Syllabification and metrification in Urban Hijazi Arabic: between rules and constraints

Faisal M. Al-Mohanna Abaalkhail

A thesis submitted for the degree of Ph.D.

Department of Language and Linguistics

University of Essex

1998

Thesis supervisor:

Professor Iggy Roca
I dedicate this work to

**His Royal Highness**

**Prince**

**Nayif Bin Abdulaziiz Aal Saud**
Acknowledgements

It gives me great pleasure to express my gratitude to those who helped me during my time at Essex.

First and foremost, I owe an immeasurable debt to my supervisor Professor Iggy Roca. His comprehensive and profound knowledge in the field of phonology, and linguistics in general, along with his devotion, utter patience, and perfect guidance were extremely helpful and reassuring.

Special thanks to my examiners René Kager and Wyn Johnson for their comments and the interesting issues they raised.

I should also thank a number of colleagues at Essex University Phonology Workshop. In particular, I am grateful to Hussein Al-Ageli, Zaharani Ahmed, Shu-Ming Chen, Russel Norton, Nick Sherrad, and Paula Reimers for the useful comments they contributed during the preparation of this thesis.

I am also grateful to my family, especially my parents and wife, for more than words can say.

All responsibility for any errors and/or omission, that may remain, lies with the author.
Abstract

This study investigates syllabification and metrification in Urban Hijazi Arabic. The objective is to provide a thorough analysis of these suprasegmental processes. To this end, I adopt both theoretical frameworks of Optimality Theory and Non-linear Phonology. This creates a suitable ground for comparison, another important objective of the study.

The study is organised into two main parts: Syllabification and Metrification. Each part comprises two chapters: one analyses the data in a constraint-based framework, and the other in a derivational framework. Preceding those four chapters, chapter two introduces the study’s theoretical foundation.

Chapter three provides an OT account of the process of syllabification. In particular, I argue for the uniform distribution of the CV(X) syllable-template. This template will be interpreted as the motivation for the processes of epenthesis and deletion. The process of High Vowel Deletion is problematic for a constraint-based framework, however, and therefore it prompts us to investigate the derivational alternative.

Chapter four provides a derivational account of the same set of facts discussed in chapter three. This leads to a comparison of derivational and OT syllabification. In particular, if DT is capable of providing a more elegant account of High Vowel Deletion, the question arises whether it can achieve the same degree of plausibility with other syllabification-related processes.
Chapters five and six follow the same line of presentation with stress. In chapter five, I discuss the language’s stress pattern from an OT perspective, fundamentally involving the opposition between prominence-driven and rhythm-driven stress placement. Another important issue is the asymmetric foot configuration of final CVC and CVV syllables, which reveals the key role of constraint interaction in OT and is therefore discussed at length. On this background, in chapter six, I reanalyse the stress pattern of Urban Hijazi Arabic applying three derivational approaches to footing: Halle and Vergnaud (1987), Idsardi (1992), and Hayes (1995).

Finally, chapter seven provides a comprehensive overview of the main findings of the study, in an attempt to answer to the question of whether or not OT achieves a more adequate analysis of Urban Hijazi Arabic syllabification and metrification.
CHAPTER ONE

Preliminaries

1.1. The Study 1

1.2. Optimality Theory (OT) 5

1.2.1. Principles of OT 6

1.2.2. Mechanisms of OT 8

1.2.3. Representational Conventions in OT 9

1.2.4. Faithfulness vs. The Phonology 11

CHAPTER TWO

Prosodic Structure: Theoretical Foundation

2.0. Introduction 14

2.1. Syllables 15

2.1.1. Sonority and Syllable Structure 16

2.1.2. Syllabification 21

2.1.2.1. Rule-based Syllabification 21

2.1.2.2. Template-based Syllabification 27

2.1.2.3. Syllabification in OT 33

2.1.2.3.1. Basic Syllable Structure Constraints 34

2.1.2.3.2. Ranking and Language-particular Satisfaction 37

2.2. Footing and Stress Assignment 41
2.2.1. Parametric Footing

2.2.2. Universal Foot Inventory

  2.2.2.1. Syllabic Trochees
  2.2.2.2. Iambs
  2.2.2.3. Moraic Trochees

2.2.3. Parametric Boundary Location and Headedness

  2.2.3.1. Universal Principles
  2.2.3.2. Iterative Constituent Construction
  2.2.3.3. Avoidance Constraints

2.2.4. Optimality Theory and Stress Assignment

  2.2.4.1. Boundedness
    2.2.4.1.1. Foot Binarity
    2.2.4.1.2. PARSE
    2.2.4.1.3. Single Foot Prosodic Words
  2.2.4.2. Headedness
    2.2.4.2.1. Foot Level
    2.2.4.2.2. Word Level
  2.2.4.3. Weight-sensitivity
    2.2.4.3.1. Weight-to-Stress Principle (WSP)
    2.2.4.3.2. Rhythmic Harmony (RH-HARM)
    2.2.4.3.3. Syllabic Binarity
  2.2.4.4. Non-final Stress
  2.2.4.5. Directionality

2.3. Conclusion
CHAPTER THREE

Syllabification in UHA: an OT Account

3.0. Introduction

3.1. Optimality Theory and Syllabification in UHA
   3.1.1. UHA and Superordinate Constraints
   3.1.2. Onsets and Codas in UHA
   3.1.3. CVX-bound Syllabification

3.2. Problematic Inputs
   3.2.1. Initial Epenthesis
   3.2.2. Medial Vowel Epenthesis
   3.2.3. Internal Vowel Shortening

3.3. Deviant Outputs
   3.3.1. Light CV Syllables
   3.3.2. CVXC Superheavy Syllables
      3.3.2.1. Restricting Exhaustivity Violations
      3.3.2.2. A Different Motivation: Sonority and Epenthesis
   3.3.3. High Vowel Deletion and Non-final CVVC Syllables
      3.3.3.1. Output/Output Correspondence and Sympathy

3.4. Conclusion

CHAPTER FOUR

Syllabification in UHA: The Derivational Alternative
4.0. Introduction

4.1. A Derivational Account of High Vowel Deletion

4.2. Lexical Licensing

4.3. Postlexical Licensing

4.4. Basic Derivational Syllabification and UHA

4.4.1. Rule-based Syllabification and UHA

4.4.2. Template-matching and UHA

4.4.3. Superheavy Syllables

4.4.3.1. Chomsky-adjunction

4.4.3.2. Degenerate Syllables

4.4.3.3. Extraprosodicity and Chomsky-adjunction

4.5. Conclusion

CHAPTER FIVE

Stress in UHA: an Optimality Theory Account

5.0. Introduction

5.1. Optimality Theory and Stress in UHA

5.1.1. Stress Pattern in UHA

5.1.2. Active Constraints

5.1.3. Dominance Relations

5.1.4. Prominence-driven Stress

5.1.5. Rhythm-driven Stress
5.2. Other Factors Affecting Footing

5.2.1. Final /-CVC/ Footing

5.2.2. Final Vowel Shortening

5.2.3. Stem-bound Footing

5.3. Conclusion

CHAPTER SIX

Stress in UHA: a Derivational Account

6.0. Introduction

6.1. Rule-based Footing in UHA

6.2. Parsing Feet in UHA

6.2.1. UHA and Degenerate Feet

6.2.2. More on Extrametricality

6.2.3. Hayes and Two Arabic Dialects

6.2.4. Moraic Trochees in UHA

6.2.5. Final Vowel Shortening: DT Account

6.3. Edge-Marking in UHA

6.4. Conclusion

CHAPTER SEVEN

Conclusion
7.1. Facts and Analyses  320
7.2. Theoretical Issues  325

References  331