Vocalic Elision in Iraqi Arabic: Evidence From the Applicability of the Output Generating Schemes

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Abstract:
This paper is concerned with a detailed description and analysis of vocalic elision in the Iraqi Arabic. The variety investigated in this article is Basra Iraqi Arabic since it is the native dialect of the researcher. It is spoken in the southern part of Iraq in the city of Basra by educated and non-educated speakers alike. It has its own lexical and phonological peculiarities which render it a distinct variety among different speakers of Iraqi Arabic. The analysis of the available data via deletion generative rules and Optimality Theory candidate evaluation scheme (in terms of generative phonology) suggests that vocalic elision in Iraqi Arabic has a crucial efficacy on syllabic phonotactics, syllabification, and sonority profiling. Reduction of the original syllables and reconcatenation of phonemes are distinctly traceable. Vocalic segments show identical phonetic contexts within historical elision, while context variation is tangibly elicited within connected speech elision. In Optimality terms, three competing faithfulness constraints are operating to screen the input candidate. These are DEP, IDEN, and MAX constraints. The first two are eliminated from further consideration since they are highly ranked. The only surviving constraint is MAX (no deletion) which is lowest-ranked. It has been proven that it is the predominant constraint that generates the surface elided forms. To no surprise, it has been unveiled that markedness constraints have null competing role in generating the optimal phonetic outputs.

Key Words
elision, phonotactics, sonority, candidate, constraint, optimal
حذف الصوائط في اللهجة العراقية عبر استخدام طرق توليد المخرجات

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المستخلص:

تعني هذه الدراسة بوصف وتحليل مفصليات الخاصة بحذف الصوائط في اللهجة العراقية - البصرية كونها تمثل اللهجة الأم للفحص. ويستخدم هذه اللهجة في جنوب العراق، في مدينة البصرة المتقلقة وغير المتقلقة على حد سواء. ولهذه اللهجة خصائصها المفرداتية والصوتية التي جعلتها اللهجة متميزة بين مختلف المتحدثين فيها.

توجه الباحث من خلال تحليل البيانات المتوفّرة، باستخدام قواعد توليد الحذف وطريقة تقييم المخرجات التي تتبع نظرية المخرجات الصحيحة (Optimality Theory). في سياق النظام الصوتي التوليدي، بأن لحذف الصوائط في اللهجة العراقية تأثيرها ملموسة على الأحتمالية التوزيعية (phonotactics) وللمفردات الصوتية والأدبيين. ومن التأثيرات الواضحة الأخرى هي تقليل عدد المقاطع الصوتية وإعادة ذهب الوحدات الصوتية. وقد كان هناك تشابه لسياقات الحذف التاريخي، في حين تميز حذف الصوائط في الكلام المتصل بتبان ناضح في السياقات.

وفي إطار نظرية المخرجات الصحيحة، كانت هناك ثلاثة محددات تنافسية (constraints) والتي تتنافس بينها لأختار المدخلة الصوتية، وهي محددات (DEP (عدم السماح بال postcode)), (IDEN (ضرورة تطابق الصفات الصوتية بين المدخلة والمشروحة)) و (MAX (عدم السماح بالحذف)). وقد تم استبعاد المحدد الأولين من كل اعتبارات تحليلية كونهما يتميزان بتدفق عال. وقد تبين بأن المحدد المتحكم الوحيد بالحذف هو المحدد ماكس كونه يتميز بأن مستوىً من التدفق. وتعتبر آخر، فقد استنتج بأن المحدد المذكور هو المسؤول عن توليد أشكال النطقية المتميزة للحذف الصوتي. ومن النتائج الملفتة للنظر، عدم تسجيل أي دور لمحددات الصعوبة (markedness constraints) في توليد المخرجات الصحيحة.

المصطلحات المفتاحية: حذف، أحتمالية التوزيعية، أثرنين، المخرجات المرشحة، المحدد، المخرجات الصحيحة

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1- Introduction

Speakers of a language often tend to convey their message with the least possible articulatory effort. Except when they are striving for clarity of articulation, they show a preference to produce utterances with a large number of coarticulations (assimilations), with some segments left out, and with the differences between other segments reduced to the minimum. Producing utterances in this way requires a speaker to adopt the principle of ease of articulation. The principal way of reducing articulatory effort is by implementing the strategy of coarticulations between sounds, resulting in languages change (Ladefoged, 1993: 267).

The most extreme cross-linguistic phonological process is the complete elision of segments both in the citation form and in phrasal context. In English, for example, a vowel very commonly surfaces null in word-medial position. This process is referred to as syncope, leading to medial consonant clusters, some of which are sometimes non-optimal (illegal) ones. Syncope is found in English in reduced forms such as /evri/ "every", /fæmli/ "family", /defsit/ "deficit".

In phrasal context, deletion of the initial vowel of some English words (often referred to as aphesis or apheresis) is also elicited. This process has been registered in Greek-based terms as in "way cool", "way over the mountain" (derived from the deletion of the initial schwa in "away" (itself derived historically from the word way with prefix). Similar instances are found in Shakespearean phrases such as "pon my word" (from upon), and "tis" from "it is" (Nathan, 2008: 80).

From a generative perspective (in terms of phonological universals), (Hyman, 1975: 14) states that vowels surface as zero in some languages such as French due to the operation of deletion rules. The example he quotes is [ la fne:tr ]"the window" for [ la fane:tr ]. However, he concludes that the application of such a rule is optional due to the fact that the full form might also be used by native speakers in certain contexts.

McMahon (2002:128-129) reports that the bulk of segmental phonological processes are characteristic of rapid and casual speech, and often are referred to as connected speech processes (CSPs). These
generally involve either assimilation or reductions. These two processes, he elaborates, are natural outcomes of talking more quickly and perhaps less carefully. Most CSPs are also optional, and will tend to be suspended or at least occur less frequently in more formal situations and in slower (careful) speech. With reference to vocalic elision, he maintains that in fast speech, vowels do not only reduce to weak ones, but they are deleted. In certain cases, the outcome is an ill-formed (non-optimal) consonant clustering that violates the phonotactics of English such as /knekt/ for /kənekt/ and /pteitəu/ for /poteitəu/ where the merging of /kn/ and /pt/ is impermissible.

As a linguistic phenomenon, elision in Arabic has been traditionally approached in relation to morphology and syntax where certain segments surface null for morphological and syntactic purposes, most notably affixation and negation. However, old Arab grammarians (e.g. Sibawayhi, 753-793 A.D.; Ibn-Jinni, 944-1014, A.D.) investigated elision as a phonological process under different headings such as emphatic sounds, pausal forms, and disappearance of the glottal stop.

Elision in Arabic has been interpreted in terms of the global tendency towards ease of articulation, speech tempo, and casualness of speech (cf. Al-Antaki, 1969; Anis, 1973; Johnstone, 1982; Holes, 1984). Anis (ibid.) and Al-Jundi,1978), for instance, quoted many examples of the co-occurrence of consonantal and vocalic reductions as elicited in the dialects of many old Arab tribes, e.g./xaraʤtu mil masʤid / "I left the mosque", /xaraʤtu midaar/, "I left the house" /rakibtu 9al faras / "I rode on the horse" instead of the full forms /xaraʤtu minal masʤid/, /xaraʤtu minal daar/, and /rakibtu 9alal faras/.

To consider vocalic elision, (Gairdner, 1925) states that colloquial Arabic, as compared to the classical form, is characterized by speech contraction to a much further point. This results in dropping short vowels and shortening the long ones. On the other hand, he notes that classical Arabic licenses intrusive vowels to a much further point in comparison with colloquial Arabic.

Iraqi Arabic (IA), as is the case of different Arabic dialects, is characterized by the disappearance of vocalic and consonantal
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segments in citation form and in phrasal context. In certain contexts, complete syllables surface null as a result of this process. The most traceable efficacy of elision on IA internal word structure is that it militates segments phonotactics, syllabification, and sonority profiling leading in many cases to ill-formed consonant clustering and changing the original syllabic concatenation. This can be arrived at by examining the flouting of Sonority Sequencing Principle (SSP) as it is a universal parameter that governs and regulates phonemes concatenation (cf. Geirut, 1999; Al-Tamimi and Al-Shboul, 2012; Hauser, 2013 and Parker, 2013 among many others).

The present study is confined to investigating vocalic deletion in IA. The available data will be subjected to a generative analysis via applying generative rules and candidate evaluation scheme as proposed by the optimality theory (OT). Both historical and contextual vocalic elision will be examined in terms of these two schemes. The variety chosen (earlier stated in the abstract) is Basra Iraqi Arabic (BIA), mainly spoken in the centre of Basra city. Other sub-dialects (including rural ones) are excluded. Types of reductions that militate consonantal segments and complete syllables are outside the scope of this paper.

2- The Place of Elision in Generative Phonology

Earlier generative theories since the late nineteen fifties, as it was the task of most contemporary theories, view phonological structures in the framework of process-oriented vision (the so called "factory metaphor"). Traditionally, it has been assumed that the input to the phonology of language is an underlying form or a chain of phonemes. This form is treated by a series of phonological processes (P-T rules) to generate the adjusted phonetic output, in a similar way as a car being manufactured in an assembly-line fashion of factory. By virtue of the transformational rules, phonological processes such as nasalization, deletion, insertion, aspiration emerge (cf. Hyman, 1975; Dell, 1980). It was strongly believed that phonological rules are explicitly ordered and that children are left with a double-task learning, to acquire both the rules and their correct ordering (Nathan, 2008: 144).

Concerning the applicability of deletion rules to the phonological input, Hyman (op.cit.:12) states that the elided forms are converted via
optional rules since it is possible for the same speaker to pronounce two alternative forms, the full form and the reduced one. He cites the French example (earlier mentioned in the introductory section) /la fənɛːtʁ/ "the window" (elicited in slow speech) and /la fneːtʁ/ (in rapid or allegro speech).

Such a variation in pronunciation led some phonologists in the nineteen seventies to argue that a grammar with rules applying in feeding order gives exactly the same output as the one with rules operating without any constraints at all. Stated otherwise, feeding order is equivalent to no ordering restrictions. Nathan (op.cit.) argues for this proposal and cites an evidence from American English. He observes that the free variation with flaps and with null (deleted) flaps in this dialect clearly points in the direction of permitting two optional P-rules that operate side by side. This is usually interpreted in terms of dialectal or stylistic variations.

A complete different phonological trend was advocated by OT which strongly argues against the serial derivations (factory metaphor). Lakoff (1993), for example, falsifies the idea of the serial sequencing of phonological rules and affirms that cognitive phonology should not countenance them.

The major point of difference between OT and other generative theories of phonology lies in the issue of levels. OT proposes only two levels, the underlying form and the surface form. Optimalists assume that the underlying forms are stored in the competence, and that an abstract mechanism called GEN (the "Generator") which flows out a theoretically infinite number of alternative pronunciations for the underlying targets. These alternatives are called candidates that are simultaneously evaluated by two categories of constraints, markedness and faithfulness constraints by a mechanism known as EVAL (the "Evaluation"). The candidate that violates the fewest constraints is the correct (optimal) output. In the process of elision, the faithfulness constraint MAX (no deletion) is the only one that wins when it scores the lowest ranking. (Prince and Spolsky, 2004).
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3- Data Sources

The corpus of data on which this paper is constructed is the outcome of the researcher's intuitive knowledge, being a native speaker of the variety under study, his own observations and communications through everyday natural discourse. Other portions of the corpus are collected from a survey of a previous work conducted on IA, "A Dictionary of Iraqi Arabic" compiled by Woodhead and Beene, 1967. For authenticity, tape recordings of conversational speech of three different educational groups are conducted. The informants involved are (4) elderly uneducated speakers, six half-educated speakers, and (17) university students. The corpus has been classified, transcribed and translated (see appendix 2).

4- Research questions

This study attempts to explore the following research questions: (i) What are the vocalic segments that are subsumed to the process of elision in IA and in which phonetic contexts?, (ii) How do the generative rules operate to produce the elided outputs?, What are the traceable phonological efficacies resulting from elision?, (iv) To what extent is the OT candidate evaluation scheme is applicable?, and (v) What are the constraints that compete to generate the optimal outputs?

5- The Phonology of Iraqi Arabic

IA phonology licenses three short vowels, /i, a, and u/, and five long vowels /iː, æ, ə, oː, and uː/. Consonantal phonemes are 32 :10 plosives /p, b, t, ŏ, d, k, g, q,/, 13 fricatives /f, ť, dʒ, ṭ, ɖ, s, ʃ, z, ʒ, x, ġ, ǧ, h, 9, h/, 2 affricates /ʧ, ʤ/, 2 nasals /m, n/, 2 laterals /l, l̇/, 1 flap /r/, and 2 approximants /w, y/ (see appendix 1 for a detailed description).

Consonantal and vocalic phonemes in IA concatenate in eleven syllabic patterns. These are /cv/ as in /si ʃma/" sky", /ccv/ as in /nxaʃa/ "a date palm" (rarely used in BIA as in/ nʃaʃal/" he became angry", /cvv/ as in /raʃtiʃ/" salary", /ccvv/ as in /ʃlaʃa/" farming", /cvc/ as in /ʃim ʃim/" sesame", /ccvc/ as in /traʃfaʃ/ " he has been promoted", /cvcc/ as in /banʤ/ " anesthetic", /cvvc/ as in /raʃa/ " he has left", /cvvcc/ as in /dʒaʃaʃ/ " neighbour", /ccvcc/ as in /ʒaʃal/ " headband", and /ccvcc/ as in /ʃaʃaʃ/ " he has turned yellow".

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6- A Generative Analysis of Vocalic Elision in IA

6.1 Historical Vocalic Elision

This section is dedicated to a generative treatment of vocalic elision as elicited in citation form of IA. Put differently, an application of transformational rules is conducted on IA individual lexemes (lexical elision) where the standard forms of these lexemes have been adapted via vocalic deletion rules. The resulted optimal forms have been preserved to be a part of the historical sound change of IA lexical items. Precisely, the deleted form has retained itself as the dictionary form of IA vocabulary during the historical path of this Arabic variety.

(1) \[ \text{[- long]} \rightarrow \emptyset / [+ \text{obstruent}] \quad [+ \text{obstruent}] \]

This rule deletes the short front vowel /i/ between two obstruents. The corpus of data offers us with some representative examples: between the plosive obstruent /b/ and the fricative obstruent /ʃ/ as in /bʃaara/ "pleasing news" for /biʃaara/, between the affricate obstruent /ʤ/ and the plosive obstruent /b/ as in /ʤbaal/ "mountains" instead of /ʤibaal/, between the fricative obstruent /f/ and the plosive obstruent /t/ like /ftaat/ "crumbs, pieces" for /fitaat/.

(2) \[ \text{[- long]} \rightarrow \emptyset / [+ \text{obstruent}] \quad [+ \text{sonorant}] \]

Rule no. (2) states that a short vowel is dropped between an obstruent and a sonorant. The short front vowel /i/ is elided in such a context. The examples below illustrate the applicability of this rule: between the affricate obstruent /ʤ/ and the nasal sonorant /m/ as in /ʤmaal/ "camels" for /ʤimaal/, between the fricative obstruent /ð/ and the approximant sonorant /r/ like /ðraa9/ "arm" instead of /ðhraa9/.

(3) \[ \text{[- long]} \rightarrow \emptyset / [+ \text{sonorant}] \quad [+ \text{obstruent}] \]

According to this rule, a short vowel surfaces empty between a sonorant and an obstruent. The short front vowel /i/ is lost in such a context as the examples below show: between the nasal sonorant /n/ and the fricative obstruent /ʃ/ as in /ŋʃaara/ "sawdust, wood shaving"
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for /niğaara/, between the approximant sonorant /r/ and the obstruent plosive /š/ like /rşaaş/ "bullets" for /rişaaş/.

(4) \([-\text{long}] \rightarrow \emptyset / [ + \text{sonorant }] \quad [ + \text{sonorant }]
\end{array}
\]

This rule deletes a short vowel between two sonorants. The short front vowel /ɪ/ is lost in such a position between the approximant sonorant /w/ and the lateral approximant /l/ as in /wlaaya/ "city" for /wilaaya/.

(5) \([-\text{long}] \rightarrow \emptyset / [ + \text{obstruent }] \quad [ + \text{obstruent }]
\end{array}
\]

This rule applies to the short central vowel /a/ where it is dropped between two obstruents in citation form. The following are representative examples: between the plosive obstruent /t/ and the fricative obstruent /ʃ/ as in /ṭʃaa?am/ "he felt pessimistic" for /ṭaʃa?am/, between the fricative obstruent /ʃ/ and the affricate obstruent /ʤ/ as in /ʃʤaayiz/ "elderly women" instead of /ṣadʒa?iz/.

(6) \([-\text{long}] \rightarrow \emptyset [ + \text{sonorant }] \quad [ + \text{obstruent }]
\end{array}
\]

Rule (6) involves the deletion of the short central vowel /a/ between a sonorant and an obstruent. The following examples are good case in point: between the nasal sonorant /m/ and the fricative obstruent /ʃ/ as in /mfaatiiћ/ "keys" for /mfaatiħ/, between the nasal sonorant /m/ and the fricative obstruent /ʃ/ like /mʃaaqiil/ "weight, ounces" for /maʃaaqiil/.

7- \([-\text{long}] \rightarrow \emptyset / [ \text{obstruent }] \quad [ \text{sonorant }]
\end{array}
\]

This deletion rule surfaces the short central vowel /a/ between an obstruent and a sonorant. Selective contexts of such optimal outputs are: between the fricative obstruent /x/ and the lateral sonorant /l/ as in /xlaal/ "crisp and not yet ripped date" for /xalaal/, between the fricative obstruent /x/ and the nasal sonorant /n/ like /xnaaziir/ "pigs" for /xnaaaziir/.

8- \([-\text{long}] \rightarrow \emptyset / [ + \text{sonorant }] \quad [ + \text{sonorant }]
\end{array}
\]
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This rule denotes the deletion of the short central vowel /a/ when it occurs between two sonorants. The examples elicited in the corpus are /wliima/ "dinner" for /waliima/, where deletion surfaces between the approximant sonorant /w/ and the lateral sonorant /l/, /yuum/ "to blame" for /yaluum/, in which the deletion rule operates between the approximant sonorant /y/ and the lateral approximant /l/.

9- \[-long\] → ø / [+obstruent] [obstruent]

Rule no. (9) operates on the deletion of the short back vowel /u/ between two obstruents. This rule is a part of the general tendency of dropping the short vowel in IA between two obstruents. The examples quoted are: between the plosive obstruent /b/ and the fricative obstruent /ʃ/ such as /bxuur/ "incense" for /buxuur/, between the plosive obstruent /t/ and the fricative obstruent /ʃ/ as in /tʃallih/ "you repair" for /tuʃallih/.

10- \[-long\] → ø / [+obstruent] [ +sonorant]

The short back vowel /u/ is elided in the environment where it is preceded by an obstruent and followed by a sonorant. The set of data that represents such an environment are the examples below: between the plosive obstruent /t/ and the approximant sonorant /r/ such as /traahin/ "to gamble" for /turaahin/, between the plosive obstruent /d/ and the approximant sonorant /y/ such as /dyuun/ "debts" for /duyuun/.

11- \[-long\] → ø / [+sonorant] [ +obstruent]

Rule (11) accounts for the loss of the short back vowel /u/ between a sonorant and an obstruent. The contexts quoted are the following: between the approximant sonorant /r/ and the fricative obstruent /f/ as in /rfuuf/ "shelves" for /rufuuf/, between the nasal sonorant /n/ and the fricative obstruent /ð/ as in /nðuur/ "sacrificial offerings to God" instead of /nuðuur/.

12- \[-long\] → ø / [+sonorant] [ +sonorant]
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Next, this deletion rule accounts for the elision of the short back vowel /u/ between two sonorants. The following examples are good case in point: when preceded by the approximant sonorant /r/ and followed by the nasal sonorant /m/ as in /rumuul/ "eyelids" instead of /rumuu∫/, when preceded by the approximant /y/ and followed by the nasal /n/ such as /ynabbih/ "to notify" for /yunabbih/.

6.2 Contextual Vocalic Elision
Vowels in IA are also dropped in phrasal contexts. What follows is a survey of the environments where such a type of elision occurs.

1- [- long] → ø / [+ obstruent] ——— [ + obstruent ]

This rule illustrates that a short vowel is elided in IA between two obstruents. The relevant corpus reveals that the short high front vowel /i/ is dropped between the plosive obstruent /b/ and the fricative obstruent /ɣ/ as in /min b9iíd/ "distantly" for /min bi9iíd/, between the fricative obstruent /ɣ/ and the plosive obstruent /d/ as in /ga:ɣ yiqra/ "he is reading" for /ga:9iíd yiqra/, between the plosive obstruent /b/ and the fricative obstruent /z/ as in /xbiz ʃ9iir/ "barely bread" for /xbiz ʃ9iir/, between the plosive obstruent /ʔ/ and the fricative obstruent /h/ as in /nabbaxtak/ "by your conscience, for God's sake" instead of /ʔiḥna?ibbaxtak/, between the plosive obstruent /ʔ/ and the affricate obstruent /ʤ/ as in /ma:ʤa/ "he has not come" for /ma: ?idzə/, between the plosive obstruent /b/ and the fricative obstruent /s/ as in /labsoo/ "they let him put on" for /labbisoo/, between the glottal plosive obstruent /ʔ/ and the fricative obstruent /x/ as in /xwaan ahmad/ "Ahmed's brothers" for /ʔiɔxwaan ahmad/.

2- [- long] → ø / [+ obstruent] ——— [ + sonorant ]

Rule (2) deletes a short vowel between an obstruent and a sonorant. The short high front vowel /i/ disappears between the fricative
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obstruent /θ/ and the lateral sonorant /l/ as in /miɵilawwal/ (*) " as before, like the first" for /mioil ?il ?awwal/. The same short vowel is also dropped between the plosive obstruent /g/ and the lateral sonorant /l/ as in /gitlak di:r ba:lak / " I told you to take care " for /gilitlak di:r ba:lak/, between the pharyngeal fricative obstruent /ɾ/ and the nasal sonorant /n/ as in /mat 9eeni 9lee/ " let me be blind for his sake" for /9ɪmat 9eeni 9alee/, between the plosive obstruent /t/ and the lateral sonorant /l/ as in /moot laffa/" death takes him", for /moot illaffa/.

3- [- long ] → ø / [ + sonorant ] ______ [ + obstruent ]

A short vowel is also deleted in IA between a sonorant and an obstruent. The short front vowel /i/ is lost between the lateral sonorant /l/ and the glottal plosive obstruent /ʔ/ as in /xallabadla / " let me change it" for /xalli ?abadla/, between the approximant sonorant /w/ and the fricative obstruent /ʔ/ as in /whaat ubuuk/ " I swear by your father's life" for /wɪћyaat ?abuuk/, between the palatal approximant /y/ and the plosive obstruent /k/ as in /ykirhuunak/ " they hate you" instead of /ykirhuunak/, between the approximant sonorant /ɾ/ and the plosive obstruent /ɾ/ as in /muu∫arț/ " not necessarily" for /muu ∫ariț/.

4- [- long ] → ø / [ + sonorant ] ______ [ + sonorant ]

Deletion of the short front vowel /i/ also surfaces between two obstruents. Contexts of this sort of reduction are elicited between the nasal sonorant /m/ and the nasal sonorant /n/ as in /mnil xaaridʒ/ " from abroad" for /minil xaaridʒ/, between the two lateral approximants /l/ as in /9al winsa / " for the sake of entertainment" instead of /9alal winsa/, and between the lateral sonorant /l/ and the nasal sonorant /n/ as in /xan ūuf/ " let's see" for /xalli ūuf/.

5- [- long ] → ø / [+ obstruent ] ______ #

* Elision of consonantal segments which co-occurs with vocalic elision in this example and throughout this paper is not referred to since it is outside the scope of the current study.
This deletion rule reads that a short vowel is dropped in final position after an obstruent. The short central vowel /a/ is lost in word-final position when it is preceded by the plosive obstruent /b/ as in /halaw yaab/ "Oh my darling" for /halaw yaaba/, after the fricative obstruent /ð/ and the plosive obstruent /k/ in final position as in /haað ween wðaak ween/ "there is a big difference between the two" for /haaða ween wðaaka ween/, and /ruuh hnaak/ "go there" for /ruuh hnaaka/.

6- [- long ] → ø / [+ sonorant ]

The short central vowel /a/ is also deleted in final position after a sonorant. An example of the operation of this rule is represented by the loss of the /a/ after the approximant sonorant /y/ before a word juncture, as in /haay ∫loon/ "how is that, what should we do", for /haaya ∫loon/.

7- [- long ] → ø / [+ obstruent ] [+ sonorant ]

This rule deletes the short central vowel /a/ between an obstruent and a sonorant. The contexts of deletions are the following: between the fricative obstruent /h/ and the lateral obstruent /l/ as in /ʔahlil beet/ "The Prophet's Mohammed's relatives, Imams" for /ʔahal ʔil beet/, between the fricative obstruent /ʔ/ and the approximant sonorant /r/ as in /bahr ḥeibir/ "a big sea" instead of /bahr ḥeibir/, between the fricative obstruent /ʔ/ and the lateral sonorant /l/ as in /ʔala muudak/ "for your sake" for /ʔala muudak/, between the glottal plosive obstruent /ʔ/ and the lateral approximant /l/ as in /laamušalli ʔala muḥammad/ "God may pray on the Prophet Mohammed" instead of /ʔallahumma šalliʔala muḥammad/, between the glottal plosive obstruent /ʔ/ and the lateral sonorant /l/ as in /maa ṭaalla/ "what a great thing it is" for /maa ṭaaʔalla/, between the glottal plosive obstruent /ʔ/ and the nasal sonorant /n/ as in /ʔan9amalla ṭleek/ "God may offer you the prospect" for /ʔan9amallaa ṭaleek/.

8- [- long ] → ø / [+ obstruent ] [+ obstruent ]
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When underlying forms have the short central vowel /a/ between two obstruents, it is deleted. Examples of the operation of this deletion rule are seen below: between the plosive obstruent /b/ and the fricative obstruent /ʕ/ as in /ba9d ʕwayy/ " there is still something more, not yet" for /ba9ad ʕwayy/, between the glottal plosive obstruent /ʔ/ and the plosive obstruent /g/ as in /ta9aa gillak/ " come to tell you something" for /ta9aal ?agillak/, between the fricative obstruent /ʕ/ and the plosive obstruent /d/ as in /ba9d ʕgad/ " how much is left" instead of /ba9ad ʕgad/, between the fricative obstruent /ʕ/ and the fricative obstruent /h/ as in /min 9ahdillingiliiz/ " since the English rule" for /min 9ahad il ?ingiliiz/.

9- [- long ] → ø / [+ sonorant ] ______ [ + sonorant ]

This rule applies when the short central vowel /a/ is dropped between two sonorants. The only context of such vocalic deletion is observed with the conjunction /wa/, when followed by the negative particle /laa/, precisely, between the approximant sonorant /w/ of /wa/ and the lateral approximant sonorant /l/ of /laa/. The following examples are good cases in point: /wlaa biʧa/ " he has never cried" for /walaa biʧa/, /wlaa galli/ " he has never told me" instead of /walaa galli /, /wlaa ?adri / " I have no idea, nobody has told me", for /walaa ?adri/.

10- [- long ] →/ [+sonorant ] ______ # [ + sonorant]

This rule deletes the short back vowel /u/ in word-final position after a sonorant and before another initial sonorant of a subsequent word. The examples in point are /∫in sawwɪ/ " what to do" for /∫inu nsawwɪ/, /∫in dʒiib / " what should we bring?" instead of /∫inu ndʒiib/.

11- [- long ] →/ [ + obstruent ] ______ [ + sonorant ]

Rule (11) implies that a short vowel is dropped between an obstruent and a sonorant. This context is applicable to the short back vowel /u/ which surfaces null between the plosive obstruent /d/ and the nasal sonorant /n/ as in /lhamdilla 9as salaama / " Thanks to God for
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safety, for getting better" instead of /lhamdu lillaa 9al salaama/, between the fricative obstruent /h/ and the approximant sonorant /w/ as in /yaawa minhum/ " which one of them" instead of /yaa huwwa minhum/.

12- [- long ] → / [+ obstruent ] ______ [ + obstruent ]

This rule implies that a short vowel is lost between two obstruents. The corpus of data reveals that the short back vowel /u/ becomes empty between the fricative obstruent /h/ and the plosive obstruent /g/. The respective example is /min gallak/ " who told you " for /minhu gallak/.

This context implies double elision where the glottal fricative obstruent /h/ is also dropped.

13- [+ long ] →/ [+ sonorant ] ______ [ + obstruent ]

This is the only rule that displays the deletion of a long vowel in IA. The context of dropping, as the rule implies, is between a sonorant and an obstruent. The long front vowel /ii/ surfaces null between the approximant sonorant /r/ and the plosive obstruent /d/. The following two examples are a good case in point: /?ard aguul/ " I want to say " for /?ariid ?aguul/ ", / ?ard anaam/ " I want to sleep" for /?ariid ?anaam/.

7- OT Analysis of Vocalic Elision in IA

7.1 Theoretical Background

The key concern of optimality theory (OT) is to sketch out the associative tie between input ( underlying form) and output ( surface phonetic form) representations. This theory postulates that an input representation is associated with a host of candidate output representations and some kinds of filtration with the aim of evaluating the candidates and selecting the most well-formed ones via language-specific constraints. These constraints are ranked in a hierarchical fashion with respect to the relevance scale imposed by a given language ( Crystal, 2003:329).

OT is built on the conflict between faithfulness and markedness constraints which are in tough competition to yield the optimal candidate. Demanding identity between the input and output forms,
faithfulness constraints seek to preserve the properties of the input without deletion, insertion or change. They are of three categories (After, Yavas, 2013: 215):

1- MAX-IO: implies that input segments must correspond to output segments. Stated otherwise, the input is maximally represented in the output. Accordingly, deletion is not licensed as stated in this constraint.

2- DEP-IO: requires that output segments must match input segments. Put differently, the output must be entirely dependent on the input; thus insertion is not permitted.

3- IDENT-IO(F): demands that the input representations of place, manner, and voice features should surface in the output; hence, feature change or segmental substitution are not possible.

Yavas (ibid.) reports that markedness constraints capture the generalizations on linguistic structures that commonly or uncommonly emerge in natural languages (unmarked (simple) vs. marked (complex)). Unmarked structures are universal and innate and do not have to be learned. In contrast, marked features are language-specific and have to be acquired. Sample markedness constraints include "NO CODA. Syllables must not license codas; " * COMPLEX. Clusters are not permitted"; " *V NASAL. Vowels must not be nasalized."

Though universal and common in all languages, markedness constraints function variously in different languages and are not equally applicable with respect to their ranking scale. Having nothing to do with lexical contrasts, since they are not directly associated with input form, markedness constraints compare the candidates with other candidates.

That is, the constraint which is ranked highly in one language is likely to be rated low in another language and easily flouted to satisfy a highly ranked constraint. A case in point is that * COMPLEX ONSET is ranked higher in Standard Arabic than English, which maximally permits triple-onset clusters. Consequently, different languages offer different degrees of priority to various constraints, and violating the high ranked ones will not lead to the optimal candidate (Gussenhoven and Jacob, 2011:120).
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In a similar vein, sympathy theory (ST) postulates a careful scanning to the optimal outputs via carefully comparing an output candidate with another output candidate. The optimal candidate selected by a faithfulness constraint is referred to as "sympathetic candidate", which is marked by a pointing hand, and all other candidates are to be checked whether they show the same faithfulness violations (ibid.: 121).

In all grammars, the constraints are conflicting (Kager, 1999, cited in Yavas, 2013:215), and thus it is not possible to satisfy all constraints simultaneously. This conflict can be resolved by ranking the constraints within a hierarchy, in a language-bound pattern. The optimal output (phonetic form) will be the one that incurs the least serious violations of a set of ranked constraints. Consequently, the candidate that flouts higher ranked constraints will not be the one that will survive.

The precedence among the constraints, as proposed by OT, is given by a left-to-right ordering, with the highest ranked constraint being on the left (Yavas, ibid.). Archangeli (1999) sketches out the cognitive processing of the OT candidate evaluation scheme through the following diagram:

\[
\text{CON} \\
\downarrow \\
\text{Input} \rightarrow \text{GEN} \rightarrow \text{Candidate set} \rightarrow \text{EVAL} \rightarrow \text{output}
\]

7.2. The Projection of Vocalic Elision in IA via the Candidate Evaluation Scheme

Following the model proposed by Yavas (op.cit.), the generation of the elided outputs presented in section (6) will be illustrated by the following sample tableaux. The tableau is a two-dimensional table where the constraints are listed horizontally and the candidates vertically. The input that is screened by the constraints is placed at the top left corner. A * in a cell shows that the form of that row violates the constraint in the column, while *! Indicates that such a violation is gravious (fatal) and thus excludes that form any consideration. The optimal (winning) phonetic output is marked with a little hand.
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Tableau (1) Derivation of /wlaaya/ from underlying /wilaaya/

<table>
<thead>
<tr>
<th>/wilaaya/ &quot;city&quot;</th>
<th>*DEP</th>
<th>IDENT-Quality</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) wilaaya</td>
<td>!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► (b) wlaaya</td>
<td>!</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(c) wulaaya</td>
<td>*</td>
<td>!</td>
<td></td>
</tr>
</tbody>
</table>

* DEP >> IDENT >> MAX

In this tableau, *DEP (no insertion) is the highest faithfulness constraint, thus is placed in the leftmost position. Candidate (a) flouts the highest ranking and is thus neglected from further consideration. Candidate (c) violates IDENT constraint by changing the vowel quality; the short high front unrounded vowel /i/ into the short high back vowel /u/, and it does not survive. Candidate (b) violates the lowest-ranked MAX (no deletion) by deleting a vowel from the input, and thus is the winning one.

Tableau (2) Derivation of /mfaatiih/ from underlying /mafaatiih/

<table>
<thead>
<tr>
<th>/mafaatiih/ &quot;keys&quot;</th>
<th>*DEP</th>
<th>IDENT-Quality</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) mafaatiih</td>
<td>!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► (b) mfaatiih</td>
<td>!</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(c) mifaatiih</td>
<td>*</td>
<td>!</td>
<td></td>
</tr>
</tbody>
</table>

* DEP >> IDENT >> MAX

Here, candidate (a) violates the highest ranking, the standard item, thus is eliminated from further consideration. Candidate (c) shows a fatal violation by substituting the short central unrounded vowel /a/ by the short high front vowel /i/, thus will not be selected. The only optimal candidate is (b) since it flouts the lowest ranking, (MAX), that is why, it survives.

Tableau (3) Derivation of /rmuuʃ/ from underlying /rumuuʃ/

<table>
<thead>
<tr>
<th>/rumuuʃ/ &quot;eyelids&quot;</th>
<th>*DEP</th>
<th>IDENT-Quality</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) rumuuʃ</td>
<td>*</td>
<td>!</td>
<td></td>
</tr>
<tr>
<td>► (b) rmuuʃ</td>
<td>*</td>
<td>!</td>
<td></td>
</tr>
<tr>
<td>(c) rumuuʃ</td>
<td>*</td>
<td>!</td>
<td></td>
</tr>
</tbody>
</table>

* DEP >> IDENT >> MAX

* The constraint DEP deployed throughout the sample tableaux and the whole paper is used reversely with the constraint MAX to refer to the full form (unreduced one) where a vocalic segment concatenates as a nucleus between two consonants to suspend deletion and then the possibility of consonant clustering is abandoned.
In this tableau, candidate (a) reveals a serious violation by flouting the highest-ranked constraint (DEP), the standard form, hence is not selected. In a similar scheme, candidate (c) shows a fatal violation by changing the short high back vowel /u/ into the short high front vowel /i/, thus is eliminated from further consideration. The optimal output weighs in favour of vocalic deletion (candidate b) since it violates the lowest ranking (MAX constraint).

**Tableau (4) Derivation of /xubz [9iir/ from underlying /xubiz [9iir/**

<table>
<thead>
<tr>
<th>/xubiz [9iir &quot;barely bread&quot;</th>
<th>*DEP</th>
<th>IDENT-Quality</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) xubiz [9iir</td>
<td>!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➤ (b) xubz [9iir</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(c) xubuz [9iir</td>
<td></td>
<td>!</td>
<td></td>
</tr>
</tbody>
</table>

* DEP ≫ IDENT ≫ MAX

In this tableau, the winning candidate is no. (b) because the only constraint it flouts is the low-ranked faithfulness constraint MAX. Candidate (a) violates the high-ranked faithfulness constraint DEP; therefore, it does not survive. The last candidate flouts a higher rank constraint, IDENT-Quality, where the short high front vowel /i/ is replaced by the short low back vowel /u/, thus is rejected for yielding feature substitution.

**Tableau (5) Derivation of /9la muudak/ from underlying /9ala muudak/**

<table>
<thead>
<tr>
<th>/9ala muudak/ &quot; for your sake&quot;</th>
<th>*DEP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) /9ala muudak/</td>
<td>!</td>
<td></td>
</tr>
<tr>
<td>➤ (b) /9la muudak</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

* DEP ≫ MAX

Tableau (5) entails two conflicting faithfulness constraints, DEP and MAX, since there are two possible pronunciations. Line (a) is ruled out since it violates the highest ranking. Candidate (b) is the winning one because it flouts the lowest-ranked constraint MAX, where the common phonetic output surfaces.

**Tableau (6) Derivation of /min gallak/ from underlying /minhu gallak/**

<table>
<thead>
<tr>
<th>/minhu gallak/ &quot;who told you&quot;</th>
<th>*DEP</th>
<th>IDENT [place]</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) minhu gallak</td>
<td>!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>➤ (b) min gallak</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(c) minj gallak</td>
<td>!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* DEP ≫ IDENT-Place ≫ MAX
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This tableau offers an idea of the flavor of a relatively OT analysis, in which phonetically motivated tendencies and faithfulness to underlying forms seem to interact in a competing manner, candidates b and c. Line c is ruled out since it involves a change of point of articulation due to anticipatory (regressive assimilation) where the final nasal alveolar /n/ of /min/ is assimilated into the nasal velar /ŋ/ under the influence of the upcoming plosive velar /g/. Such output is very rare (less common) and it may seem an artificial form and is possible in careful deliberate pronunciation. Line (a) is rejected from further consideration due to the violation of the highest ranking DEP. The candidate that wins is (b) since it flouts the lowest ranking MAX.

Tableau (7) Derivation of /?ard aguul / from underlying /?ariid ?aguul/

<table>
<thead>
<tr>
<th>/?ariid ?aguul/ &quot;I want to say&quot;</th>
<th>*DEP</th>
<th>IDENT-son CODA</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) ?ariid ?aguul</td>
<td>1</td>
<td>!</td>
<td></td>
</tr>
<tr>
<td>(b) ?ard aguul</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(c) ?ar daguul</td>
<td>!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* DEP ≫ IDENT- son-Coda ≫ MAX

Here, we consider a much more complex case of constraint interaction. Candidate (c) is possible in careful speech; however, it flouts SSP as it operates in coda. The change of syllabification, where the second element of the double coda /-rd/ is transferred to merge with the abutting vocalic segment /a/ forming a new syllabic patterning /cv/ instead of /v/. According to sonority hierarchy, sonority should start high on the onset, then, it drops on the coda. (Parker, 2002; Nathan, 2008; Harrington and Cox, 2009, to name a few). Candidate (C) violates this profiling since sonority index rises on the coda (the single coda –r) as compared to the single onset /?/ (flaps have higher sonority profiling than voiced plosives). Candidate (a) does not survive since it flouts the highest ranking DEP. The only winning output is candidate (b) since it violates the lowest-ranked constraint MAX where it licenses the deletion of the front long vowel /ii/, thus the resulted double coda /-rd/ complies with SSP.
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7- Discussion

Matrix (1) A Summary of the Contexts of Historical Vocalic Elision in IA

<table>
<thead>
<tr>
<th>The Elided Vowel</th>
<th>Context of Elision</th>
<th>Context of Elision</th>
<th>Context of Elision</th>
<th>Context of Elision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Obstruent_Obstruent</td>
<td>Obstruent_Sonorant</td>
<td>Sonorant_Obstruent</td>
<td>Sonorant_Sonorant</td>
</tr>
<tr>
<td>i</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>a</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>u</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Matrix (1) above is a summary of the contexts where historical vocalic elision in IA emerges. A quick glance to this matrix reveals that all elided vowels occur in similar contexts; between two obstruents, between an obstruent and a sonorant, between a sonorant and obstruent, and between two sonorants. These reduced phonetic forms have become a part of IA lexicon representing a typology of phonological change in this Arabic dialect. Stated otherwise in technical language, the elided outputs are simply learned as the new underlying forms (Nathan, 2008:103).

A survey to the effect of this phonological process on IA phonology indicates that phonemes concatenation is militated where the original number of syllables of the classical forms decreases leading to a change in syllabic patterning. In certain contexts, such efficacy entails sonority profiling yielding in impermissible sonority scale. As a case in point, the classical outputs of the words /nuðuur/ "sacrificial offerings to God" and /rumuu∫/ "eyelids", are built from a short open syllable /cv/ and a long simple close one /cvvc/. The colloquial outputs; however, minimize the original syllables into one, a long complex close syllable /ccvvc/. Thus the aforementioned items have become /nðuur/ and /rmuu∫/, respectively. Such phonotactic processing violates the SSP since sonority index drops on C2 of the double onsets. Sonority value of the sonorant /n/ is higher than that of the obstruent /ð/ (5 vs. 4). In a similar vein, sonority index of the sonorant flap /r/ is higher than that of the sonorant nasal /m/ (7 vs. 5) (following the 10-point sonority scale suggested by Hogg and McCully, 1987).
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Classical tri-syllabic lexemes surface as bisyllabic ones with different syllabic licensing and with violation of the SSP. To mention representative examples, the classical forms /niʃaara/ "sawdest" and /9aʤaa?iz/ "elderly women", comprise three syllables each. The building blocks of the former are the syllables /cv/, /cvv/, /cv/ (three open syllables), and of the latter are /cv/, /cvv/, /cvc/ (one closed syllable and two open ones). The non-standard outputs are /n∫aara/ , with two open syllables concatenating subsequently as /ccvv/, /cv/, and /9ʤaayiz/, with two syllables patterning as /ccvv/, cvc/.

Flouting of the SSP co-occurs with the reduction of the number of syllables and the modification of their patterns. Sonority scale drops down as we glide from the voiced nasal sonorant /n/ to the voiceless fricative obstruent /∫/ (5 vs. 3). Once again, it descends as we glide from the voiced pharyngeal fricative obstruent /9/ to the voiced affricate obstruent /ʤ/ (4 vs. 2) (For more examples, see the corpus of data, appendix 2).

Matrix(2) A Summary of the Contexts of Connected Speech Vocalic Elision in IA

<table>
<thead>
<tr>
<th>The Elided Vowel</th>
<th>Context</th>
<th>Context</th>
<th>Context</th>
<th>Context</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sonorant_ #</td>
<td>Obstruent_ Obstruent</td>
<td>Obstruent_ Sonorant</td>
<td>Sonorant_ Obstruent</td>
<td>Sonorant_ Sonorant</td>
</tr>
<tr>
<td>i</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>a</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>u</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>i:</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

In fluent, unselfconscious discourse, vocalic elision in IA is routed in different phonetic contexts, as compared to historical deletion. Here, in addition to the three short vowels (listed in matrix 1), the long high front vowel /ii/ is subsumed under the process of sound disappearance. As can be read in matrix (2), the three short vowels /i,a,u/ display different contexts. The short high front vowel /i/ surfaces null in four different positions, between two obstruents, between an obstruent and a sonorant, between a sonorant and an obstruent, and between two sonorants. The loss of this short vowel seriously militates the number of the full (unelided) forms concatenation, where the number of the
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Syllables decrease together with the change of syllabic patterning. Floating the SSP also co-occurs due to these modifications. To mention a few examples, the utterance /gaa9id yiqa/ "He is reading, studying" is reduced into /gaa9 yigra/. The first item is a bisyllabic one with the syllabic patterning /cvv/, /cvc/. These two syllables have been merged into a simple long closed syllable concatenating as /cvvc/. The optimal output fatally violates sonority profiling constraint where sonority value drops on the single coda, the voiced pharyngeal fricative obstruent /9/ as compared to the sonority value of the single onset, the voiced velar plosive /g/ (2 vs. 3). Once again, this sort of derivation militates the global phonotactic constraint. Another case in point is elicited in the utterance /wiћyaat ?ubuuk/ "I swear by your father's life", a common swearing expression, which is simplified into /waat ubuuk/. The first item is bisyllabic concatenating as /cvc/ and /cvvc/. The optimal candidate surfaces as monosyllabic patterning as a complex long syllable /ccvvc/. This change in the internal structure of this item is accompanied by a violation of sonority constraint, sonority scale falls down as we glide from the voiced approximant sonorant /w/ into the voiceless fricative obstruent /h/ (8 vs.4).

The short low central vowel /a/ unveils different contexts of elision in spontaneous speech. It disappears in word-final position after a sonorant, between an obstruent and a sonorant, between two obstruents and two sonorants. However; its elision is suspended between a sonorant and an obstruent. Elision of this vowel also leaves its efficacy on syllabic phonotactics and sonority profiling. The second item of the reduced form /ta9aa gillak / "come on to tell you something" , addressing a male interlocutor, instead of the full form /ta9aal ?agillak/, is tri-syllabic concatenating as /cv/, /cvc/, /cvc/, altered into a bisyllabic form patterning as /cvc/, /cvc/.

Violation of the SSP is routed in utterances such as /wlaa gaal/ "He has kept it secret, never told anybody" for /walaa gaal/, /wlaa ?adri/ " I have no idea" for /walaa ?adri/, as illustrative cases. Here, sonority profiling drops down as we glide from C1 of the double onset, the voiced gliding sonorant into C2, the voiced lateral sonorant /l/ (8-6), leading to a fatal violation in phonotactics.
The short high back vowel /u/ unveils different contexts of elision. It surfaces empty in word-final position (after a sonorant followed by another sonorant of a juxtaposed word) between an obstruent and a sonorant, between a sonorant and an obstruent, and between two obstruents. Its disappearance, as is the case of other elided vowels, deteriorates syllabic licensing and the number of syllables. Sonority profiling is also injured due to such deterioration.

Efficacy on syllabic patterning can be illustrated by examples such as /∫in sawwi/ "What should we do, what to do" for /∫inhu nsawwi/, /yaawa minhum/ "which one of them" for /yaa huwwa minhum/, /min gallak/ "who told you" for /minhu gallak/. The first item of the first example is bisyllabic concatenating as /cvc/, /cv/, one short close syllable and one short open syllable. It surfaces as monosyllabic patterning as /cvc/ as a result of deletion. The second item of the second example is bisyllabic concatenating as /cvc/, /cv/. It survives as monosyllabic patterning as /cv/ after flouting the lowest ranking constraint, (MAX) NO Deletion.

This generation process, as usual, leaves its trace on sonority hierarchy. It spoils both onset and coda sonority profiling. The derived form /∫in/ initiates with sonority value (3), value of the onset /∫/, and terminates with a higher sonority rating (5), rating of the coda /n/ (According to the SSP, sonority should increase on the onset and drops on the coda). The winning output /min/ reveals another evidence of flouting the SSP. Both onset and coda score similar sonority value (55).

The corpus of the collected data unveils the deletion of one long vowel, the long high front vowel /ii/. It surfaces null in one phonetic context, between a sonorant and an obstruent, scoring the least number of contexts in comparison with the three short monophthongs (1 vs. 4). This occurs as a result of reducing the form /?ariid / "I want" into /?ard / as in /?ard am∫i/ "I want to leave" for /?ariid ?am∫i/, /?ard aguul/ "I wanted to say", usually refers to the past, for /?ariid ?aguul/. Elision of this type minimizes the original syllables into one altering the syllabic patterning from /cv/, /cvvc/ into /?ard/ resulting in double coda /-cc/ with no violation to the SSP, sonority value gradually drops on C2 of that coda.
Vocalic Elision in Iraqi Arabic: Evidence From the Applicability of the Output Generating Schemes

The sample OT tableaux analysis traces the mechanism of output generation as proposed by optimality theory. The selected examples illustrate the precedence over a number of potential phonetic candidates which are screened by a number of faithfulness constraints, namely, DEP, IDENT, MAX.

Generally, rules ordering (constraints precedence) takes the form $\text{DEP} \gg \text{IDENT} \gg \text{MAX}$ where the highest-ranked constraint (DEP) being on the left eliminating it to be the optimal candidate. The other two competing candidates are IDENT, occupying a higher rank than MAX, and MAX. In one tableau (Tableau 5), IDENT constraint has no place to compete, thus it has been excluded. In the first four tableaux IDENT entails the possibility of changing the vowel quality; however, such option has been rejected since it generates an output which is either artificial (used in other prestigious accent in IA such as Baghdadi Arabic) or a vulgar form. In tableau (6), IDENT implies a change in place of articulation due to a possibility of assimilation. This underlying form is eliminated since its potential surface output is less common. Last tableau (7) presents a more sophisticated case of competing IDENT constraint where the sonority of the coda candidate is militated. Once again, this underlying form does not survive since it occurs in careful deliberate speech either. The only winning candidate in the sample tableaux is the one governed by MAX constraint since it is placed at the lowest ranking generating the elided surface forms.

8- Conclusions

Based on the applicability of deletion generative rules and the OT constraints evaluation scheme on the available data, the following outstanding conclusions emerge. These conclusions offer convincing answers to the research questions set at the outset of this paper:

(i) Vocalic segments which are subsumed to the process of elision in IA are the short high front unrounded vowel /i/, the short low central unrounded vowel /a/, the short high back rounded vowel /u/, and the long high front unrounded vowel /ii/. The elision of the last vowel, /i:/ is elicited only in phrasal context.
(ii) Historical elision of the three short vowels has been routed in similar four phonetic contexts, namely, obstruent_obstruent, obstruent_sonorant, sonorant_obstruent, and sonorant_sonorant.

(iii) In phrasal context, the three short vowels and the long one undergo elision in quite different positions. The short front vowel /i/ surfaces null between two obstruents, between an obstruent and a sonorant, between a sonorant and an obstruent, and between two sonorants. The short central vowel /a/ is evaluated null in word-final position preceded by a sonorant, between two obstruents, between an obstruent and a sonorant, and between two sonorants. The short back vowel /u/ disappears in word-final position after a sonorant, between two obstruents, between an obstruent and a sonorant, and between a sonorant and an obstruent. The long front vowel /ii/ surfaces empty in an orphan position, between a sonorant and an obstruent.

(iv) Vocalic elision in IA has been proven very influential on syllabic phonotactics, syllabification, and sonority profiling. In many contexts, this type of elision results in double onset clustering which fatally violates the global sonority constraint, the Sonority Sequencing Principle (SSP).

(v) Most of the elided forms in IA have been learned as the underlying phonetic inputs and thus have become a part of the native speakers' repertoire (due to the fact that the reduced forms have been added to the IA lexicon).

(vi) In OT terms, the dominating constraints that compete to generate the elided forms in IA are three faithfulness constraints, namely, DEP, IDENT, and MAX.

(vii) These three constraints are operating as the equivalents to the phonological rules that generate the elided surface forms.

(vii) The precedence of the three faithfulness constraints are shaped in the following manner: DEP ≫ IDENT ≫ MAX.

(viii) Markedness constraints have no competing power in generating the elided forms in IA. Stated otherwise, markedness constraints have no phonological role in deriving the elided surface forms.

(ix) DEP and IDENT constraints are eliminated from evaluating the competing candidates since they are highly ranked.

(x) In most cases, IDENT constraint entails a change in vowel quality, and rarely it entails place of articulation and coda sonority profiling.

(xi) The only surviving constraint is MAX since it is the lowest-ranked constraint, functioning as the dominant generator that produces the surface deleted forms.
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Works Cited


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Appendix (1)
IA Consonant and Vowel Symbols with Key Words

<table>
<thead>
<tr>
<th>Phonetic Symbols</th>
<th>Description</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consonants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p (mainly used in Baghdadi Arabic)</td>
<td>a voiceless bilabial plosive</td>
<td>pyaada</td>
<td>on foot</td>
</tr>
<tr>
<td>b</td>
<td>a voiced bilabial plosive</td>
<td>buqa</td>
<td>he stayed</td>
</tr>
<tr>
<td>t</td>
<td>a voiceless denti-alveolar plosive</td>
<td>timman</td>
<td>rice</td>
</tr>
<tr>
<td>†</td>
<td>a voiceless denti-alveolar emphatic plosive</td>
<td>†aalib</td>
<td>student</td>
</tr>
<tr>
<td>d</td>
<td>a voiced denti-alveolar plosive</td>
<td>dibis</td>
<td>molasses</td>
</tr>
<tr>
<td>d</td>
<td>a voiced denti-alveolar emphatic plosive</td>
<td>dili9</td>
<td>rib</td>
</tr>
<tr>
<td>k</td>
<td>a voiceless velar plosive</td>
<td>kitaab</td>
<td>book</td>
</tr>
<tr>
<td>g</td>
<td>a voiced velar plosive</td>
<td>gumar</td>
<td>moon</td>
</tr>
<tr>
<td>q</td>
<td>a voiceless uvular plosive</td>
<td>qmaa∫</td>
<td>cloth</td>
</tr>
<tr>
<td>?</td>
<td>a voiced glottal plosive</td>
<td>?axdar</td>
<td>green</td>
</tr>
<tr>
<td>ø</td>
<td>a voiceless dental fricative</td>
<td>øuum</td>
<td>garlic</td>
</tr>
<tr>
<td>δ</td>
<td>a voiced dental fricative</td>
<td>δeel</td>
<td>tail</td>
</tr>
<tr>
<td>Ð</td>
<td>a voiced dental emphatic Fricative</td>
<td>Ðaruf</td>
<td>envelop</td>
</tr>
<tr>
<td>s</td>
<td>a voiceless denti-alveolar fricative</td>
<td>saguf</td>
<td>roof</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Fricative</th>
<th>Description</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ş</td>
<td>a voiceless denti-alveolar emphatic fricative</td>
<td>şidig</td>
<td>truth</td>
</tr>
<tr>
<td>z</td>
<td>a voiced denti-alveolar fricative</td>
<td>zilim</td>
<td>men</td>
</tr>
<tr>
<td>Ť</td>
<td>a voiceless palato-alveolar Fricative</td>
<td>Ťaari9</td>
<td>street</td>
</tr>
</tbody>
</table>
**Vocalic Elision in Iraqi Arabic**: Asst. Prof. Dr. Mohammed Ahmed Abdul Sattar

**Evidence From the Applicability of the Output Generating Schemes**

The short high front vowel /i/

<table>
<thead>
<tr>
<th>The Full Form</th>
<th>The Elided Form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>bi∫aara</td>
<td>b∫aara</td>
<td>pleasing news</td>
</tr>
<tr>
<td>biġaal</td>
<td>bġaaɫ</td>
<td>mules</td>
</tr>
<tr>
<td>fitaat</td>
<td>ftaat</td>
<td>crumbs</td>
</tr>
</tbody>
</table>
Vocalic Elision in Iraqi Arabic:

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Evidence From the Applicability of the Output Generating Schemes

The short low central vowel /a/

taṣaḥḥa  
taṣḥḥāh  it was repaired
daḥaad  
dḥaad  bandage
da9iif  
dḥiif  thin
9adgaa?iz  
9ḏaayiz  elderly women
xaḥa  
xḥa  crisp dates
xanaaziir  
xnaaziir  pigs
maeqiil  
mḥqiil  ounces
malaa?ika  
mlaayʧa  angels
waliima  
wliima  dinner
yaluum  
yluum  to blame

The short high back vowel /u/

buxuur  
btuur  incense
ṭuyuur  
ṭvyuur  birds
duyuun  
dyuun  debts
ḏunuub  
ḏnuub  sins
ḏuruuћ  
ḏruuћ  wounds
nuḍuur  
nḍuur  sacrificial offerings to God
rufuuf  
rufuuf  shelves
rumuuʃ  
rmuuʃ  eyelids
yunabbih  
ynabbih  to notify

2- Data Relevant to Contextual Elision

<table>
<thead>
<tr>
<th>The Full Form</th>
<th>The Elided Form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>The short high front vowel /i/</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| ?il?isaala  
farid marra  
gilitlak  
gaa9id yiqra  
xalli ?ahʃi  | lisaala  
fadmarra  
gitlak  
gaa9 yiqra  
xallahʃi  | the water supply station  
once  
I told you  
he is reading  
let me speak |

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**xalli ?oogaf**
**xalloogaf**
let me stand up

**xalli ?abadla**
**xallabadla**
let me change it

**xubiz ŋ9iir**
**xubz ŋ9iir**
barely bread

**hiʃeet wiyyaa 9ala muud 9ali**
**hiʃeet wyaa 9la muud 9ali**
I talked to him about Ali

**9imat 9eeni 9alee**
**mat 9eeni 9lee**
let me blind for his sake

**labbisooh**
**labsoo**
they let him put on

**maa ?idža**
**maadža**
he has not come

**minil beet**
**mnil beet**
from the house

**minil xaaridʒ**
**mnil xaaridʒ**
from abroad, outside

**min bi9iid**
**min b9iid**
distantly

**minil ?aḥsan**
**mnil aḥsan**
for the best

**min ?i'l kitaab**
**mnil ktaab**
from the book

**moot il laffa**
**moot laffa**
death takes him

**muu ʃaɾiț**
**muu ʃaɾt**
not necessarily

**raah wayya buu**
**raah way buu**
He went with his father

**wihyaat ?abuuk**
**wћaat ubuuk**
by your father's life

**yikirhuunak**
**ykirhuunak**
they hate you

**The short low central vowel /a/**

**bahr ŋiʃbiir**
**bahr ŋiʃbiir**
a big sea

**ba9ad iʃgad**
**ba9diʃgad or ba9d iʒgad**
how much has been left

**ba9ad ŋinu**
**ba9 ŋinu**
what else

**ba9ad iʃwayy**
**ba9diʃwayy**
after a while

**ta9aal ?agillak**
**ta9aa gillak**
come on to tell you something

**?ahal ?i'beet**
**?ahlilbeet**
Prophet's Mohammed descendants

**?an9amalla 9aleek**
**n9amalla 9leek**
God may offer you the prospect

**?allaahumma şalli**
**laamuşalli 9ala muhammad**
God may pray on the Prophet Mohammed

**9ala muhammad**

**9alal winsa**
**9al winsa**
for the sake of entertainment

**9ala wakit**
**9la wakit**
early

**9ala muudak**
**9la muudak**
for your sake

**9ala hal haʃi**
**9la hal haʃi**
according to what you are saying

**halaw yaaba**
**halaw yaab**
Oh, darling
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Elision of the short high back vowel /u/

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ّامدٰ ٍل ٌل ٌلاٍ ٌساٌٍا</td>
<td>Praise to God for your safety</td>
</tr>
<tr>
<td>﴿ٌن نٌس وٌك</td>
<td>what should we do</td>
</tr>
<tr>
<td>﴿ٌن نٌدٌش وب</td>
<td>what should we bring</td>
</tr>
<tr>
<td>﴿ٌن حٌو وا َم</td>
<td>who told you</td>
</tr>
<tr>
<td>﴿ٌن حٌو وا َم</td>
<td>which one of them</td>
</tr>
</tbody>
</table>

Elision of the long high front vowel /ii/

<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>ّاٍرٰدٰ ّابٰعل</td>
<td>I wanted to say something</td>
</tr>
<tr>
<td>ّاٍرٰدٰ ّانٰم</td>
<td>I wanted to sleep</td>
</tr>
<tr>
<td>ّاٍرٰدٰ ّامٰع</td>
<td>I might die</td>
</tr>
</tbody>
</table>