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DEPARTAMENT DE FILOLOGIA ANGLESA I DE GERMANÍSTICA

Glossopoeia

A Contrastive Phonological Study of Sindarin and Klingon

Treball de Fi de Grau

Author: Mónica Malvárez Ocaña

Supervisor: Hortènsia Curell Gotor

Grau d'Estudis Anglesos

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Law pain i reviar mistar aen.

Not all those who wander are lost.

ACKNOWLEDGEMENTS

I would like to express my appreciation to Dr. Hortènsia Curell, not only for her help and support during these difficult months that I have been abroad, but also for giving me the opportunity and the freedom to explore other fascinating linguistic areas, such as glossopoeia.

I would also like to thank my friends and family for always pushing me to go one step further and to think outside the box. I discovered the universe of Middle-Earth during my childhood, and for that reason, it will always have a special place in my heart. Before going to bed, my father used to read *The Hobbit* to me. I remember being mesmerized by the story and the characters, and even now, as an adult, I am still mesmerized by what J.R.R. Tolkien created.

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Abstract

Sindarin and Klingon are two of the most popular fictional languages ever spoken. They were created by two linguists, J.R.R Tolkien and Marc Okrand. This dissertation aims to analyze and compare the main phonological features of both of them to determine whether they resemble or differ. They were meant to be spoken by opposite races, Elves being beautiful and elegant creatures from the woods, and Klingons being aggressive warriors from outer space.

The analysis shows, first, that these races are perfectly represented by their languages, and second, a strong imbalance regarding the level of detail in their development. Sindarin offers more diversity and richness in its phonological repertoire due to the fact that, in general terms, the language is more complex. Klingon, on the other hand, has proven to be simpler and more regular. After all, while Tolkien created Sindarin with an aesthetic goal in mind, Klingon was born out of necessity.

1. Introduction

The current dissertation aims to present a contrastive phonological analysis of two well-known constructed languages: Sindarin and Klingon. Other grammatical features will be discussed as well in order to provide a general overview of their demeanor. However, before delving into the purely linguistic analysis, an introductory chapter about constructed languages will also be presented, covering what they are like and their classification. Additionally, a brief account of the creators of Sindarin and Klingon will be given, including background information such as their creative process and their influences.

There are several factors that contribute to making these two languages suitable for a contrastive analysis. First, they are both considered artistic constructed languages. That means that they were not created to unify humanity or to facilitate communication among cultures. They were made and developed as craftwork for a fictional setting. However, they have gathered more people around the world than other artificial languages that were created to fulfill that purpose, such as Esperanto. Second, they are extraordinarily developed. There are dozens of artistic constructed languages in literature, cinema and television, but most of them lack complexity and therefore, they are inadequate for a one-to-one comparison.

Some research has been conducted before concerning constructed languages, and there are books and studies that are of vital importance for the present dissertation. However, since Sindarin and Klingon are developed in so much detail, these sources tend to describe them individually, instead of using their features to look for similarities and differences among them. Hopefully, this dissertation will shed some light on this matter.

2. Constructed Languages

A constructed language, or *conlang*, is "a language that has been consciously created by one or more individuals" (Peterson 2015b: 28). A natural language, or *natlang*, is what we, as human beings, use to communicate every day. Unlike natlangs, conlangs have an artificial and deliberate origin. Therefore, they do not have etymological ancestors or native speakers (Adams 2011). One might think that conlangs are a rarity. However, according to Adams (2), "there are many more invented languages that one might guess - we know about nearly a thousand around the world and throughout history (...) When everything is counted up, there have been roughly as many invented languages as there are natural ones".

Conlangers are driven to create new languages for different reasons, such as aesthetic, political and even economic. However, their primary motivation is to create a better language. According to Adams (2), "the need arises from dissatisfaction with the current linguistic state of affairs". Needless to say, the term *better* is completely subjective. Depending on the purpose of the language, conlangers might aim to design a language one way or another, but there is always the need to improve upon natural language (Adams). Some might argue that the simpler the better. In that case, they will construct a language without flaws, ambiguities and irregularities (Okrent 2010). Some others might have an aesthetic goal in mind, and in that case, the possibilities are endless.

2.1. Classification of Conlangs

All conlangs and natlangs are considered real languages, since, after all, regardless of their status, they both exist in our world. They may or may not be used,

but it is possible to do so if desired. Fake languages are meant to give the impression of a real language without actually being so (Peterson 2015b). They are commonly seen in movies when characters are meant to speak an alien language that has not been actually constructed. Some examples are Minionese, from the *Despicable Me* film series (2010-2017), Parseltongue from the *Harry Potte*r film series (2001-2011), or Ubese from *Star Wars: Episode VI Return of the Jedi* (1983). Peterson thinks that it is important to differentiate between real and fake languages: "do not call a conlang a fake language. Those who do only make themselves look foolish" (29).

Apart from being considered real languages, conlangs can be classified according to different criteria. First, they can be organized depending on the historical period they belong to, which is also linked to the purpose they were designed to serve, and second, depending on the degree of influence by natural languages.

2.1.1. Historical Classification

The early conlangers were driven to construct languages in the 17th century because they considered natlangs to be deficient and vague to address scientific issues. In particular, they were unsatisfied with the association between form and meaning (Ryan 2014). Since they were in the throes of the scientific revolution and Latin was losing ground as the international lingua franca, scholars felt the need to create a proper language to propagate their scientific findings. "The goal was to construct a rational language in which a logical relationship would exist between ideas and the words used to express them" (Large 1985: 149). Some examples of Scientific languages are Universal Language, created by Isaac Newton in 1661, and Polygraphia, created by Athanasius Kircher in 1663.

Esperanto (created by Ludwik L. Zamenhof in 1887), Volapük (created by Johann M. Schleyer in 1879), and many other conlangs from the 18-19-20th centuries are called International Auxiliary Languages (or IALs). They were created to "directly address the 'interlinguistic problem' of mutual unintelligibility" (Adams 2011: 5). The inventors pursued to create a language that was simple and easy to learn, with a logical structure and free from irregularities.

For the most part, 20th-century conlangers tried to create logical languages. They assumed "a connection between language and thought: using a logical language was supposed to lead to logical thought." (Ryan 2014: 8). They believed that if people could control their language, they could be in control of their mind. This belief was common around the world in the mid-twentieth century, throughout World War II and the subsequent global cultural and economic revolutions (Ryan 2014). Some examples of Logical languages are Loglan, created by James C. Brown in 1960, and Láadan, created by Suzette H. Elgin in 1984.

Around the last quarter of the 20th C, the purpose of language invention started to change. To create a universal or better language was not the ultimate goal anymore. Inventors started to craft languages for artistic and aesthetic purposes, and they began to explore the idea of language as a unique form of art. J.R.R. Tolkien is one of the most notorious artistic conlangers, and he is, in fact, an exception. He does not fit into Okrent's timeline (2010) because "Tolkien's writings are situated at least 50 years earlier than the 1980s start of the artistic expression phase. It appears that in light of the other conlangs surrounding Tolkien's works in the twentieth century, Tolkien was a man before his time (Ryan 2014). Some examples of Artistic languages are Na'vi created by Paul Frommer in 2005, and Dothraki, created by David Peterson in 2009.

2.1.2. Classification by Degree of Influence

Conlangs that do not belong to the artistic expression phase can also be classified according to the degree of influence by natural languages. They can be a priori, a posteriori or mixed. A priori languages are the ones that are created from the ground up and their grammar and vocabulary are not based on natlangs. They generally use classification systems where letters, numbers and symbols represent categories of meaning. A posteriori languages are the ones that take most of their material from natlangs but trying to simplify and regularize them. Conlangers normally use roots from different languages together and it is possible to understand the meaning of a sentence if one is familiar with the source languages. Finally, mixed languages contain elements of both types (Peterson 2015b: 31).

Language	Author	Date	Description	Sample	Translation
Polygraphia	A. Kircher	1663	Scientific A priori	XXVII.36N XXX.21N II.5N XXIII.8D XXVIII. 10 XXX.20	Peter our friend came to us.
Lingua Slavica Universalis	J. Herkel	1826	IAL A posteriori (source: Slavic languages)	Za starego vieku byla jedna kralica, koja mala tri prelepije dievice: milicu, krasicu a mudricu	In olden times there was a queen who had three very beautiful girls: Milica, Krasica, and Mudrica
Volapük	J.M. Schleyer	1879	IAL Mixed	If otävol-la in Yulop, olilädöv pükis mödik	If you should travel in Europe you will hear many languages.
Esperanto	L.L. Zamenhof	1887	IAL A posteriori (source: Romance languages)	La ideo pri mondliteraturo akiris nun el la vidpunkto de la scienco multe pli gravan signifon.	The idea of a world literature has now gained even greater importance from the point of view of science.
Medial	Weisbart	1922	Logical A posteriori (source: Romance languages)	Un Englo, un Franco ed un Deuto havit le taske pintir kamele.	An Englishman, a Frenchman, and a German were supposed to paint a camel.
Loglan	J.C. Brown	1962	Logical A priori	i lo nu gunti vu darli	The people are far away

Table 1. Classification of Conlangs (Okrent: n.d.)

2.2. Fictional Languages

Fictional languages, also known as *artlangs* (artistic languages) are the conlangs developed during the artistic phase (except for the languages created by J.R.R. Tolkien). They may incorporate elements of the three previous strategies (a priori, a posteriori, or mixed), but they belong to a different category due to the fact that they were not designed to be spoken by real people, but by fictional races. They can be classified into naturalistic and non-naturalistic (Peterson 2015a). Naturalistic conlangs are the ones that "try as nearly as possible to imitate the quirks and idiosyncrasies of natural languages found on Earth" (Peterson: 2:00), as Sindarin. On the other hand, non-naturalistic conlangs are normally designed to sound as alien as possible, like Klingon.

Artlangs are usually created for imaginary worlds and their purpose is mainly aesthetic. Conlangers like Tolkien or Okrand try to provide a deeper and more realistic dimension to fictional works such as books, movies, video games and TV shows. Coker (2016: 2) claims that "artlangs are created for the purpose of adding completeness to an imaginary world. (...) They bring fantasy to life by transporting the readers into the fictional setting in which the language functions".

3. Tolkien and Middle-Earth

John Ronald Reuel Tolkien (1892-1973) was an English philologist, writer and academic. From a very young age, he spent much of his time studying and creating languages. His mother introduced him to Latin, French and German, while at school he was taught or taught himself Greek, Middle and Old English, Old Norse, Gothic, Modern and Medieval Welsh, Finnish, Spanish, and Italian. He also had a working

knowledge of Russian, Swedish, Danish, Norwegian, Dutch and Lombardic (Bramlett 2007).

It is commonly believed that Tolkien's languages were created to complete what is called the literature of Middle-Earth: *The Hobbit* (1937), *The Lord of the Rings* (1954) and *The Silmarillion* (1977). However, this is a misconception. The truth is that he created those literary works to house his linguistic creations, and not the other way around. "He was going to create an entire mythology. The idea had its origins in his taste for inventing languages. He had discovered that to carry out such inventions to any degree of complexity he must create for the languages a 'history' in which they could develop" (Carpenter 1977: 124). Some scholars claim that these linguistic creations are even more central than the characters themselves (Ryan 2014).

Among the languages he created for the people of Middle-Earth, we can find Rohirric, Khuzdûl, Entish and Black Speech. Just in *The Lord of the Rings* there are words from at least fourteen invented languages (Adams 2011), which are spoken by different races (men, elves, dwarves, ents, orcs, etc.). Tolkien used his linguistic background and took elements from natural languages such as Finnish, Welsh, Latin, Greek and Old English to create them (Coker 2016). These languages are a combination of Tolkien's talents as a linguist and storyteller, and they lend Tolkien's works a unique dimension of realism (Noel 1980).

The richest and most developed languages are, by far, the ones spoken by the Elves, Quenya and Sindarin. "They are highly regarded for their grammatical completeness and their ability to function as natural languages instead of artificial ones" (Coker 2016).

3.1. Sindarin: an Overview

Tolkien's aspiration was to create consistent and meaningful languages, in which every word seemed to be a result of a naturally developed language. In other words, he tried to create these languages avoiding randomness:

> Often in the heat of writing he would construct a name that sounded appropriate to the character without paying more than cursory attention to its linguistic origins. Later he dismissed many of the names made in this way as 'meaningless', and he subjected others to a severe philological scrutiny in an attempt to discover how they could have reached their strange and apparently inexplicable form. (Carpenter 1977: 132).

Quenya and Sindarin have a cultural connection like Latin and Welsh in the Middle-Ages. According to Adams (2011: 78), "the resemblance of Quenya to Latin tends to convey a sense of formality, learnedness, elevation and nobility". It was used for lore, ceremony, and poetry. Sindarin, on the other hand, was the most common language among the Elves. Due to its use, Sindarin continued to change linguistically while Quenya remained constant, operating as a "book-language" (Coker 2016), like Latin in the Middle-Ages.

Although conlangs do not have real etymological ancestors, Tolkien's languages are organized like natural languages. They have their own imaginary linguistic history, development, relationships and families.[1] The fact that Quenya does not evolve reinforces the idea that it is indeed regarded as a High language, because it remains unchanged. Sindarin, on the other hand, being the common tongue, it evolves and branches into different dialects. According to Allan (1978: 46): "Quenya and Sindarin are related, but Sindarin has departed more widely from their common original".

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[1] See Appendix.

Just as natural languages, Sindarin has a syntactic structure, morphological processes, rules, exceptions and even two different alphabets. Tolkien wanted to create a language that was complex enough to look alive. David Salo is the linguist that worked on the languages for *The Lord of the Rings* (2001-2003) films, and in *A Gateway to Sindarin* (2004), he provides a thorough description of how Sindarin works. These are some of the most relevant features of the language:

- Nouns show no gender distinction but they inflect for number. Normally, the singular form is the uninflected form, and plurals are formed mainly by vowel mutation (*edhel > edhil* 'elf > elves'), but in some cases, plural is the uninflected form and singulars are formed by suffixation (*glam > glamog* 'orcs > orc'). They are not marked for case; their syntactic function is determined by word order. Genitives are placed immediately after what they modify: *ennyn Durin* 'gates of Durin'. **Datives** are usually preceded by a preposition (*an* 'to') but they can also be identified by their position, following the direct object (accusative): *Ónen i-Estel Edain* 'I gave Hope to **Men**'.

- Adjectives normally follow the noun they modify (*annon edhellen* 'Elvish door'), and they agree in number. The plural is formed by vowel mutation as well (*calen > celin* 'green > green'). Nouns can be formed from adjectives through suffixation (*bell > bellas* 'strong > strength'). They are lenited (weakened) after proper names (*glân > Curunír Lân* 'white > Saruman the White').

- Verbs fall into two categories, i-stems and a-stems, depending on the final vowel (*cebi* 'to leap', *adertha* 'to reunite'). They take suffixes to express tense and number (the present tense is formed by just adding personal endings (*-n* for 1sg., *-m* for 1pl., 3sg. remains unchanged and *-r* for 3pl.: *cebin* 'I leap', *cebim* 'we leap',

câb 'he/she/it leaps' (from Old Sindarin _kapë_), _cebir_ 'they leap'). The gerund is formed by adding _-ed_ to the i-stems and _-ad_ to the a-stems (_cabed_ 'leaping', **_aderthad_** 'reuniting'). The future tense is formed by adding _-tho-/-tha_ (_cebithon_ 'I shall leap', **_aderthatha_** 'I shall reunite'). The past tense can be formed in, at least, four ways: nasal affixation (_teli > tellin_ 'to come > I came'), reduplication (the occurring vowel is, first prefixed, and second altered from _a,e,o_ to _o,i,u_ (_nor > onur_ 'to run > I ran'), ablaut (_thoro > thoren_ 'to fence > I fenced') and addition of the endings _-nt/-nn-_ or _-s/-ss-_ to the stems (_renio >reniannen_ 'to wander > I wandered', _muda > mudassen_ 'to toil > I toiled').

- Syntax. The word order of a sentence is VSO (_aníra i aran_ 'the king desires'). Sentences can be constructed without any verb per se, but it will be implied in some way. For instance, the verb _to be_ does not exist in Sindarin as we know it in English. Therefore, in some sentences, it is implied but not present (as in noun-phrase sentences (_yrch_ '(there are) orcs') or adjectival sentences (_mae govannen!_ '(you are) well met!')).

- Alphabet. There were two main alphabets in the Elvish tongues, _Tengwar_ ('letters') and _Cirth_ ('runes'). Tengwar was written with a brush or a pen and Cirth was incised in stone or wood. Both alphabets were used by other languages found in Middle-Earth. According to Tolkien himself "each race altered the alphabets to accommodate their skill level and their individual purposes" (Tolkien 1954/2005: 1118). The truth is that the Elves replaced the Cirth alphabet by the Tengwar, and later the Dwarves adopted it to write their language, Khuzdul.

Figure 1. Sindarin Inscription in Tengwar (Tolkien 1954/2005: 305) [2]

Figure 2. Khuzdul Inscription in Cirth (Tolkien 1954/2005: 319) [3]

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[2] *Ennyn Durin Aran Moria. Pedo Mellon a Minno. Im Narvi hain echant. Celebrimbor o Eregion teithant i thiw hin.* 'The doors of Durin, Lord of Moria. Speak, friend, an enter. I, Narvi, made them. Celebrimbor of Hollin drew these signs'.

[3] *Balin Fundinul Uzbad Khazaddumu* 'Balin son of Fundin Lord of Moria'.

4. Okrand and Star Trek

Marc Okrand (1948) is an American linguist who developed most of the languages heard in the Star Trek franchise (i.e., Klingon, Vulcan, Romulan, etc). Klingon is the most developed of all of them and is the official language of the Klingon Empire. Klingons are portrayed as aggressive and tough warriors, and their language reflects their personality. Klingon is very guttural and harsh, and it was inspired by the languages Okrand was most familiar with, Native American and Southeast Asian languages (Adams 2011).

Although Klingon is considered the most widely used fictional language by the *Guinness Book of World Records*, at first it was supposed to serve just as a verbal movie-prop. According to Adams (112): "Other than character names, no Klingon was ever spoken in the original Star Trek television series". The first words were, in fact, not created by Okrand, but by James Doohan, one of the actors of *Star Trek: The Motion Picture* (1979). However, they were nothing more than a few randomly created lines recorded on a tape that the actors would use as a guide. Finally, for the film *Star Trek III: The Search for Spock* (1984), Okrand was hired to design and construct the Klingon language in pursuit of adding more realism to the Star Trek universe.

At first, the plan was not to create an entire language, but only what was necessary for the films. If one word was not needed in the script, it was not created. However, as more films and television series were launched, the language was more and more developed. Okrand's task was to make the language as alien as possible but still remain pronounceable by the actors. He wanted to be consistent with what Doohan created for the first movie, so he incorporated those sounds into the new Klingon. Okrand transformed a gibberish into a usable and complete language.

Since Star Trek became a worldwide phenomenon, Okrand expanded Klingon beyond the movies and the TV shows. He wrote *The Klingon Dictionary* (1992) to provide Star Trek fanatics some guidelines on how to use the language. The fact that people wanted to learn and to use Klingon in the real world was a surprise for many linguists and scholars. It achieved what other previous conlangs had not, to bring people together:

> Klingon has no mission: it wasn't intended to unite mankind or improve the mind or even be spoken by people in the real world. But it suited the personal taste of a certain group of people so well that as soon as they saw it, they fell in love, clamored for more, and formed a community that brought it to life. (Okrent 2010: 263).

4.1. Klingon: an Overview

As mentioned before, Okrand used as inspiration the languages he was most familiar with, Native American and Southeast Asian languages. Therefore, it is not surprising that Klingon is an agglutinative language as well. That means that meaning is added to words with affixes (Adams 2011). These are some of the most relevant features of Klingon that can be found on *The Klingon Dictionary* (1992):

- Nouns show no grammatical gender. Number, as well as derivation, are expressed with suffixes. Klingon is very rich morphologically and a noun can have up to five different suffixes, which must follow a specific order, first augmentative/diminutive, second number, third qualification, fourth possession/specification and fifth syntactic markers (***Qagh**Hom**mey**Heyl**Ij**mo'*** <**error(N)**>, <diminutive(1)> <**plural(2)**>, <apparent(3)> <**your(4)**> <due to(5)> 'due to your apparently minor errors').

- Adjectives do not exist. Instead, Klingon uses verbs to express those notions. They are placed after the nouns they modify (***puq** Doy'* <**child**> <be tired> 'tired child').

- Verbs are mostly monosyllabic and they express tense, gender and number with affixes as well. Prefixes indicate who or what is performing and receiving the action. There are nine different types of verb suffixes and, just as Klingon nouns, they must follow a specific order: first oneself/one another, second volition/predisposition, third change, fourth cause, fifth indefinite subject/ability, sixth qualification, seventh aspect, eighth honorific and ninth syntactic markers (**ma*gho*S*cho*H*mo*H*neS'a'** <**we(prefix)**>, <proceed on a course(V)> <**change(3)**>, <cause(4)> <**honorific(8)**> <interrogative(9)> 'may we execute a course (to some place)?'

- Syntax. The sentence structure is OVS (***puq** legh yaS* <**child**> <he/she sees him/her> <officer> 'the officer sees the child'). This pattern was chosen because is "one of the least frequently found in natural languages" (Adams 2011: 118).

- Writing system. There is no information about the writing system of Klingon in Okrand's dictionary, except for its name, *pIqaD*. Apparently, the alphabet used in the Star Trek productions was created by an anonymous fan who sent it to Paramount and the KLI. However, it was mostly used as a decorative element.
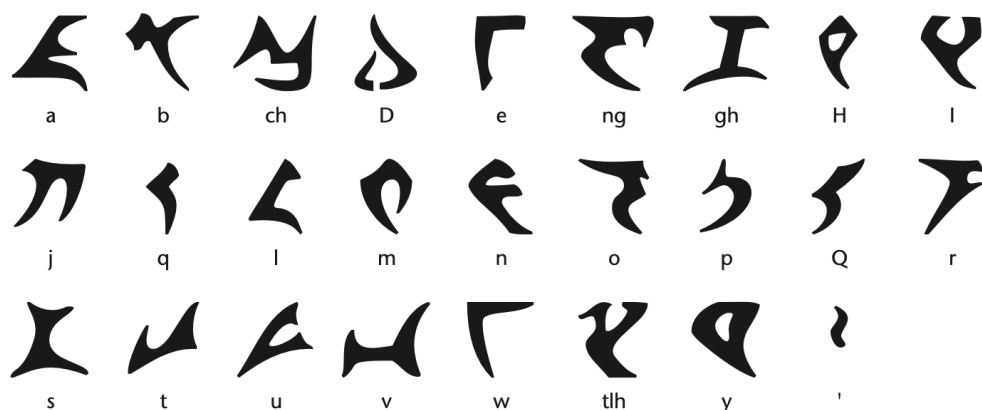

Figure 3. pIqaD Alphabet (KLI: n.d.)

5. Sindarin sounds

Tolkien had a clear view of the sounds he wanted to include when constructing Sindarin. The sounds he chose were directly associated with the pleasure he found in writing and pronouncing them, but he also wanted them to be meaningful. He was "more interested in word-form in itself, and in word-form in relation to meaning (so-called phonetic fitness) than in any other department" (Tolkien 1983/2012: 211).

Tolkien used the term linguistic aesthetics to address the relationship between the sound of a word, its meaning, and the emotional response it can evoke (Farrugia 2014: 9). The sounds he included were ones that both English and Romance languages speakers would find pleasing to the ear but also foreign and mysterious. "It would have been easy to produce a distinctive effect by using a different set of phonemes (as in Klingon), but Tolkien had an aesthetic intent, and clearly preferred familiar rather than alien phonemes" (Adams 2011: 81). After all, it is possible to create a language very different from English by using the same phonemes. According to Adams (81), "what Tolkien did to give his languages a distinctive sound was to use different rules of phonotactics".

Tolkien wanted the Elvish languages to sound beautiful. He had strong opinions about whether a language was beautiful or ugly. According to Adams (106), "pleasure in sound is the principal creative force in his language invention, and the aesthetic aspect of language is not incidental but essential: the Elvish tongues are designed to embody beauty in the highest degree (...) Elves cultivate language as a work of art". Since languages reflect and represent the culture of those who speak it, Tolkien created the Elvish Languages to be a linguistic representation of the Elves, who were

beautiful and delicate. As a result, the language has a flowing, light and melodious feel.

In Sindarin there are no harsh consonant clusters; there is an even spacing of consonants and vowels within the syllables; guttural phonemes like glottal or uvular sounds are scarce (except for [h]); there is a large set of fricatives; word-final constants are very frequent (especially [θ], [f], [d], [s]), and there is a predominance of approximants and nasals ([l], [w], [n]) (Adams 2011). Another interesting trait about Sindarin that differentiates it from English and many Romance languages, is the absence of schwa and the existence of long consonants, which are written double and pronounced long (such as [m:] or [n:]).

5.1. Vowels and Diphthongs

Orthography	IPA	Description	Example	Transcription
i[1]	[i]	Close front unrounded	*silivren* 'glittering white' [LoR I]	/silivrɛn/
í,î	[i:],[i::]	Close front unrounded prolonged	*míriel* 'jewel-like' [LoR I] *sîr* 'today' [AE]	/mi:riɛʎ/ /si::r/
y	[y]	Close front rounded	*ennyn* 'gates' [LoR I]	/ɛn:yn/
u	[u]	Close back rounded	*curunír* 'wizard' [AE]	/kuruni:r/
ú,û	[u:],[u::]	Close back rounded prolonged	*rhúnen* 'eastern' [AE] *annûn* 'west' [LoR I]	/r̥u:nɛn/ /ɑn:u::n/

Orthography	IPA	Description	Example	Transcription
e	[ɛ]	Open-mid front unrounded	*edro* 'open' [LoR I]	/ɛdrɔ/
é,ê	[ɛ:],[ɛ::]	Open-mid front unrounded prolonged	*Eluréd* 'heir of Elu' [PE] *hên* 'child' [AE]	/ɛlurɛ:d/ /hɛ::n/
o	[ɔ]	Open-mid back rounded	*noro* 'run' [LoR I]	/nɔrɔ/
ó,ô	[ɔ:],[ɔ::]	Open-mid back rounded prolonged	*órui* 'usual' [AE] *thôn* 'pine-tree' [AE]	/ɔ:ruɪ/ /θɔ::n/
a	[ɑ]	Open back unrounded	*aran* 'king' [LoR I]	/ɑrɑn/
á, â	[ɑ:],[ɑ::]	Open back unrounded prolonged	*cáno*' commander' [AE] *glân* 'border'[AE]	/kɑ:no/ /glɑ::n/
ui	[uɪ]	Close back rounded + near-close front unrounded	*vedui* 'end' [LoR I]	/vɛduɪ/
ei	[eɪ]	Close-mid front unrounded + near-close front unrounded	*teithant* '(he) drew' [LoR I]	/teɪθant/
oe	[ɔɛ̞]	Open-mid back rounded + open-mid-near-front unrounded	*noeg* 'dwarves' [AE]	/nɔɛ̞g/
ae	[aɛ̞]	Open front unrounded + open-mid near-front unrounded	*mae* 'well' [LoR I]	/maɛ̞/
ai	[aɪ]	Open front unrounded + near-close front unrounded	*Drúedain* 'wild men' [AE]	/dru:daɪn/
au, aw	[aʊ]	Open front unrounded + near-close near-back rounded	*naur* 'fire' [LoT I]	/naʊr/

Table 2. Sindarin Vowels and Diphthongs (Salo 2004: 19-21)
Examples retrieved from *Ambar Eldaron* (n.d.) *Parf Edhellen* (n.d.) and *The Lord of the Rings* (1954/2005)

5.2. Consonants

Orthography	IPA	Description	Example	Transcription
p	[p]	Voiceless bilabial stop	*pedo* '(you) say' [LoR I]	/pɛdɔ/
b	[b]	Voiced bilabial stop	*beth* 'tongue' [LoR I]	/bɛθ/
t	[t]	Voiceless alveolar stop	*lasto* '(you) listen' [LoR I]	/lɑstɔ/
d	[d]	Voiced alveolar stop	*díriel* 'to watch' [LoR I]	/diːriɛʎ/
c	[k]	Voiceless velar stop	*celeb* 'silver' [AE]	/kɛlɛb/
g	[g]	Voiced velar stop	*nogothrim* 'Dwarf-folk' [LoR I]	/nɔgɔθrim/
gw	[gw]	Voiced velar stop + voiced labio-velar approximate	*gwain* 'new'[AE]	/gwaɪn/
m	[m]	Voiced bilabial nasal	*minno* '(you) enter' [LoR I]	/minːɔ/
mm	[m:]	Voiced bilabial nasal prolonged	*ammen* 'for us' [LoR I]	/amːɛn/
n[1]	[n]	Voiced alveolar nasal (except before *c*)	*menel* 'heaven' [LoR I]	/mɛnɛʎ/
nn	[n:]	Voiced alveolar nasal prolonged	*annon* 'gate' [LoR I]	/ɑnːɔn/
n[2]	[ŋ]	Before *c*, voiced velar nasal	*lanc* 'throat' [AE]	/laŋc/
ng[1]	[ŋ]	Voiced velar nasal (initially, finally and before consonants other than *r/l/w*)	*ngaurhoth* 'werewolves' [LoR I] *fang* 'beard' [AE]	/ŋaʊr̥ɔθ/
ng[2]	[ŋg]	Voiced velar nasal + voiced velar stop (between vowels or before *r/l/w*)	*Angerthas* 'runic alphabet' [AE] *angren* 'of iron' [AE]	/aŋgɛrθas/
r	[r]	Voiced alveolar trill	*edraith* 'salvation' [LoR I]	/ɛdraɪθ/
rr	[r:]	Voiced alveolar trill prolonged	*duirro* 'river-bank' [AE]	/duɪrːɔ/
rh	[r̥]	Voiceless alveolar trill	*rhovan* 'wilderness' [AE]	/r̥ɔvan/
ph	[f]	Voiceless labiodental fricative	*pheriannath* 'halflings' [LoR III]	/fɛrianːɑθ/
f[1]	[f]	Voiceless labiodental fricative (except at the end of words and before *n*)	*fennas* 'doorway' [LoR I]	/fɛnːas/

Orthography	IPA	Description	Example	Transcription
v	[v]	Voiced labiodental fricative	*avad* 'refusal' [AE]	/ɑvad/
th	[θ]	Voiceless dental fricative	*dolothen* 'eighth' [LoR III]	/dɔlɔθɛn/
dh	[ð]	Voiced dental fricative	*galadhremmin* 'tree-meshed' [LoR I]	/galaðrem:in/
s	[s]	Voiceless alveolar fricative	*sellath* 'daughters' [LoR III]	/sɛl:aθ/
ss	[s:]	Voiceless alveolar fricative prolonged	*bess* 'wife' [LoR III]	/bɛs:/
ch	[x]	Voiceless velar fricative	*cherdir* 'master' [LoR III]	/xɛrdir/
h	[h]	Voiceless glottal fricative	*hi* 'now' [LoR I]	/hi/
w	[w]	Voiced labial-velar approximant	*Arwen* 'noble lady' [AE]	/ɑrwɛn/
hw	[ʍ]	Voiceless labial-velar approximant	*hwest* 'breeze' [AE]	/ʍɛst/
chw	[xʍ]	Voiceless velar fricative + voiceless labial-velar approximant	*chwind* 'birch' [PE]	/xʍind/
i²	[j]	Voiced palatal approximant (initially before a vowel)	*ion* 'son' [AE]	/jɔn/
l¹	[l]	Voiced alveolar lateral approximant (except between e / i + consonant, in final position after e / i, and after fricatives)	*lim* 'quick' [LoR I]	/lim/
ll	[l:]	Voiced alveolar lateral approximant prolonged	*mellon* 'friend' [LoR I]	/mɛl:ɔn/
l³	[l̥]	Voiceless alveolar lateral approximant (after voiceless fricatives)	*othlonn* 'paved way' [AE]	/ɔθl̥ɔn:/
lh	[l̥]	Voiceless alveolar lateral approximant	*lhûg* 'snake' [AE]	/l̥u::g/
l²	[ʎ]	Voiced palatal lateral approximant (between e / i + consonant and in final position after e / i)	*Elbereth* 'star-queen' [LoR I] *meril* 'rose' [LoR III]	/ɛʎbɛrɛθ/ /mɛriʎ/

Table 3. Sindarin Consonants (Salo 2004: 19-21)
Examples retrieved from *Ambar Eldaron* (n.d.) *Parf Edhellen* (n.d.) and *The Lord of the Rings* (1954/2005)

6. Klingon Sounds

As previously mentioned, Okrand included the sounds that Doohan created for the first Klingon utterances. However, since *Star Trek: The Motion Picture* (1979) contained just a few words, Okrand had complete freedom to create the phonetic inventory. He needed the language to be pronounceable by English-speaking actors, therefore, most of the additional sounds can be found in English (Adams 2011: 116). Unlike Tolkien with Sindarin, he added some velar and uvular consonants because the script described Klingon as a guttural and harsh language. Actually, the Klingon Language Institute (n.d.) advises: "when speaking Klingon, be sure to speak forcefully. Some of the sounds may make the person you're talking to a little wet. This is correct and to be expected". Klingon is a representation of Klingons' character, who are direct, aggressive and violent. According to Noel (1980: 3), language and culture go indeed hand in hand: "language is so integral to culture that a linguist can reconstruct a culture from its language just as a biologist can reconstruct an animal from a bone".

What makes Klingon different from other languages is its phonetic inventory. According to Adams (2011: 117), "there is no sound in Klingon that does not occur in any number of natural languages, but the particular inventory of sounds is unique to Klingon". In order to provide the phonology a more alien feel, Okrand decided to modify some of the most common sounds found in human languages. For instance, instead of using both alveolar stops ([t] and [d]), he decided to change the voiced one by its retroflex counterpart ([ɖ]). Also, he decided that words would not start nor end with a vocalic sound. Instead, he would add the voiceless global stop [ʔ] (*'ejDo'* 'starship').

The phonemes that contribute the most to achieve this alien-like sound are mostly uvular and glottal sounds, such as [q], [ʔ], [χ], [qχ]. However, there are other sounds not

as harsh, such as the voiceless alveolar lateral affricate [tɬ] that contribute as well because they are not commonly found in natural languages.

6.1. Vowels and Diphthongs

Orthography	IPA	Description	Example	Transcription
Iy	[iː]	Close front unrounded	*jIyaj* 'understood' [ST III]	/ʤiːɑʤ/
I	[ɪ]	Near-close front unrounded	*jabbI'ID* 'data transmission' [ST III]	/ʤabːɪʔɪɖ/
u	[ʊ]	Near-close near-back rounded	*peHu'* '(you) get up' [ST III]	/pʰɛxʊʔ/
e	[ɛ]	Open-mid front unrounded	*De'* 'data' [ST III]	/ɖɛʔ/
a	[ɑ]	Open back unrounded	*HablI'* 'ready' [ST III]	/xablɪʔ/
Iw	[ɪʊ]	Near-close front unrounded + near-close near-back rounded	*'Iwghargh* 'bloodworm' [KD]	/ʔɪʊ/
uy	[ʊj]	Near-close near-back rounded + voiced palatal approximant	*chuyDaH* 'thrusters' [ST III]	/ʧʊjɖax/
ey	[eɪ]	Close-mid front unrounded + near-close front unrounded	*SeymoH* 'to excite' [KD]	/ʂeɪ/
ew	[ɛʊ]	Open-mid front unrounded + near-close near-back rounded	*rewbe'* 'citizen' [KD]	/rɛʊbɛʔ/
oy	[ɔɪ]	Open-mid back rounded + near-close front unrounded	*'oy'* 'pain' [KD]	/ʔɔɪʔ/
o	[ɔʊ]	Open-mid back rounded + near-close near-back rounded	*joHwI'* 'my lord' [ST III]	/ʤɔʊxwɪʔ/
ay	[aɪ]	Open front unrounded + near-close front unrounded	*Hovtay'* 'star system' [KD]	/xɔʊvtʰaɪʔ/
aw	[aʊ]	Open front unrounded + near-close near-back rounded	*chaw'* 'to allow' [KD]	/ʧaʊʔ/

Table 4. Klingon Vowels and Diphthongs (Okrand 1992: 15)
Examples retrieved from *The Klingon Dictionary* (1992) and *Star Trek III: The Search for Spock* (1984)

6.2. Consonants

Orthography	IPA	Description	Example	Transcription
p	[pʰ]	Voiceless bilabial stop aspirated	*jol**pa'*** 'transport room' [ST III]	/ʤɔʊlpʰaʔ/
b	[b]	Voiced bilabial stop	***b**aHwI'* 'gun' [ST III]	/bɑxwɪʔ/
bb	[b:]	Voiced bilabial stop prolonged	*la**bbe**H* 'to transmit' [ST III]	/lab:ɛx/
t	[tʰ]	Voiceless alveolar stop aspirated	***t**u'* 'to find' [ST III]	/tʰuʔ/
D	[ɖ]	Voiced retroflex stop	***D**aH* 'now' [ST III]	/ɖɑx/
q	[q]	Voiceless uvular stop	***q**aH* 'sir' [ST III]	/qɑx/
'	[ʔ]	Voiceless glottal stop	*Do**'**Ha'* 'unfortunate' [ST III]	/ʤɔʊʔxaʔ/
''	[ʔ:]	Voiceless glottal stop prolonged	*Ho**''**oy'* 'toothache' [KD]	/xɔʊʔ:ɔɪʔ/
m	[m]	Voiced bilabial nasal	***m**I'* 'number' [KD]	/mɪʔ/
mm	[m:]	Voiced bilabial nasal prolonged	*ta**mmo**H* 'to silence' [KD]	/tʰam:ɔʊx/
n	[n]	Voiced alveolar nasal	***n**eHmaH* 'neutral zone' [ST III]	/nɛxmɑx/
ng	[ŋ]	Voiced velar nasal	***ng**an* 'inhabitant' [KG]	/ŋan/
r	[r]	Voiced alveolar trill	***r**oj* 'peace' [KD]	/rɔʊʤ/
v	[v]	Voiced labiodental fricative	***v**aj* 'then' [ST III]	/vaʤ/
S	[ʂ]	Voiceless retroflex fricative	*Do**S*** 'target' [ST III]	/ʤɔʊʂ/
H	[x]	Voiceless velar fricative	*ba**H*** '(you) fire' [ST III]	/bɑx/
HH	[x:]	Voiceless velar fricative prolonged	*nu**HH**om* 'small arms' [KD]	/nʊx:ɔʊm/

Orthography	IPA	Description	Example	Transcription
gh	[ɣ]	Voiced velar fricative	*gha**rgh*** 'worm' [ST III]	/ɣarɣ/
Q	[qχ]	Voiceless uvular stop + voiceless uvular fricative	*QeH* 'anger' [KD]	/qχɛx/
ch	[tʃ]	Voiceless palato-alveolar affricate	*bach* 'shot' [ST III]	/batʃ/
j	[dʒ]	Voiced post-alveolar affricate	*jonta'* 'engine' [ST III]	/dʒɔʊntʰaʔ/
tlh	[tˡɬ]	Voiceless alveolar lateral affricate	*pItlh* 'completed' [ST III]	/pʰɪtˡɬ/
w	[w]	Voiced labial-velar approximant	*wej* '(you) wait' [ST III]	/wɛdʒ/
y	[j]	Voiced palatal approximant	*DIlyum* 'trillium' [KD]	/ɖɪljʊm/
l	[l]	Voiced alveolar lateral approximant	*lo'* 'to use' [KD]	/lɔʊʔ/

Table 5. Klingon Consonants (Okrand 1992: 13-15)
Examples retrieved from *The Klingon Dictionary* (1992) and *Star Trek III: The Search for Spock* (1984)

7. Comparison

Even though Sindarin and Klingon belong to the same category among conlangs, fictional languages, they are quite different. First of all, they were created to fulfill different purposes, and the way they are constructed is a reflection of that. Tolkien created Sindarin for his own pleasure and personal enjoyment. Klingon, on the other hand, was developed because Okrand was hired to do so. Adams (2011: 112) claims that "in the case of Klingon, necessity was the mother of invention". That is noticeable in the level of depth and detail in both languages. While Okrand was driven by practicality

and simplicity when constructing Klingon, Tolkien created Sindarin to mimic the way natlangs behave, with all the irregularities and imperfections included.

In Salo (2004) one can find exceptions to almost every single rule, and those exceptions also apply to Sindarin phonology. Unlike in Klingon, some Sindarin sounds will be pronounced differently depending on the environment. For instance, as it is shown in Table 3, sounds such as [ŋ], [f], [v], [i], [l] or [ʎ], are conditioned by the surrounding sounds. Klingon was constructed more simply. There are no apparent exceptions, every sound seems to be pronounced the same way regardless of the phonetic environment.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Labialized velar	Uvular	Glottal
Plosive	p b			t d		ɖ		k g	gʷ	q	ʔ
Nasal	m			n				ŋ			
Trill				r̥ r							
Fricative		f v	θ ð	s	tʃ dʒ	ʂ		x ɣ	xʷ	χ	h
Affricate				tɬ						qχ	
Approximant							j		ʍ w		
Lateral approximant				ɭ l			ʎ				

Table 6. Sindarin and Klingon Consonant Chart (IPA: 2015)

When looking at Table 6 one can notice that there is a clear division in the phonemes used in each language, especially in the sounds that are found exclusively in one of them. The green color represents the phonemes only found in Klingon and they are located mostly in the center and half right side of the table. That is, there is a tendency towards postalveolar, retroflex, velar, uvular and glottal sounds. Sindarin

exclusive phonemes are represented by the color red, and they are mostly located in the half left of the table, mostly dental and alveolar sounds. However, it is worth mentioning that Sindarin counts with three labialized velar consonants as well (i.e., [gw], [xʍ] and [ʍ]).

Although Klingon and Sindarin sound nothing alike, they share a considerable amount of phonemes, which are represented by the color pink. Among these phonemes, one can find plosives such as [p], [t], [k], [m], [n] and [l]. As stated by Peterson (2015a), these are (along with fricatives [s] and [h] that are only found in Sindarin), basic consonants. What he means by *basic* is that "all of the world's languages use most of these sounds and most of the world's languages use all of these sounds" (2:43).

Something that Sindarin and Klingon have in common in terms of manner of articulation is that both have a large number of plosives and fricatives. In terms of place of articulation, they share all bilabial sounds and most velar and alveolar ones. However, what is truly different is their phonotactic constraints. Surprisingly enough, consonant clusters are almost nonexistent in Klingon. Since it is a consonant-based language (Norris 2017), two or more consonants would be expected to occur together. However, the truth is that there are only three consonant clusters and they only occur in final position. Besides, two of them include approximant consonants, which have a more vowel-like sound *-rgh* (*bergh* 'to be irritable'), *-w'* (*chaw'* 'to allow'), and *-y'* (*Doy'* 'to be tired') (Okrand 1992). Sindarin is the opposite case. Although it could be considered a vowel-dominant language (Norris 2017), there is a large amount of consonant clusters. According to Salo (2004: 22), there are 28, 11 than appear in absolute initial position and 17 in final position:

- Initial position: bl- (*blab* 'to beat'), br- (*braig* 'fierce'), cl- (*claur* 'splendour'), cr- (*cram* 'cake'), dr- (*draug* 'wolf'), fl- (*flâd* 'skilled'), gl- (*glae* 'grass'), gr- (*graw* 'bear'), gw- (*gwaeron* 'March'), pr- (*presta* 'to disturb'), tr- (*trannail* 'regional').

- Final position: -fn (*cefn* 'earthen'), -lch (*balch* 'cruel'), -lph (*alph* 'swan'), -lt (*dolt* 'boss'), -lf (*falf* 'breaker'), -mp (*gamp* 'claw'), -nc (*anc* 'jaw'), -nd (*and* 'long'), -nt (*adlant* 'oblique'), -rch (*carch* 'fang'), -rdh (*ardh* 'realm'), -rn (*acharn* 'vengeance'), -rth (*amarth* 'doom'), -rf (*corf* 'ring'), -sg (*mesg* 'wet'), -sp (*osp* 'reek'), and -st (*ast* 'sand').

In terms of vocalic sounds, while Klingon counts with more diphthongs, Sindarin has a richer and more varied set of monophthongs. There are open, close, high and back vowels. In Klingon, on the other hand, there are mainly front vowels. Sindarin counts also with a variety of lengths. The vocalic sounds [i], [u], [ɛ], [ɔ], and [ɑ], have 2 different variants, one that is pronounced twice as long, and the other one that is pronounced three times as long. They are differentiated by diacritical marks, the acute accent is used for vowels pronounced twice as long (á) and the circumflex accent for vowels pronounced three times as long (â). In Figure 4, again, Sindarin exclusive sounds are represented by the color red, Klingon exclusive sounds by the color green, and pink represents common sounds.

According to Peterson (2015a), the set of basic vowels are [i], [u] and [a]. In this case, the only basic vowel found in both Klingon and Sindarin is [i], and [a] is not present at all. Instead, Tolkien and Okrand decided to use a back open [ɑ]. Another difference is that Tolkien included the basic vowel [u], which is close back, while Okrand included the near-close near-back [ʊ]; Okrand included the near-close front [ɪ]

while Tolkien decided to use the close front [y], and both of them decided to include the open-mid front [ɛ].
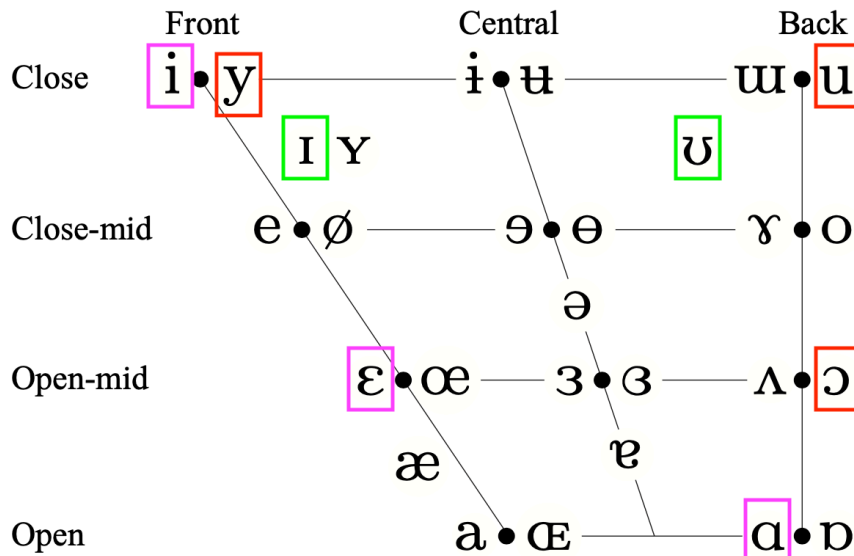

Figure 4. Sindarin and Klingon Vowel Chart (IPA: 2015)

The reason why Sindarin sounds so melodious and flowing is that, as mentioned before, vocalic and consonant sounds are evenly spaced. Klingon was designed to sound completely different. In fact, Okrand had the opposite goal in mind. Klingon was created to portrait a race of intergalactic warriors. Therefore, there is a strong tendency to use fewer vowels and more consonants, especially harsh-sounding consonants. That is also noticeable in the amount and the quality of its vocalic sounds. Not only Sindarin has more variety, but it also counts with different lengths.

8. Conclusions and Further Research

This paper has attempted, on the one hand, to offer an overview on constructed languages as a linguistic and historical phenomenon, focusing on fictional languages,

and on the other hand, to conduct a contrastive phonological study of two of the most popular fictional languages, Sindarin and Klingon.

The first conclusion that can be drawn is that, even though these two conlangs have an artificial origin, they have many of the characteristics of natural languages. Therefore, they can be considered real languages. They were developed out of artistic motivation but always with the idea of creating the perfect language in mind, one that would satisfy the needs and the desires of their creators. They had a clear vision of how they wanted their languages to sound. Tolkien included sounds in Sindarin that he considered pleasing, beautiful and light, just as the race that spoke it. Okrand, on the other hand, included sounds in Klingon that were guttural and harsh, just as its speakers, the aggressive and violent Klingons.

Secondly, in accordance with the classification of artlangs, it is clear that Sindarin and Klingon belong to different categories. The Elvish language is a naturalistic conlang because Tolkien not only used natural languages to construct it, but he also tried to mimic them. Conversely, Klingon is a non-naturalistic language because Okrand tried to create a language that looked and sounded as alien as possible.

In terms of phonology, the Sindarin repertoire is more complex and varied. That becomes clear when taking into account the level of detail that Tolkien devoted to the construction of Middle-Earth. He always tried to provoke an emotional response with his creations, and the phonetic inventory of Sindarin is no exception. The result is a flowing, melodious and pleasing language.

Finally, the fact that Klingon is used by real people in the real world and Sindarin is not, is at the very least, surprising. After all, both conlangs are very popular and they both count with huge fandoms. One of the reasons that makes Klingon more successful

in terms of popularity and number of speakers could be its simplicity and regularity. It is undeniable that easiness is a factor to consider when learning a language. Another reason could be the fact that the Star Trek franchise is much greater than The Lord of the Rings franchise.

For further research, it would be interesting to analyze other grammatical fields, such as morphology. Since both Sindarin and Klingon are very rich in affixes, it would be another stimulating analysis to conduct. Given that Tolkien and Okrand devoted so much time and effort to their work, there is room for several constructive studies and it goes without saying that chances are that all of them could be equally fascinating.

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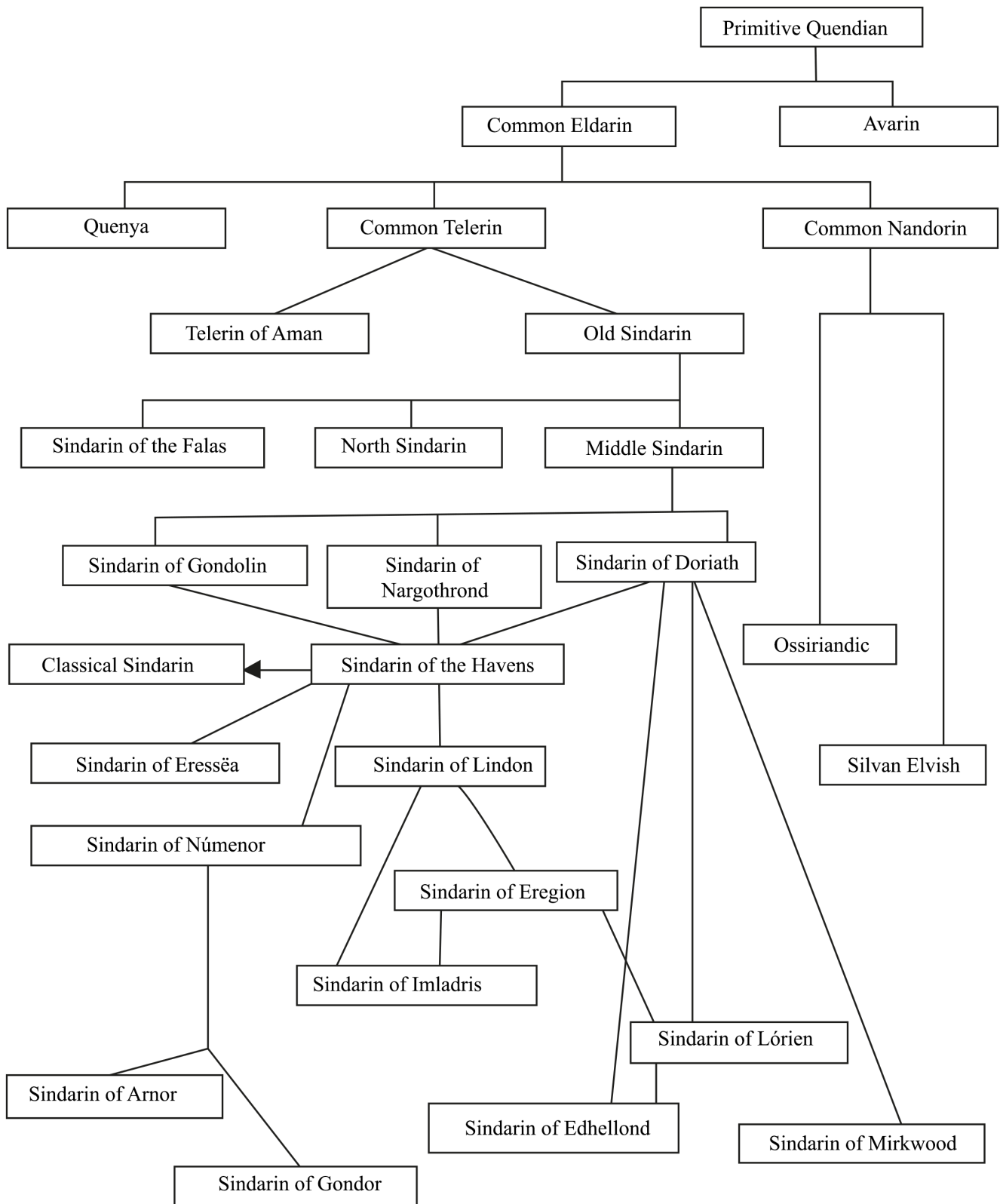Allen & Unwin.

Appendix Development of the Elvish Languages

Figure 5. Development of the Elvish Languages (Salo 2004: 14)