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Schwa in Moroccan Arabic and English: The Effect on Moroccans Learning English

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To cite this article:
Radouane Belkhadir. Schwa in Moroccan Arabic and English: The Effect on Moroccans Learning English. *International Journal of Applied Linguistics and Translation*. Vol. 8, No. 4, 2022, pp. 153-157. doi: 10.11648/j.ijalt.20220804.14

Abstract: This paper falls within a wider project which seeks to see how the development in Phonology as a component of modern Linguistics can help in the field of English language teaching. For instance I tried to compare Moroccan Arabic as a mother tongue of a large number of Moroccans and English as a foreign language in the Moroccan context. More specifically, I attempted an analysis of both languages as concerns the status of schwa and tried to see what this comparison can offer to the field of EFL in the Moroccan context. Accordingly, the aim of this study is to analyse the status of schwa using tools provided by the Optimality Theory and compare it to the same vowel in English and see how this affects Moroccan students learning English. To clarify more, a constraint a La OT which bans schwa open syllables ranks high in Moroccan Arabic, and, thus, does not permit the occurrence of schwa open syllables; while the same constraint ranks low in the constraint hierarchy in English, and hence schwa open syllables are so frequent in the language. It was found that the differences between the two languages, as far as schwa is concerned, can be an obstacle in front of Moroccans learning English. Thus, I tried to devise hands-on activities that will focus on these differences and provide ways to overcome problems they create for EFL learners. The findings in this study have implications for researchers in ELT, namely that differences as far as the phonology of Arabic and that of English can be an obstacle in front of English learners. Hence, they should consider that in syllabus and textbook design.

Keywords: Schwa, English, Moroccan Arabic, Optimality Theory

1. Introduction

Languages differ as concerns their phonological repertoires. For instance, the sound system of any two languages display some differnces when it comes to the number and quality of vowels as well as consonants. Illustrative examples of this are abundant in the literature. For example, if one looks at the phonology of English and Arabic, he observes that some sounds such as h and ɛ are present present in Arabic, but not in English. [1] These differences are witnessed in Phonology as well as other components of language such as Syntax or Semantics. As such, these differences can have some implications for scholars in EFL or ESL who take of Linguistics a field of study that can provide proof for their theories. [2]

The aim of this article is to attempt a look into such differences between MA and English. More specifically, I will try to see what differences these two paradigms have as concerns the status of schwa, the mid vowel present in both languages. I will try to probe into the constraints that govern the distribution of schwa in MA and English using tools provided by the Optimality Theory (OT) as advanved by scholars as McCarthy and Prince [11], Prince and Smolensky [14] and others. The constraints governing the distribution of schwa will be specified and their ranking will be presented so as to see how language-specific ranking of constraints can affect the phonology of both languages.

A further aim of this article is to see what pedagogical

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[1] h is a laryngeal voiceless fricative appearing in words as ' milh ' meaning salt. ɛ is a voiced laryngeal fricative appearing in words as 'ʃamɛa' meaning candle.

[2] Linguistics in general and Phonology in particular can be of much use to the field of EFL/ESL as they provide empirical data that researchers can rely on to advance techniques to help in learning the language.

implications such differences might have on MA native speakers learning English. In other words, this work will try to answer the following questions: 1- Do the rankings of the constraints responsible for generating schwa in MA make easy or difficult the task of a MA native speaker trying to learn English? 2- Based on these findings, is it possible to suggest some hands-on activities for didatitians in order to help MA learners of English?

The remainder of this article will be as follows. Section two displays the research questions; while section three presents the methodology. In section four I give a succinct overview of the theoretical framework. Sections five and six try to display rhe main differences between schwa in Endlish and MA. As for section seven, it is an attempt to provide the activities that can be of use to MA native speakers learning English. The last section concludes the paper.

2. Research Questions

1) What is the status of schwa in MA and English?
2) What constraints a la OT govern the distribution of schwa in both languages?
3) What is the ranking of these constraints?
4) What interaction is there between the constraints that govern the distribution of schwa in both languages?
5) If there are any differences in ranking the constraints, can it have an impact on MA native speakers learning English?
6) What pedagogical iplications can be drawn for the field of EFL?

3. Methodology

The methdology I adopted is qualitative-analytical. I focused on Average Moroccan Arabic (hence AMA) as displayed in works such as Benhallam [2-4], Boudlal [8] and subsequent works and compared it to English as presented in dictionaries as Oxford English Dictionary [9]. The distribution and nature of schwa were observed and analyzed using tools presented by OT. More precisely, the constraints governing the distribution of schwa in both languages were specified and their ranking was shown to see the extent to which these rankings make the languages differ as concerns the status of schwa. My classroom observation was my point of departure for attempting to make such a comparison. As a matter of fact, instances of schwa as a nuleus of an open syllable pose much difficulty for Moroccan students learning English, especially that Moroccan Arabic never allows such syllables. Hence, it is much needed to see how much these differences are responsible for Moroccan students failure to pronounce English words where schwa occupies the nuleus of an open syllable. Further, I tried to see if these differences have any pedagogical implications for EFL practitioners and suggested hands-on activities to help Moroccan students in pronouncing words where schwa is involved as a nucleus of an open syllable.

4. Theoretical Framework

Optiamlity Theory is a constraint-based approach that was advanced by McCarthy and Prince [10, 11], Prince and Smolensky [13, 14], McCarthy and Prince [12] and others. For advocates of this theory Grammar of any human language is made up of constraints that act as well-formedness and faithfulness constraints in a parallel fashion to yield outputs. For instance, for this theory there are no rules or repair strategies that act on ouputs to repair any exceptions resulting after the application of these rules. Grammar for OT is constituted of a Generator (GEN) and an Evaluator (EVAL). Generator is endowed with the capacity to generate any output. EVAL, on the other hand, acts on a language-specific fashion and ranks constraints so as to generate a particular grammar. Henceforth, OT manages to draw a certain match between the universality of Grammar as proposed inearly generative phonology and the idiosyncracy of each paradigm by ranking constraints in a language-specific fashion. In more specific words, GEN suggests an unlimited number of candidates, but EVAL accepts or refuses a certain candidate according to how it ranks constraints. If a candidate, for example, violates a high-ranked constraint, it is rejected as it incurs a fatal violation. But, if, on the other hand, it violates a low-ranked constraint, it survives and shows up as an optimal output.

For sake of clarification, I will display some hypothetical examples of constraints and rankings, Suppose there are two candidates: cand1 and cand2. And there are Constraint1 (const1) and constrant2 (const2). Constraint 1 ranks higher than costraint 2. Generating the optimal output will be shown by a tableau such as the one below.

/ input /	Const1	Const2
Cand1	* !	
Cand2		*

Both candidates violate once a constraint, but cand1 is ruled out since it fatally violates const1 which ranks high in the constrant hierarchy. Cand2 wins the race and is considered the optimal output as it violates const2 ranking low in the constraint hierarchy. So flexible a component of OT as shown above makes the strength of this theory since all constraints might be violated, but it is the ranking of the constraints that determines whether a violation is fatal or just minimal.

In this article I will take advantage of the analytical tools advanced by OT to account for the nature and distribution of schwa in MA and English. The constrants governing the distribution of this mid vowel will be advanced. And their ranking will also be specified in order to see how it affects the grammar of each language. But before embarking into such an analysis, probing into the status of schwa in both languages is in order.

5. Schwa in Moroccan Arabic

The status of schwa in MA raised much controversy

amongst scholars. Some consider it an underlying vowel, while others view it as an epenthetic vowel that serves to break consonant clusters. Advocates of the first viewpoint are Benkadour [5]. The second point of view is held by Benhallam [4], Boudlal [8] and others. In this article I stick to Benhallam's viewpoint which considers schwa an epenthetic vowel that the purpose of breaking consonant clusters. Benhallam (IBID) posits that schwa occurs in a predictable environment, namely that it is inserted from right to left between every succession of two consonants. As such he proposes that schwa is epenthetic and proposes the syllable structure Algorithm (SSAA) which is responsible for the insertion of schwa.[3] For example, to syllabify a word like / sfr+a / meaning 'yellow', the SSAA will assign an onset position to the first syllable. And the other two consonants make the environment for schwa insertion.[4]

Boudlal [8] provides an account to schwa insertion from an Optimality-Theoretic perspective. He sticks to Benhallam's viewpoint, namely that schwa is epenthetic in MA. And its insertion is in respect of Parse-seg, A constraint high-ranked in Ma necessitating that every segment should be syllabified.[5]

PARSE-SEG Prince and Smolensky [14]

Every segment must belong to a syllable.

Satisfaction of PARSE-SEG is at the expense of DEP-IO (A constraint against epenthsis). Another constrant is MAX-IO which necessitates that all segments be realized in output.

The ranking is MAX-IO) PARSE-SEG) DEP-IO. An input as / ktab / derives as follows:

/ ktab /	MAX-IO	PARSE-SEG	DEP-IO
Ka.təb			*
Ka.tb		* !	
Ka.	** !		
Ka.tə.bə		** !	

Candidates cand d are ruled out since they incur two violations of the high-ranked constraints MAX-IO and PARSE-SEG. Candidate b also loses the race as it violates twice PARSE-SEG. It is candidate a that wins the race by violating the low constraint DEP-IO.

Another constraint active in Moroccan Arabic is the constraint that bans schwa open syllables. Saib [15] posited the constraint for Moroccan Amazigh and formulated it as follows: *ə]σ. The constraint reads as banning open syllables ending in schwa. in moroccan arabic syllables are never open in a schwa syllable [4, 6, 1, 8].

Bensoukas and Boudlal [7] reformulated this constraint as *µ/ə. For Bensoukas and Boudlal schwa doesn't carry any moraic specification soi t needs a consonant to acquire its moraic specification.

I adopt the same constraint for Moroccan Arabic. For instance, this constraint is very active in the language and explains many instances of schwa epenthsis. let's take for example the syllabification of a word like 'lɛəb' meaning 'play'. Shcwa is inserted after c2 as predicted by Benhallam's SSAA. But if the feminine morpheme is added such as in 'ləзbət', schwa changes its place. For instance it is inserted before c2. Inserting schwa after c2 as in the earlier example would violate the high-ranked constrraint *ə]σ yielding outputs as lɛə.bət. For more clarification, I draw the table below:

/lɛəb+u/	*ə]σ	DEP-IO
ləɛ.bu.		*
lɛə.bu	* !	*

Both candodates violate DEP-IO which ranks low in the constraint hierarchy. But candidate b incurs a fatal violation of *ə]σ ranking high in the constraint hierarchy and this marks it as unoptimal. Hence candidate a wins the race. Being as such *ə]σ plays an important role in detrmining syllable parses in MA banning any schwa open syllable. Since phonological formalism reflects what takes place in the human mind, I assume that speakers of MA do not accpt schwa open syllables which is not the case for English native speakers.

6. Schwa in English

In English it is commonplace to see instances of schwa open syllables. Examples are abundant in the literature. Let's take for example words as (stability) pronounced as stə.bi.lə.ti which has two schwa open syllables.[6] And examples like this are numerous in English. Such a differance between the two languages, as far as as I see, poses some problems in learning English for MA native speakers learning English. As a matter of fact during my observation of my students along my years of teaching I frequently noticed tha my students found it difficult to pronounce words as the ones mentioned above in the right way.

Schwa open syllables occur in English as stress assignment rules rank higher than *ə]σ which bans the occurrence of schwa open syllables.[7] Stress assignment rules, for example, predict that strees for words ending in the suffix –ity falls on the penultimate syllable. This leads to reducing some vowels to schwa. For example from the adjective (stable) whicn vowel of the second syllable is ei, it is reduced to schwa in

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[3] Syllable Structure Assignment Algorithm is a mechanism proposed by Benhallam (1989/1990) and it is responsible for assigning syllable structure to MA words using principles of autosegmental Phonology Goldsmith (1976) such as association lines and directionality of association.

[4] SSAA predicts that full vowels are first assigned to the nucleus of a syllable, then remaining consonants are are assigned to a syllable which nucleus is the epenthetic schwa inserted by the epenthesis rule.

[5] For me, Boudlal's analysis is too restrictive when claiming that the insertion of schwa is a result of Parse-seg, since it cannot account for many cases of augmentation in MA which challenge such an analysis. Due to space limitations, I will not go into detail in this issue, but in future research, I twill make it a subject of scrutiny.

[6] For transcription, I adopt the transcription script as provided by the Received Pronunciation (RP).

[7] I posit that stress assignment rules rank high in the English constraint hierarchy, which permits, accordingly, the occurrence of schwa open syllables, In MA things differ as *ə]σ outranks DEP-IO and bans totally the inseption of schwa open syllables.

stability to satisfy the stress assignment rule. To illustrate this, I draw the tableau below,

/stability /	Stresss rule	*ə]Ơ
stə.'bi.lə.ti		**
s'tei.bi.li.ti.	* !	

Candidate b is considered suboptimal since it incurs a violation of thze high ranked constraint which necesitates that stress fall on antipenultimate syllable when the penultimate is light. This leads to the occurrence of schwa open syllables.

The difference in ranking of the constraint *ə]Ơ between MA and English explains why MA doesn't accept schwan syllables and why native speakers of this language fail in pronouncing words in English where schwa makes the nucleus of an open syllable. such a problem pushed us to come up with techniques that will help MA native speakers learning English to go over such a problem. In the coming section I propose hands-on activities tha will be of use in the Moroccan context of ESL.

7. Hands-on Activities

In this section, as proposed in the analysis section, some hands-on activities are proposed that will enable students to be aware of the use of schwa in a variety of contexts. These activities are ordered in terms of progressive complexity, i.e, starting fromp the simplest towards the most difficult activity. Beforahand, students are informed about the sound schwa in English. They are given words with the same written vowels and informed that although there is the same vowel, it is pronounced differntly. An example are words such as the verb "inform" and the "noun" information. Then, they get aware of the use of schwa.

Activity 1

Students listen to some words where schwa is contrasted to a full vowel and guess where it is located.

Examples of this are the words below.

Ago
1 2
Information
1 2
Stability
1 2

Activity 2

Teacher pronounces some words where schwa is involved and asks students to put schwa in the right place.

ə/u:/i (the teacher should first present the other vowels by giving examples and clear illustrations).

Put schwa in the right position:

s---l---tion
rev---l---tion
activ---t---

Activity 3

This activity is a little more advanced if compared to the previous ones since the student is going to listen to words in a sentence and guess where schwa is.

An example for this is a sentence like the one below:

The boss is -bout to find – s-lution to th- problem.[8]

And it is up to the teacher to give as many sentences as this as possible for more practice.

Activity 4

Students listen to a small text where schwa is used in different words and then they are asked to read out loud and produce, of course, the right way. This activity can be worked by the teacher to the effect of making of it motivating and why not a light activity.

Activity 5

Students are given a listening text. When they finish listening, they record the text using their own voice. Then, they listen to their own pronunciation and see if they use schwa the right way. Teachers are free to use their texts according to theis students interests and inclinations.

8. Conclusion

In this article I tried to probe into the difference between English and Moroccan Arabic as concerns the use of schwa. For instance, an analysis of schwa in both languages was carried using tools provided by the Optimality Theory. More specifically, I tried to see the constraints that govern the use of schwa in both languages and examine their ranking differences. The main remark was that the constraint *ə]Ơ (schwa open syllables are banned) ranks higher in Moroccan Arabic than in English and the result is that schwa open syllables are completely banned in MA. In English the same constrant is outranked by the stress assignment constraints, which results in allowing schwa open syllables. In other words, schwa open syllables occur in English but they don't in Moroccan Arabic.

Such a difference between the two languages is responsible for the difficulty MA native speakers encounter when pronouncing words where schwa open syllables occur. This pushed me to try and advance techniques that might be of help to MA native speakers trying to learn English. In this vein this paper was concerned about advising hands-on activities that would assist students in producing such words.

The research paper was organised into seven sections. The first on was an introduction to the main objectives of the paper. The research questions and the methodology were the concern of sections two and three. In section four I tried to give a succinct view of the theoretical framework. Then, I attempted a presentation of the main differences between schwa in English and MA in sections five and six using tools provided by the OT. Section number seven was a presentation of the activities proposed to go over the problems caused by such differnces. The last section was the conclusion.

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[8] The place of schwa and other vowels is kept empty for the sake clarifying the essence of the activity. The teacher is invited to give the sentence without specifying the placement of neither schwa nor the full vowel. And it is up to the student to guess where the right vowel is inserted.

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