CHAPTER ONE
INTRODUCTION

1.1 Front Matter

In this study, an attempt has been made to explain the notion of positional asymmetries in terms of phonological strength, licensing and positional privilege with reference to Yemeni Arabic dialect (Hugariyyah Dialect), spoken in Taiz City in Yemen. The main purpose of this thesis is to see if the data on voicing regressive assimilation (RAV) collected from Hugariyyah Yemeni Arabic (Henceforth HYA) supports the dictum of positional privilege. The rationale behind this study lies in showing in an explicit canvass that the phonological strength is not an abstract theoretical concept, but it is grounded in empirical phonetic cues too.

This study is a supporting evidence for the generally accepted claim of positional faithfulness to the onset (Lombardi, 1995, Beckman, 1998 and Steriade, 1997). In this research work, I am going to check whether the voicing assimilation theoretically supports the intrinsic relationship existing between phonological postulates and phonetic cues. In addition, it has been found that the patterns displayed by Yemeni Hugariyyah loanwords borrowed from English, French and Greek are systematic. Hence, an attempt has been made to see if different repair strategies adopted in the phonologization process of loanwords support this hypothesis.
The onset is salient in HYA. The speaker’s knowledge of contrast of similarity is a phonological reflex of the perceptibility differences, and the contrastive obstruent in the coda is more likely to be the target of neutralization than the obstruent in the onset (Casali, 1997; Steriade, 1997; Beckman, 1999; Lombardi, 2001). The present study focuses on voicing assimilation in non-emphatic, emphatic and guttural obstruents and studies their asymmetric behaviour with each other.

The phonological analyses of guttural and emphatic consonants of Arabic language open many questions which still need answers. There are some previous studies on the articulation of Arabic guttural and emphatic sounds and their effects on the adjacent vowels, but not with consonants (Delattre, 1971; Ghazeli, 1977; McCarthy, 1994 and Zawaydeh, 1999). Phonologically, the Arabic emphatic sounds are treated and grouped with Arabic gutturals, laryngeals /ʔ/ and /h/, pharyngeals /ʕ/ and /h/ and uvulars /ʁ/ and /x/ (Zawaydeh, 1999). Some phonologists consider them as a different class (McCarthy, 1994 and Bin-Muqbil, 2006).

This study provides a contrary result to what (Al-Solami, 2013) proves in his study on Arabic Emphatics. Al-Solami assumes that Arabic emphatics should be excluded from Arabic Guttural Natural Class, because they do not show similar phonological processes as the guttural class. On the basis of voicing assimilation, it is shown here that the emphatics show similar phonological processes like the gutturals. The asymmetrical behaviour of the emphatics show a kind of segmental and positional asymmetries in terms of strength, licensing and positional privilege. The emphatics behaviour is different from those of the non-emphatic obstruents and similarly with those of guttural obstruents.
In this dialect, the degree of similarity between the trigger and the target of assimilation is very crucial as the more similar two segments are; the more likely they are to assimilate. The data are firstly examined in Optimality Theory framework (Prince and Smolensky, 1993), and then further analyzed in terms of acoustic parameters using PRAAT (Boersma and Weenink, 2011).

1.2 The research Questions

1. The sound systems are governed by markedness laws. What is the source of the individual’s knowledge of these laws? Many writers hypothesize that phonological constraints can be rooted in phonetic knowledge (Kingston and Diehl 1994). Necessarily all languages share the phonetic knowledge effect and it is a fact that certain basic conditions governing speech perception and production are communion by the world's sound systems. Is that knowledge of markedness only derived from phonetic knowledge exclusively?

2. In the onset and coda positions, place agreement is essential in the process of assimilation. But the question as why should voicing assimilation be restricted to same place obstruent, and why should different-place obstruent be more resistant to voicing assimilation, (Since the vocal folds are completely independent articulators) is a topic of inquiry in this thesis.

3. Languages often impose conditions on assimilation that appear to be independent of the specification of the assimilatory feature on the relevant adjacent segments. Voicing assimilation is often limited to clusters of obstruents (Lombardi, 1999), place assimilation is often limited to nasal consonant clusters (Jun, 2004), and
palatalization is often limited to nonlabial consonants (Bateman, 2007). Is the voicing assimilation in the dialect limited to obstruent-cluster voicing in general, or is it reduced to a general condition of similarity?

4. Do the emphatic pharyngeal sounds /tˤ, dˤ, sˤ/ in HYA which have dual articulation, behave differently from other obstruent sounds in the process of voicing assimilation? Or do they demand more general conditions of similarity than the other obstruent sounds?

5. Is it Possible to substantiate the mechanisms operating phonological principles with reference to the asymmetric acoustic properties of voicing obstruent in onset coda position? Whether the phonological postulates are supported by acoustic cues, is a question of inquiry here.

6. Do the native Yemeni words and non-native loans used in HYA exhibit the similar phonotactics patterns? It will be interesting to see if both the native words and the loanwords undergo the similar phonological repair strategies are and constraints?

1.3 The Hypothesis

In HYA, segments in the prominent position such as syllable onset, roots and root initial syllable resist alternation, whereas segments occurring in the non-prominent position such as coda are neutralized.
1.4 Corollary Hypotheses

1. In HYA, no line of demarcation could be drawn between the behaviour of emphatic sounds and guttural pharyngeals.

2. Yemeni speakers can avoid making assimilation. It is not compulsory in many other languages. But the question is, if the speaker chooses not to avoid assimilation and tries to make the economy of effort in the utterance of a sequence of two obstruent clusters, is the direction of assimilation always regressive? Or does this depend on the speaker’s choice?

3. Voicing value of [-/+ continent] pharyngeal is not preserved in clusters across word boundaries that are sharing identical place and manner, irrespective of its position. But if the clusters are not identical in terms of place and manner, [-/+ continent] pharyngeal value is preserved.

4. Voicing assimilation is functional among the segments of same sonority value and blocked between the segments of asymmetric sonority value.

1.5 Methodology

The scope of this study is limited to the obstruents of the Hugariyyah Yemeni dialect. The test material consists of a list of short phrases presented to the speakers. The test material consists of three repetitions, of which each item is a randomized list of about 200 items embedded in a carrier phrase format in Arabic orthography: /raqad <word><word> tamir/”, in a spontaneous speech. The subjects chosen were common people who are native speakers of the Hugaryyah Taizzi dialect. There are eight participants (i.e., 1 male
and 7 female) and their age ranged from 24 to 40. The analysis part has been done through the computer software program Praat (Boersma and Weenink, 2011). The data was recorded at the researcher’s home in an isolated quiet room, using a Sony Recorder. Each speaker was given full freedom to sit at ease so that recording could be done naturally. Appendix B could be checked for the list of tokens that are recorded. The phrases show the behaviour of obstruent cluster in onset-coda positions. The phrases were two groups; the first cluster is (a voiceless obstruent + voiced obstruent) and the second cluster is (a voiced obstruent + voiceless obstruent).

1.5 Overview of the Chapters
This thesis is divided into six chapters.

Chapter one gives the research questions, hypotheses along with their justifications and briefly outlines the content of all the chapters.

Chapter two introduces all the related theories and provided a review of previous studies on voicing assimilation which support my study.

Chapter three introduces the Yemeni language and the phonemic inventory of the Taizzi Yemeni dialect. In this chapter, the constraint-based approach of the voicing assimilation is presented. It has been observed in the literature that certain positions and segment types are more resistant to phonological changes, compared to less prominent counterparts. For a formal analysis of such asymmetries within the framework of Optimality Theory, (Prince and Smolensky, 1993; McCarthy and Prince, 1993, 1995), Positional Faithfulness (most notably, Beckman, 1998) has been invoked as the main mechanism to analyze voicing assimilation. We show that the standard Positional
Faithfulness approach accounts for onset-coda asymmetries observed in obstruent clusters. Here, the positional asymmetry in terms of strength, licensing of relations and positional privilege through the process of voicing assimilation is attested in Yemeni Arabic Dialect (Hugariyyah variety). This study is a supporting evidence for the generally accepted claim of positional faithfulness to the onset (Lombardi, 1995 and Beckman, 1998) and the theory of Licensing by Cue and the P-map hypothesis (Steriade, 1997).

**Chapter four** investigate the asymmetry of the acoustic properties of voicing obstruent (stop and fricative) in onset-coda positions using PRAAT. This is the goal of phonetic theory which explains the relationship between phonetic features and human languages to the linguistic unit that underlies their production. This will explore the interface between Phonetics and Phonology.

**Chapter five** focuses on the ranking constraints of the needed for the repair strategies employed to nativise English loanwords in HYA, and seeks to explore as for whether idiosyncratic patterns displayed by loanwords in HYA supports the notion of the positional asymmetries and phonological strength in the loanwords.

**Chapter six** summarizes the results of the study.