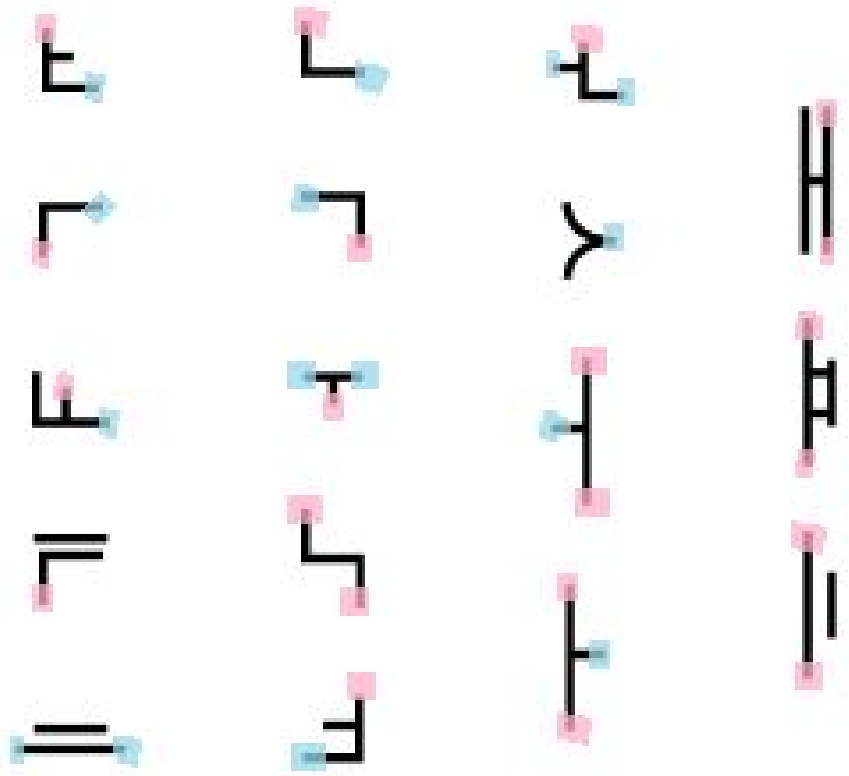
# Linking characters within a syllable

When assembling the syllable characters, some sound characters are linked to each other. This provides more "natural" looking characters.

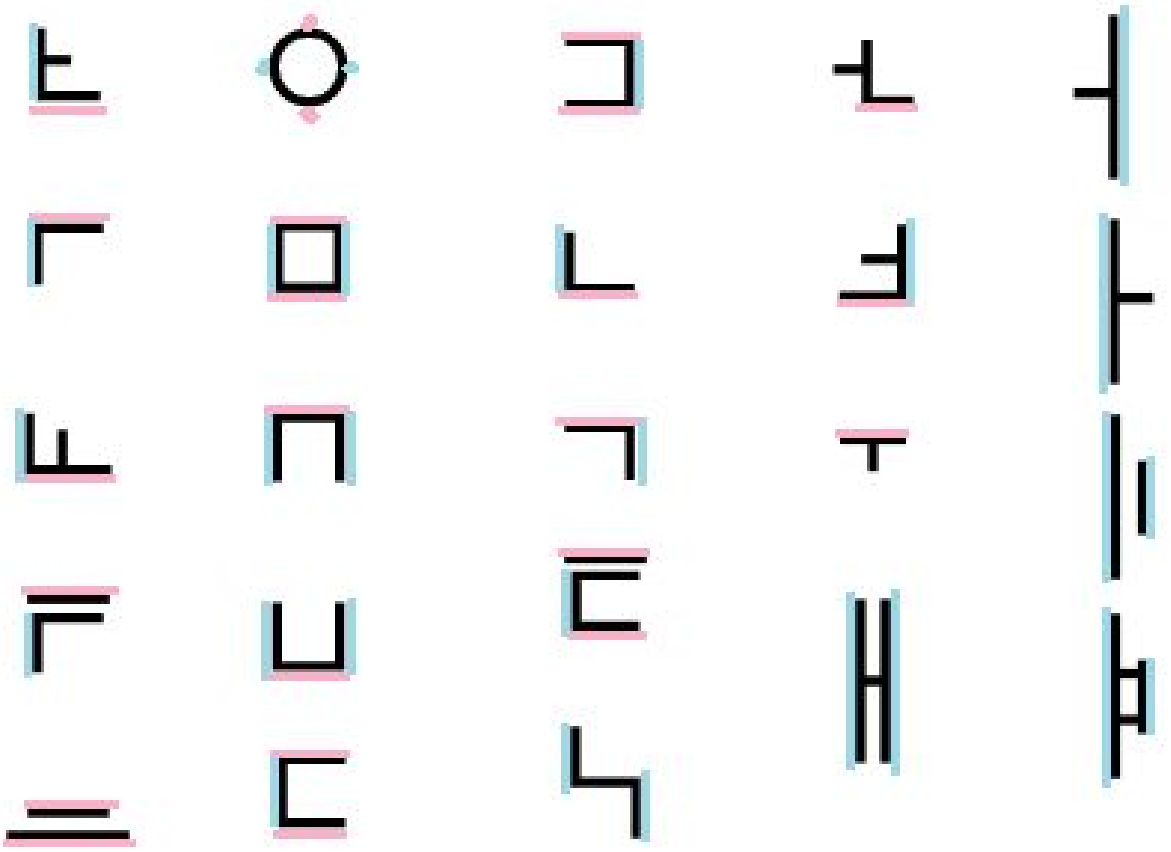
For example, if we wanted to write **`nIm`** with only the layout rules we would end up with the character

However in tlhIngngutlh **`nIm`** is written like this

The characters are not linked randomly but certain characters have linking points which can be streched to connect to another character. The linking point can link to a character next to it if the other character has a line that is in a straght angle to the linking point. The linking points are shown below, pink being a point that can be connected up or down, blue to left or right.



The surfaces to which the points can link to are shown below. Pink surfaces are surfaces that can be linked to from up or down, blue can be linked from left or right. Note that in D, the surfaces are rather single dots on the sides than an actual surface.



## Special cases

1. w

**w** can be linked from these points

but the points must not be stretched. The linking can only happen if the linking points attach to two separate characters like in **wIj**

Also if there are two separate characters but only one has a line to connect to, **w** can link to only one of them like in **wI'**

### 2. p

**p** has one non-stretchable linking point.

When linked, no other part of **p** than the linking point can touch another character

### 3. n and b

**n** and **b** have a linking point in their horizontal line and this horizontal line can go a little up or down to be able to link to another character smoothly like in **nIm**

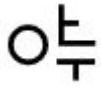
where the **n**'s horizontal line is slightly higher to connect to **I**.

In cases where there are two option like **nIm** where **n** could link to either **I** or **m**, since they both have a surface for the linking point to connect to, the point is always linked primarly to the following character.

### 4. D

**D** can be linked to only precisely from up, down, left or right. Basically the surfaces in D are fours single dots.

For example in **Daq**



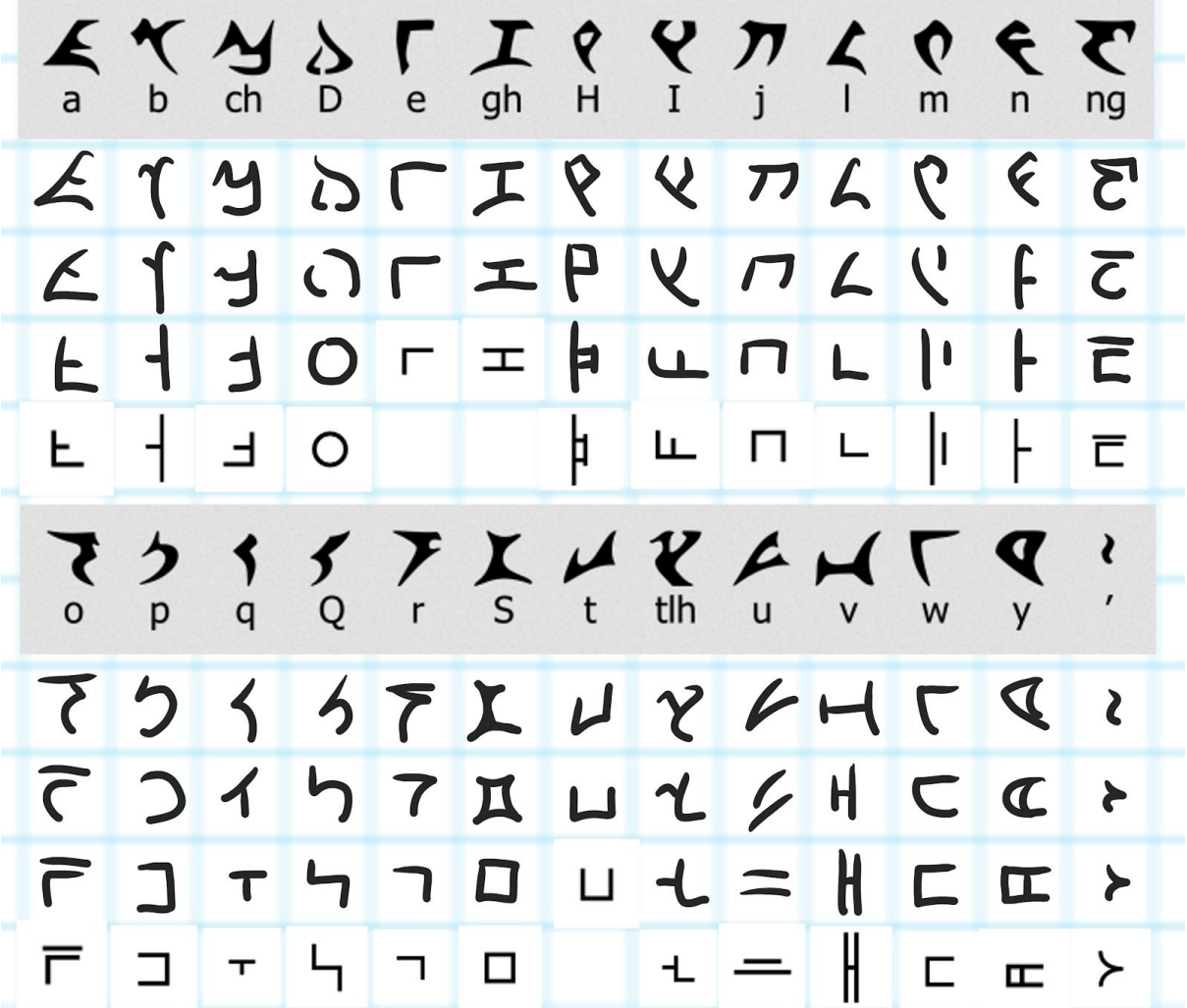
the **q** does not link to **D** because it is too low to link to the surfaces in **D** (shown in the figure about link surfaces). But in **Dop**

**p** is linked to **D** because it can link precisesly to the right side of **D**.

# Designing process

The idea to create tlhIngngutlh came when I discussed the existing writing system with my friend. Klignon is a very syllable based language, and therefor a syllabic character system works much more naturally for it than an alphabet that the already existing writing system is. I am also very fond of the Korean writing system Hangul, for both its aesthetic and practicality, and I took a lot of inspiration from it.

The sound characters in tlhIngngutlh are very similar to Hangul, but I have not just assigned each Hangul character to a Klingon sound (if I had, the layout system would be much simpler). The characters are loosely based on the existing alphabet for Klingon, which makes them easier to learn if one already knows the alphabet. The design process from the alphabet to tlhIngngutlh can be seen below.



# More about tlhIngngutlh

At the moment we are making a website where you can try out tlhIngngutlh. It can be found here https://purppura.kaivos.org/kielet/klingon/tlhingngutlh/ (unfortunately the site is only in Finnish but it is easy to use!). We still don't have all the character linkings work, but besides the occasionally lack of character linking in the syllables, it is totally usable.

I also make klingon manga translations with tlhIngngutlh that I post on tumblr https://tlhinganholmanga.tumblr.com/.

# Thanks and contact information

Big thanks to Iikka Hauhio for helping me with the design process and making the website for tlhIngngutlh.

I can be contacted via telegram @pupunu or email hunajakettu@gmail.com so if you have any questions don't hesitate to contact me!