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Constructed Language: An Analysis of the Phonemic Sounds Influenced by Historical Stereotyping

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ABSTRACT

The perception of constructed languages in film is not a topic that has been researched extensively in the past due to the scrutiny concerning the field of constructed languages as a valid field of study. An understanding of how humankind perceives constructed languages is vital in our understanding of how natural languages are perceived. The purpose of this research is to examine how the base phonemic sounds of a language (particularly constructed languages) affect how the listener hears and perceives a constructed language as well as how and why this perception is constructed. This study is done through a survey consisting of several languages wherein the participant rates the languages on certain qualities which establish how the participant feels towards the language. The research finds that a historical relationship between the beginnings of language construction and the listener's perception of that language, discovered through an analysis of the phonemic sounds, exists in both constructed and natural languages. This finding will help those who create constructed languages determine what sounds need to consistently occur for their language to be perceived according to intention.

INTRODUCTION

Constructed languages are often used in science fiction films to highlight the personalities of the characters who speak them. However, how our perception of these characters is influenced by their respective constructed language has yet to have been explored. To enhance the understanding of natural human language and how we perceive it, we can analyze how perceptions of constructed languages are influenced by their phonemic idiosyncrasies which may inform writers in the creation of a constructed language that best represents a particular character to an audience. Clive Upton conducted a study similar to this one wherein he determined that accents are discriminated against based on aesthetic grounds (Upton). In this research, I focus on how the phonemic sounds of a constructed language affect how the audience perceives the language, and how that relates to historical circumstances. I attempt to advance the idea that accents are discriminated against based on aesthetic grounds, by concluding that individual phonemic sounds affect the perception of language, specifically those languages which do not occur naturally, through a survey.

REVIEW OF LITERATURE

Constructed Languages

Even though the popularity of constructed languages has skyrocketed as science fiction films have become increasingly popular within the last decade, the study of constructed languages is not as new of a field as some may believe. There is a rich history of the creation of constructed languages dating back to 600 BCE (Eco), including the legendary origins of the Irish language. The legend tells of a man named Fenius Farsaid, who, along with 72 fellow scholars, traveled from Scythia to the Plain of Shinar to study the languages that were confused at Nimrod's tower (commonly known as the Tower of Babel) (Nyland). After discovering that

these languages were spread throughout the world, Farsaid sent out the scholars to study the languages which were dispersed (Nyland). Ten years later, the scholars returned with their findings and Farsaid, with the help of these scholars, took the most favored parts of each of the languages and created what he referred to as "in Berla tobaide" or "the selected language," which he then began calling *Goidelc* (Nyland). Though the creation of this language is only considered a legend today, the idea of a constructed language was in place. The mythical aspect to the field contributes to the skeptical criticism regarding the field and those who study it.

Often times, the field is looked down upon as it does not concern the study of native languages. In the eyes of some, linguists should focus on saving the languages that are currently endangered instead of making up new languages. However, Marc de Oostendorp, a Dutch linguist, was critical of this viewpoint which is evident in his writing, "Constructed Languages and Linguistic Theory" (Oostendorp). In his piece, Oostendorp argues that constructed or planned languages "have been made up in slightly different ways" and "serve different goals" and are therefore valuable in ways that differ from the value of natural languages. (Oostendorp). Though it is important to protect the languages which currently exist, it is beneficial for linguists to study and construct languages in order to further the understanding and appreciation of how language as a whole, functions. Constructed languages are imperative in our understanding of natural languages and how we perceive them. It is due to the debate over the value in studying constructed languages that we find areas that are muddled, where only lack of research is to blame.

Perception

Having established the importance of constructed languages in the linguistic field, we can now turn to the stereotypes we have and judgements we make based on that arise from perceived linguistic features and whether those judgements were considered during the creation of a language, particularly in science fiction films. As Dr. Lisa Davidson, a professor of linguistics at New York University states, people tend to refer to languages with sounds primarily made in the back of the vocal tract as "harsh-sounding" (Cronim). However, Davidson also stated that the perspective of the listener will play a role in how the language sounds and could make the language sound harsher than a person with an unbiased perspective (Cronim). For example, the velar fricative phonemic sound is commonly found in the German language and may not be considered a harsh sound to a native speaker, but to an outsider, the sound might be classified as such. A professor of German Linguistics at the University of California made the point that negative stereotypes of a speaker will have an impact on how the language is perceived by the listener (Cronim). A piece by Clive Upton, a professor of English at the University of Leeds in England, came to a similar conclusion when he, in *The Oxford History of English*, gives attention to the fact that certain accents are viewed unfavorably based on aesthetic grounds (Upton). Given that accents are only differences in pronunciation, this research takes this idea one step further by correlating the idea of unfavorable judgement based on accents to unfavorable judgement of entire languages due to the phonetic sounds.

Media

Movies have a large impact on their viewers, in more ways than one: for example, movies can shape political views, moral beliefs, and important for this research, the way people subconsciously perceive languages different from their own. The movies that I will incorporate into my research are *The Lord of the Rings* franchise, *Thor: A Dark World*, and *Star Trek: Into Darkness*.

The movie The Hobbit: An Unexpected Journey was chosen from The Lord of the Rings franchise. The movie is set prior to the original Lord of the Rings series, wherein the Hobbit, Bilbo Baggins, first obtains the ring which causes the entirety of the problems in the rest of the series (Jackson). The reason this movie is incorporated into this study is because this is one of the movies where the audience is presented with the native Orc language (Jackson), known as Black Speech. In this same movie, the audience is also presented with the language of the Elves, specifically the Sindarin dialect, which will allow for a comparison the two languages with fewer variables between them (Jackson). In the franchise, the Orc race is seen as the enemy while the Elfin race is portrayed in a positive light and is who the main characters rely on for assistance several times throughout the storyline (Jackson). In a book written by Michael Adams entitled From Elvish to Klingon: Exploring Invented Languages, Adams makes the claim that Tolkien (creator of the Lord of the Rings series) created the Elvish language to be "specifically pleasant" (Adams). This claim relates directly to the research question which is whether or not the general sound and formation of the language, on a historical premise, has anything to do with the image the author wanted to present for that particular race The next movie used in this research is *Thor*: A Dark World which is about the popular Marvel superhero Thor, a god of the Asgard realm, who clashes with the Dark Elves, a race that wants to unleash an all-powerful weapon upon all the realms in this fictional universe (Taylor). This movie was chosen because the Dark Elves have a very guttural-sounding language, and its use in this research strengthens the hypothesis that languages with exceedingly guttural sounds will cause the listener to perceive the language more negatively than they would perceive a language without this linguistic feature. The last movie that will be included in this study is Star Trek: Into Darkness. The movie details Captain Kirk's problematic mission to capture a powerful weapon of mass destruction

(Abrams). This movie was chosen because of its popular constructed language, Klingon. Klingon is an antagonist language in the series, but is well-known as a constructed language. Though as little bias as possible is desired, consideration will be given to Klingon due to its prominence among lovers of science fiction, and variances between the perception of Klingon and other languages may be attributed to its popularity.

Construction of Constructed Languages

David J. Peterson, renowned conlanger, states in *The Art of Language Invention* that a conlanger can use "the expectations of their users/hearers to create a phonaesthetic effect" (Peterson). Conlanger Mark Rosenfelder agrees, pointing out that "authors...make use of what we might call phonetic stereotypes" (Rosenfelder). However, in *The Art of Language Invention*, Peterson discusses the importance of creating a language based on the speaker of that language (Peterson), while Rosenfelder emphasizes using stereotypes primarily for the listener to perceive the speaker in a particular way (Rosenfelder). The understanding that in a fictional realm, the speakers of a conlang have several traits, is crucial when creating a language. Hence, it is important to hinge one's language on the speakers of that language and their qualities, personalities, etc. The indicated discussion establishes a foundation for this research which aims to determine how a conlanger can use the "phonaesthetic affect" (Peterson) to give depth to an alien speaker.

METHODS

Survey

To begin exploring the question of the connection between linguistic features and listener perception, I conduct a survey wherein participants are provided with an audio clip of the languages used in this study, and then rate them on a scale from one to seven on various qualities.

A survey is essential in answering the research question thoroughly, given that using only my perception of a language would not provide data that could be applied, even to some extent, to the general population. The four qualities that participants rate the languages on are kindness, attractiveness, intelligence, and honesty. These qualities were selected because all are quick judgements an individual tends to make about the people they encounter, generally based on their speech and body language. These qualities aid in determining whether or not the participant judges a language, (and thus its speakers), favorably. Audio clips were chosen instead of video clips in order to curtail the likelihood that the participants might recognize the language or the movie the language is from. To eliminate as much bias as possible, the participants were asked whether they recognize the language, and if they do, to what extent that recognition affects their ratings.

Statistical Analysis

After the survey was conducted, the instances wherein the participant spoke/recognized the language were removed in order to eliminate the bias that comes from knowing what language the clip shows before rating it. To determine the statistical significance of the relationship between constructed languages and the natural languages that were rated in the survey, this research made use of the Chi-Square statistics test. The Chi-Square test is used to assist a researcher in determining if any significant relationship exists between any two categorical variables. The goal in performing the test was to find the amount of similarity that exists between rating the qualities of the constructed language versus the natural language. The null hypothesis for this research is that there exists no difference in the way a participant rates a constructed language versus a natural language. This

test informs the researcher of which constructed languages and which natural languages the population considers similar, based on survey results.

Transcription

After performing the Chi-Square test, this research requires a transcription of the languages into the linguistic International Phonetic Alphabet, an alphabet used to document languages based on the sounds that are used when speaking them. Based on this transcription, I found patterns relating the survey participants' ratings to certain sounds and then compare those sounds to the languages of foreign enemies at the time that the constructed language was invented. In order to find which phonemic sounds are particularly characteristic of a language, I determined the average amount of occurrences a given sound has in the language, and then separated the sounds which occurred more than the average, and used those to clearly define a relationship between languages. From there, a historical analysis predicated on stereotypes was made by comparing the characteristic sounds of the constructed language and the natural language that were rated similarly in more than one category. If the two languages were rated similarly in only one category, they were excluded from the Chi-Square test analysis. This is because a situation such as that could be attributed to coincidence.

RESULTS AND DISCUSSION

Languages Compared	Friendliness	Intelligence	Honesty	Attractiveness
Sindarin vs. German	-	-	.640	-
Sindarin vs. Korean	-	-	4.248	-
Sindarin vs. Russian	-	2.949	2.633	-
Klingon vs. Korean	4.715	-	-	-
Klingon vs. German	2.337	-	-	4.283
Black Speech vs. Russian	2.875	4.124	1.025	-
Black Speech vs. Korean	2.170	-	3.212	4.620
Black Speech vs. German	-	4.692	4.066	1.975

Figure 1: Lowest Chi-Squared Values for Language Comparisons

The comparisons that resulted in the lowest Chi-Squared values are shown above in Figure 1. All values less than five are included in the chart. The smaller the Chi-Square value, the more similar the two languages were rated. When the test was run, there were no comparisons for Shiväisith which resulted in a Chi-Squared number of five or less, therefore it is excluded from the table. This is also the case with the comparison of Klingon and Russian. A complete table of all the Chi-Squared values can be found in the Appendix. The values shown in Figure 1 are relevant to this study because this research requires an analysis of the most-similar ratings in order to judge similarity of perception. From the table, it is clear that the comparisons of Black Speech with

each of the natural languages are the most similar, given that three of the four traits have a value of less than five.

Black Speech Phonology Comparison

The phonology of Black Speech will now be discussed in order to highlight a more direct comparison between natural languages and constructed languages. Black Speech will be compared with all three of the natural languages because it was rated similarly in three of the four categories for each of these natural languages. First, a comparison between Black Speech and German will be made. Black Speech was created in 1943 by J.R.R. Tolkien, the English author of The Lord of the Rings book series (Tolkien Gateway), and was then expanded by language creators for the purposes of the movie adaptations. Since Tolkien is English, it is more relevant to use historical relationships with the United Kingdom as opposed to the United States, though they do not differ greatly. Worthy of mention is the fact that this was during the World War II era, which lasted from 1939 until 1945 (Networks). The United Kingdom was involved in this conflict with Germany, along with other countries fighting against Hitler's regime. From this conflict, we have developed several stereotypes of what qualities constitute a German. Stereotypes such as the evil German scientist and even more broad concepts such as the idea that "Germans have no sense of humor" or the ever-so-popular, "Germans are always angry." None of these stereotypes have anything to do with Germans themselves, and everything to do with how society perceives them due to their role in historical conflicts. Once we begin to perceive a group of people a certain way, everything about them becomes attached to that perception, including their language. Based on the transcription of the dialogue presented in the survey, it was found that the consonant phonemes common in the language are /k/, /z/, /dh/, /n/, /g/, and /r/ (note that these are all phonemes in the Black Speech language, however the phoneme /dh/ does

not occur as a single phoneme in English). The transcription of the German dialogue used in the survey into IPA shows that the consonant phonemes that are characteristic of the language are /z/, /d/ (a close phoneme to the /dh/ in Black Speech), /n/, and /r/. During World War II, the opposing side was headed by Germany meaning that tensions were at an all-time high. Therefore, it is likely that Tolkien created this language, either subconsciously or otherwise, with influences from the German language in order to further the antagonistic role that the Orcs in the series represent in the series. Between Korean and Black Speech, there are no common characteristic phonemes. These two languages were rated similarly, however; this study cannot claim that Korean had any influence in the creation of Black Speech seeing that the two languages share none of the characteristic phonemic sounds. This claim makes sense in the context of this study because there were no significant conflicts between Korea and the United Kingdom until after the creation of the language. In contrast, Black Speech and Russian share the characteristic consonantal phonemes /r/, /z/, and /d/ (a close phoneme to the /dh/ in Black Speech). During World War II (the time when Black Speech was created), Russia was an ally with the United Kingdom, therefore citizens of the UK likely had a more positive perception of the Russian people, thereby the language. Though the two languages share a few of these phonemes, this research cannot make a claim as to whether or not Russian influenced the creation of Black Speech. This is because one cannot assume he did not use it because they were an ally and he was creating an antagonistic language, nor can one assume that he did use it for inspiration and disregarded the perception of the Russian people and their language.

Sindarin Phonology Comparison

Turning toward the more protagonist language of Sindarin, the transcription of the dialogue found that the characteristic consonantal phonemes are /0/, /r/, /n/, /d/, and /l/. Sindarin was created shortly after World War II by Tolkien for The Lord of the Rings book series, and just like Black Speech, was expanded for the purposes of the films. (Tolkien Gateway). Though Sindarin and Russian were rated similarly, they only share two characteristic consonantal phonemic sounds which are /r/ and /d/. Therefore, a claim cannot be made that Tolkien used the language of the Russians (who were allies of the United Kingdom during World War II) to mold the protagonist Sindarin language, at least not to any significant extent.

Klingon Phonology Comparison

The characteristic consonantal phonemic sounds of Klingon are /d̄ʒ/, /v/, /x/, /p/, /m/, and /b/, /d/, /n/, and /r/. This language was rated similarly to German, therefore this study will compare the phonology of the two languages and their relationship to one another. These two languages share the characteristic consonantal phonemes /m/, /d/, /r/ and /n/. Klingon was created to add dimension to Star Trek: The Motion Picture in 1979 (Klingon Language Institute). Therefore, this language was created after the major conflict with Germany during World War II. Given that the languages were created with several of the same characteristic consonantal phonemic sounds, it can be determined that the creators of this language were using German for inspiration during their creation process.

Shiväisith

Shiväisith did not present enough similarity in ratings to the natural languages to establish a concrete relationship between the two. However, several factors go into the creation of a language, and Shiväisith is no different. David Peterson, the conlanger (creator) of this

language, stated that he and the director wanted the language to be "reminiscent of, (but distinct from) Finnish." due to the comic and movie's connection with Norse mythology (D. Peterson). Factors such as these are also taken into consideration when constructing a language to add dimension to the characters speaking it.

CONCLUSION AND FUTURE DISCUSSION

Conclusion

The phonemic sounds of a constructed language do have an impact on the way the audience perceives the constructed language. Furthermore, it is evident, especially through an analysis of the Black Speech language, that historical events involving natural languages influence how a listener perceives a constructed language. It should be realized that historical events and cultural stereotyping are not the only aspects that influence a conlanger's construction of a language. Only focusing on how the language will be perceived by an audience will not construct a successful path to depicting a character's true culture, which is a significant purpose of constructing languages.

Significance

In context of the broader field of linguistics, this research aids in the understanding of how the listener perceives language, which applies not only to constructed languages but natural languages as well. Conlangers can go on to create a language based on specific phonemic sounds and produce a result that will enhance the probability that the perception of the conlang-speaking characters will meet the conlanger's satisfaction. The conlanger can also attempt to change the connotation of harsher sounds through use of these sounds for protagonist characters, thereby eventually changing the perception of these sounds and moving past this surface-level categorization. Through language, we see a division between "attractive" and "unattractive"

languages, which negatively enforces the need to categorize and stereotype. This classification of languages, as shown in this research, seems to stem from historical backgrounds and not solely the sounds of the language. This research should concern conlangers who want their language to be perceived in a particular way; especially those working for the film industry who are asked to create the language to fit a certain sound.

Limitations

The sound clips that were used in the survey were directly pulled from the movie itself, therefore music and background noise likely played a role in how the listener perceived the language. The survey included questions in order to limit bias as much as possible, however bias could still be prominent if a participant recognized the language and failed to indicate this during the survey. Any mistakes in the transcription of the dialogue or the counting of the results can be attributed to mere human error. It should also be noted that the Chi-Squared test failed to present values for a few of the comparisons, due to the fact that expected counts were not at the desired minimum of five. Out of all of the conlangs, Black Speech was the language that yielded the most results, therefore that is the language that was discussed to the greatest extent in this research. This is a limitation in that the other constructed languages were unable to be analyzed to as great an extent as Black Speech, however one can still see the relationship between constructed languages and natural languages.

Delimitations

Taking into consideration the limitations of the study, we can now turn to the delimitations. The survey received ninety-seven responses, a large enough sample size to get an accurate picture of how an audience perceives these languages. Though the transcription of the dialogues into the International Phonetic Alphabet may have errors, the phonology of the

languages was analyzed to the greatest possible extent. This helped to confirm or deny which sounds were characteristic of each language. Though the Chi-Squared expected counts were not where statisticians like them to be, the values that this study resulted in can still give the researcher an idea of the relationship between a constructed and natural language.

Future Directions

For future study, it would be beneficial for the researcher to include more languages in any research they conduct. This would allow for a more diverse survey; wherein more historical/stereotypical connections could possibly be made. It should also be recommended that any future surveyor use language clips of one individual speaking, as opposed to subjecting the survey to the various tones and varying pronunciations of the actors who portray the alien characters in film. Regarding the survey, it will benefit the researcher to randomize the clips of sound so that the clips of language are not in the same order for all participants. This will decrease the likelihood that the participant will become tired of listening to clips and rating them as the survey progresses; therefore, causing participants to rate the languages less accurately than the languages at the start of the survey. To make the process easier, any future researcher might want to begin the survey by asking the participant what languages they speak and/or are familiar with. This will eliminate confusion by removing responses where the participant recognizes the language before conducting any further analysis. Lastly, the researcher would benefit from using clips of natural languages from movies as opposed to introductory language videos. The conlargs presented in the survey are more conversational whereas the natural languages presented may be described as artificial. The natural languages attempt to help the audience learn the language, therefore increasing the likelihood that the language sounds pleasing to the ear.

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Appendix

Languages Compared	Friendliness	Intelligence	Honesty	Attractiveness
Shiväisith vs. German	N/A	9.688	11.301	N/A
Shiväisith vs. Korean	N/A	5.532	20.775	31.451
Shiväisith vs. Russian	N/A	16.02	5.067	5.139
Sindarin vs. German	11.292	5.568	.640	N/A
Sindarin vs. Korean	5.217	9.661	4.248	30.825
Sindarin vs. Russian	N/A	2.949	2.633	6.335
Klingon vs. German	2.337	8.515	6.844	4.283
Klingon vs. Korean	4.715	7.529	10.628	N/A
Klingon vs. Russian	9.661	10.465	7.736	8.437
Black Speech vs. German	N/A	2.283	4.066	1.975
Black Speech vs. Korean	2.170	4.692	3.212	4.620
Black Speech vs. Russian	2.875	4.124	1.025	18.159

Figure 1. Table of all the Chi-Squared Values for the Language Comparisons

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