A Contrastive Metrical Analysis of Main Word Stress in English and Cairene Colloquial Arabic

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I dedicate this book to my father, Fathy Khalifa, my mother, Amina Ilshabrawy, my wife, Dr Eman Abdelwahed and children, Yasmin, Khalid, Maryam and Ammar.

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ABSTRACT

The aim of this study is to analyse Cairenes' interlingual errors in English main word stress following Halle and Vergnaud's (1987) metrical model and Archibald's (1998) parameter resetting. This research has three hypotheses. First, the subjects apply CCA stress rules instead of English stress rules. Second, the subjects will be able, at least partially, to reset their different L1 CCA stress parameter settings (extrametricality and directionality) to the L2 English stress parameter settings, producing correct English stress patterns (i.e. parameter resetting). Third, the subjects' performance follows the following descending order: teachers of English > final year medical students > final year non-medical students > final year secondary school students. The results confirmed these hypotheses.

In the first chapter, the research area, dialect, aims and justification of the study are explained. It also shows that this research is a contribution to the understudied area of L2 phonology acquisition of prosodic structure (L2 stress), especially parameter resetting. Eighty Cairene subjects (4 samples, 20 each) were assigned two tasks: production test (306 words, 16 classes, and description of pictures) and a linguistic questionnaire. The most relevant studies on L2 stress and theories of L2 acquisition are presented and predictions are made. The second chapter includes the main principles of the metrical theory, a comparison of CCA and English syllable structures and stress parameter settings with implications for L2 stress acquisition. It shows that CCA onsets, nuclei and codas are subsets of corresponding English syllable constituents and that extrametricality and directionality are expected to be sources of stress errors for the subjects, since they are the only two different stress parameter settings in both languages. Chapter three includes results and analysis. The findings showed that (a) the subjects had difficulty in stressing items with stress different from CCA (i.e. L1 negative transfer), and less difficulty with the items with stress similar to CCA (i.e. L1 positive transfer); (b) correct stress patterns were due to parameter resetting; (c) English stress patterns that are both different and more marked than corresponding CCA stress patterns caused learning difficulties for the subjects and (d) cases of unexpected non-transfer were due to item-by-item learning (i.e. lexical acquisition) instead of computation of parameters (rule-based learning). Chapter four includes a summary of the findings and presents teaching suggestions, limitations of the study and suggestions for further research.

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MAIN ABBREVIATIONS AND SYMBOLS USED IN THIS STUDY

CA	Contrastive Analysis
CCA	Cairene Colloquial Arabic
Cd	Coda
ClA	Classical Arabic
EA	Error Analysis
ECA	Egyptian Colloquial Arabic
ECCA	Educated Cairene Colloquial Arabic
ER	End Rule
ERA	Egyptian Radio Arabic
F	Foot
H	Heavy Syllable
[+HT]	Head-terminal
HV	Halle and Vergnaud (1987)
HVD	High Vowel Deletion
IPA	International Phonetic Alphabet
L	Light Syllable
LP	Lexical Phonology
LR	Left to Right
MSA	Modern Standard Arabic
MT	Mother Tongue / Metrical Theory
N	Nucleus
O	Onset
OT	Optimality Theory
QS	Quantity-Sensitivity
R	Rime
RP	Received Pronunciation
SL	Second Language / Source Language
SLA	Second Language Acquisition
SPE	The Sound Pattern of English
TEFL	Teaching English as a Foreign Language
TL	Target Language
W	Phonological Word

σ	Syllable
*	Erroneous form follows
[?]	Glottal Stop
<*>	Extrametrical
μ	Mora

CHAPTER ONE

INTRODUCTION

1.1 Research Area and Definition of Terminology

This research has developed out of my work in teaching English as a foreign language in Egypt for six years and my interest in correct pronunciation as a means of achieving a good grasp of the spoken language, as suggested by Jones (1967), O'Connor (1973), Roach (1983) and Kenworthy (1987).

This study is a contrastive metrical analysis of English and literate Cairene Colloquial Arabic (CCA) stress, following Halle and Vergnaud (1987), to analyse the Cairenes' errors regarding English main word stress. It also studies the main reasons behind these errors and presents some teaching suggestions for surmounting them. This study does not deal with other suprasegmentals: secondary stress, sentence stress, intonation or rhythm.

There are some phonetic problems standing in the way of Arabs as non-native speakers of English (Heliel, 1972). First, English spelling is not phonetic due to the mismatch between orthography and pronunciation in many words. Second, many English stress rules do not occur in the learner's first language (Lado, 1957; Smith, 1987). The difficulty in learning to pronounce a second language correctly is expressed by Jones (1967, 2), as follows.

> (1) Difficulty No. 4. He must learn the proper usage in the matter of the 'sound attributes' or 'prosodies' as they are often called (especially length, stress and voice-pitch).

The stress rules of English are more complicated than those of many other languages (Halle and Vergnaud, 1987; Hayes, 1995; Kager, 1995 and many others). Indeed, the English and CCA stress patterns are sufficiently different to create difficulty for Cairene learners, due to the seemingly unpredictable nature of English in comparison with the relatively straightforward CCA stress placement rules. The Cairene learners, therefore, have to learn the stress pattern of each English word, in

the face of a lot of CCA interference.

This study begins with a brief definition of terms, followed by linguistic background, aims and justification of the study. The results are discussed, the reasons are explained, and finally some teaching suggestions are presented.

1.1.1 Stress

Phonetic stress refers to the extra degree of force used in pronouncing a particular word or syllable (Crystal, 1997). Stressed syllables are more prominent than unstressed ones (Hammond, 1999, Archibald, 1998), e.g. the first syllable in 'PHOtograph', the second in 'phoTOgrapher' and the third in 'photoGRAphic' are more prominent than the others. This prominence is usually achieved by an increase in the LOUDNESS of the stressed syllable, but can also be due to an increase in LENGTH or PITCH or a combination of all the three (Trask, 1996, Archibald, 1998). O'Connor (1973, 194) defines stress, as follows.

(2) Stress is the name given to the stronger muscular effort, both respiratory and articulatory, which we feel in connection with some syllables as opposed to others in English and other languages. For instance, *August* has more effort on the first than the second syllable, we hit it harder; but *august* has the greater effort on the second syllable.

Although there are different definitions of stress, the Hayes's (1995, 8) definition which is based on Liberman (1975) and Liberman and Prince (1977), will be followed in this research: 'stress is the linguistic manifestation of rhythmic structure'. This is in accordance with the phonological theory followed in this research – the metrical theory of stress – Halle and Vergnaud's (1987) model.

1.1.2 Mistake and Error

Corder (1967) makes a distinction between mistake and error. A mistake is a random performance slip caused by fatigue, excitement, etc., and therefore can be readily self-corrected. An error is a systematic deviation made by learners who have not yet mastered the rules of the second language (L2). Richards (1971) notices two types of error: interlingual and intralingual errors:

- *Interlingual* errors are those which second language (SL) learners may commit due to first language interference.

- *Intralingual* errors are those committed by SL learners, regardless of their first language.

1.1.3 Contrastive Analysis (CA)

Crystal (1997, 90) defines contrastive analysis (CA), as follows.

(3) The phrase contrastive analysis (CA) identifies a general approach to the investigation of language, particularly as carried out in certain areas of APPLIED LINGUISTICS, such as foreign-language teaching and translation. In a contrastive analysis of two languages, the points of STRUCTURAL difference are identified, and these are then studied as areas of potential difficulty (INTERFERENCE or 'negative transfer') in foreign-language learning.

Here the following two points can be noticed:

- The present contrastive analysis is between British English (Received Pronunciation, RP) and CCA. RP is the accent chosen for contrast for its richness in teaching materials in Egypt.
- Mother tongue interference is not the only cause of error. Faulty initial teaching, misconceptions, and over-generalisations also cause errors (James, 1980).

1.1.4 Interference and Interlanguage

Interference, also called negative transfer, refers to the errors a speaker introduces into one language as a result of contact with another (Trask, 1996). Most commonly these errors arise as a result of native tongue interference. Broselow (1984, 254) points out that 'it is clear that interference is one factor in accounting for learners' errors'.

The language system that the learner constructs out of the linguistic input to which he has been exposed has been referred to as an 'idiosyncratic dialect' (Corder, 1971), 'an approximative system' (Nemser, 1971), and an 'interlanguage' (Selinker, 1972). While these three terms differ somewhat in their emphases, it is actually 'interlanguage' that has entered common parlance.

1.2 Aims and Justification of the Study

This section explains the main aim of this research. It also points out the importance of studying the errors made by the Cairenes' English stress errors and the reasons behind them.

1.2.1 Aims of the Study

Errors, like straws, upon the surface flow;
He who would search for pearls must dive below.

(John Dryden)

The aim of this study is to analyse the Cairenes' interlingual English stress errors in the light of a contrastive metrical study of English and CCA stress placement rules, following Halle and Vergnaud (1987) and Archibald's (1998) parameter resetting. It also sheds light on the main reasons for these errors and suggests some teaching recommendations for overcoming them. It investigates only the CCA spoken by literate native speakers in Cairo, the capital of Egypt. This study does not deal with secondary stress but focuses mainly on the L2 acquisition of main word stress – one of the areas where I found most interference in the English pronunciation of my Egyptian students.

To speak English correctly, learners should have implicit knowledge of both the words and the grammar (rules) of the English language. This knowledge is basic, and without it good performance is not possible. This research concentrates on the subjects' competence in stressing English words as revealed through their performance; to define and explain what is missing in their English linguistic knowledge as compared to native speakers of English.

This research has three hypotheses. First, the subjects will tend to apply CCA stress rules instead of English stress rules. Second, the subjects will be able, at least partially, to reset their different L1 CCA stress parameter settings (extrametricality and directionality) to the L2 English stress parameter settings, producing correct English stress patterns (i.e. parameter resetting). Third, the subjects' performance will follow the following descending order: teachers of English > final year medical students > final year non-medical students > final year secondary school students. These hypotheses were confirmed, albeit to different degrees due to subject category (informant sample) and stress pattern (word class), as shown in the results in Chapter 3: Results and Analysis and Appendix C.

The teaching of the English language in Egypt concentrates more on the written form than the spoken form. Where any attention is paid to the pronunciation, more time is spent on explaining the English segmentals than on the suprasegmentals. As a result, some subjects may know the written English word and its meaning, but they do not know how to pronounce and stress it correctly.

1.2.2 Justification of the Study

> The study of errors that L2 learners make can certainly provide vital clues as to their competence in the TL.
>
> Harley (1980, 4)

Stress marking is relevant to language performance and recognition. As a consequence, wrong stressing of a word can (seriously) disrupt recognition. O'Connor (1973, 194) says:

> (4) In English, therefore, stress is a significant factor, since it is an essential part of the word-shape; words easily become unrecognisable if the stress is wrongly placed. In other languages, although there may be differences in the amount of effort on one syllable and another, these differences are not necessarily significant in the same way as English.

Kingdon (1958, xi) also explains the importance of correct stressing in English, as follows.

> (5) In a strongly stressed language like English, where vowel quality is so frequently influenced by the presence or absence of stress, wrong stressing disguises words far more effectively than does wrong intonation.

Learners' errors are invaluable to the study of the language-learning process. Errors are studied to enable us to infer the nature of the learner's knowledge at that point in his learning process and discover what he still has to learn. By describing and classifying his errors, we build up a picture of the features of the language which are causing him learning problems. Corder (1981, 13) suggests that by studying a learner's errors:

> (6) We may be able to allow the learner's innate strategies to dictate our practice and determine our syllabus; we may learn to adapt ourselves to *his* needs rather than impose upon him *our* preconceptions of *how* he ought to learn, *what* he ought to learn and *when* he ought to learn it.

Contrastive studies of the native language and the target language (TL) have been widely accepted by linguists as a sound basis for teaching a foreign language (Broselow, 1983; 1988).

Among the advocates of the contrastive studies are Fries and Lado. Fries (1945, 5) expresses the importance of basing teaching material on a contrastive basis:

(7) …only with sound materials based upon an adequate descriptive analysis of both the language to be studied and the native language of the student (or with continued expert guidance of a trained linguist) can an adult make the maximum progress toward the satisfactory mastery of a foreign language.

Broselow (1988, 295) points out the importance of contrastive studies by stating that 'errors are triggered by a mismatch between the prosodic constraints in the native and the target language'. Broselow (1983, 294) also states that 'a closer examination of the facts provides convincing evidence that the Egyptian errors, like the Iraqi ones, do in fact result from the transfer of a productive phonological rule of the native language'.

Many Cairene learners do not handle the English language with sufficient skill to enable them to converse convincingly with native speakers. This is partially due to the fact that although some Cairene EFL teachers successfully assist their students by relying on their own intuitions, 'many others are reluctant to teach pronunciation' (Derwing and Munro, 2005, 379). In addition, the greater emphasis on the written form of the L2 English than the spoken form, as happens in Egyptian schools, plays a part in the Cairene learners' poor English pronunciation. Derwing and Munro (2005, 383) state that 'the lack of attention to pronunciation teaching in otherwise authoritative texts has resulted in limited knowledge about how to integrate appropriate pronunciation instruction into second language classrooms'. Although L2 accent has long been a topic of discussion, the goal of the Cairene learners is not to be native-like but intelligible and their correct stressing of English words is part of this intelligibility. This agrees with current research in L2 phonology which considers intelligibility to be the L2 learners' goal rather than the lack of a foreign accent (Derwing and Munro, 2005). This applies to the Cairene learners, since they mostly use their English with other non-native speakers due to their limited contact with native speakers, as shown in their responses to the questionnaire. Jenkins (2005), 85, points out that 'English is being learnt for international communication rather than for communication with its NSs [native speakers]'.

The significance of this contrastive study is assessed in analysing the Cairenes' English stress errors. It is, thus, hoped that this study will be of interest and help for Cairenes who are interested in learning and teaching English as a foreign or second language. It will also help English teachers while teaching L2 English and preparing teaching materials for Cairene students.

1.2.3 Contributions

This research investigates the production of English main word stress by the native speakers of CCA in order to analyse their stress errors and explain the interlingual reasons behind them. It is, therefore, a contribution to this relatively understudied area of L2 phonology acquisition of prosodic structure (L2 stress). The acquisition of (CCA) prosodic structure has received considerably less attention than the acquisition at the segmental level and the research carried out in this area has largely focused on whether L2 learners can reset their L1 different stress parameters to the L2 stress parameters. Most of the work done with parameter resetting has largely looked at situations in which the L2 is in a subset-superset relation with the learners' L1.

The current research is a contribution to the parameter resetting debate. It explores the mechanisms that are at a play in a learning situation in which the L1 CCA and the L2 English have some different stress parameter settings i.e. directionality and extrametricality. Specifically, it investigates whether the Cairene learners of L2 English are able, at least partially, to rest their different CCA stress parameter settings to the required English stress parameter settings, producing correct English stress patterns. Therefore, this research also contributes to the less studied field of the CCA acquisition.

This study is different from the previous studies on L2 stress, especially the ones that investigated L2 English stress by Arabic speakers, as follows. First, it involves a higher number of participants (subject samples = 80; four samples, 20 each), making the generalisations of the results more reliable. Second, the 80 participants have different levels of spoken English proficiency which enables me to compare and contrast the results. The number of the tested items is very large (306 words) plus 22 carrier sentences, which enables me to test different English stress rules. Third, different strategies of L2 acquisition of stress production are investigated in the current research: L1 parameter settings (Archibald, 1994), parameter resetting (Archibald, 1994, 1998), parameter missetting (Pater, 1997), lexical acquisition of L2 stress (Archibald, 1997) and overgeneralisation of L2 stress rules (Caspers and Van Santen, 2006). This enables me to deeply explore how the Cairene L2 speakers of English acquire and produce English word stress. Fourth, the results of the current research are analysed in the light of the following four theories of L2 (phonology) acquisition: Contrastive Error Analysis (CAH) (Lado, 1957), Error Analysis (EA) (Corder, 1967), Markedness Theory (Eckman, 1977) and Universal Grammar (UG) (Chomsky, 1981). This enables me to present a detailed account of the Cairenes' stress errors.

1.3 Background to the Study

This section provides the linguistic and theoretical background for this study. The linguistic background covers the dialect of the study, the Cairene learner of English and the obstacles that have led to the low standard of Cairenes' spoken English. Finally, the theoretical background section sheds light on the metrical theory of stress as a framework of this research.

1.3.1 Linguistic Background

1.3.1.1 Dialect of the Study

Cairene Arabic is a typical form of an advanced urban Mediterranean dialect, and has a cultural importance throughout the Arab world; it is also the variety learned by most foreign speakers of Arabic (Watson, 2002). Cairene Arabic is the spoken colloquial language found in Egypt's capital city and the surrounding area.

Three levels of colloquial *'ammiyya'* can usefully be distinguished according to the speaker's level of education as based on Badawi and Hinds (1986), as follows:

(A) *'ammiyyat al-muthaqqafiin'* is spoken by the highly educated *(al-muthaqqafiin)* and is restricted to a small percentage of the population. This level of *'ammiyya'* is used only in appropriate contexts of interaction between *'muthaqqafiin'*. Their language in more mundane contexts is ordinarily *'ammiyyat al-mutanawwiriin'* (of the literate), although some may also initially have been speakers of *'ammiyyat al-ummiyyiin'* (of the illiterate).

(B) *'ammiyyat al-mutanawwiriin'* is spoken by the literate.

(C) *'ammiyyat al-ummiyyiin'* is spoken by the illiterate.

The Arabic of this study refers not to the huge diversity, since it is not possible to represent all levels of CCA. As a consequence, the level with which this work is concerned is literate CCA –*'ammiyyat al-mutanawwiriin'* spoken in Cairo and its immediate surrounding areas. CCA is the normal, everyday medium of communication between literate speakers. Choosing the CCA as the dialect of the study lies in the fact that CCA is often considered the most widely understood dialect throughout the Arab world. This wide range of intelligibility is the result of the dominance of Egypt in the Arabic media. In addition, unlike most other forms of colloquial Arabic, CCA can be found in written format.

Cairo (Arabic El Qahira) is the capital city of Egypt and has a population of 17 million inhabitants. It is the largest city in Africa and in the Middle East. It is located on the banks and islands of the Nile in the north of Egypt.

1.3.1.2 The Cairene Learner of English

The preparation of the Arab learner varies from one Arab country to another. In Egypt, learning English starts at the age of six in the first year of the primary school till the age of 18 the last year of the secondary school. The Cairene learner spends twelve years at schools learning English. This should enable him to communicate fluently and efficiently. However, this is often not the case. Guided by my experience in teaching English to Cairene students for six years, I noticed that they had many English stress errors. According to Heliel (1972), this is due to many reasons, as follows.

(a) Most Egyptian schools consider English as a 'school subject' rather than a means of communication. In addition, English is taught through Arabic.
(b) Pronunciation is completely neglected as most teachers are neither phonetically trained nor in possession of the skill to teach spoken English. Thus, learners are eye-minded rather than ear-minded.
(c) Examinations test the student's knowledge of facts about the language and his ability to memorise, but not his ability to use and understand English (Doss, 1970).
(d) The Cairene learners' exposure to native English is limited and lacks continuity.
(e) The lack of effective teaching materials that tackle the specific pronunciation problems of the learner.
(f) The shortage of competent Cairene teachers of English, which is being met by teachers of other subjects, who are given a brief training course (Doss, 1970).
(g) The lack of discussion of pronunciation errors as related to interference between CCA and English.

The obstacles listed above have led to lack of practice in the Cairenes' spoken English. All Cairene learners, therefore, should receive enough oral practice, as this is the key feature of mastering pronunciation. In addition, stress errors should be corrected before they become ingrained habits.

1.3.2 Theoretical Background

This research is an analysis of the Cairenes' English stress errors within the framework of the metrical theory of stress which was originally proposed by Liberman (1975) and fully stated in Liberman and Prince (1977). This study is based on Halle and Vergnaud's (1987) metrical model. The metrical theory considers stress as the linguistic manifestation of rhythmic structure (Halle and Vergnaud, 1987; Hayes, 1995; Kager, 2007; Goldsmith, 2011). According to this theory, stress is not a feature; rather, it is a product of the hierarchical metrical organisation of utterances (Hayes, 1995). The metrical theory of stress and CCA and English stress are discussed in detail in Chapter 2: Word Stress.

1.4 Methodology

This section explains how this research was conducted and explains the method of data collection. The data collection involved a pilot study and materials: production test, description of pictures and linguistic questionnaire, sample and tape recording. The data analysis consisted of error analysis and statistical analysis. Linguistic analysis explains the reasons for the Cairenes' stress errors. The statistical analysis explains the percentage of these errors.

1.4.1 Choice of Method

The present study is an analysis of the Cairenes' English stress errors. It is based on data collected through 'elicitation' from the subjects in Cairo.

1.4.2 Elicitation

Elicitation is a method which induces a learner to generate reliable linguistic data either in the form of factual utterances or of judgements about utterances. The idea of eliciting data from subjects has always formed part of the methodology of descriptive linguistic research. Nunan (1992, 136) says:

> (8) Elicitation techniques have been a feature of second language acquisition research since the original morpheme order studies of the 1970s.

The elicitation technique enabled me to:

- oblige the subjects to produce the items I wanted to study;