Morphophonemic Changes in Standard Arabic: The Case of Irregular Plurals

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Abstract: Morphophonemic changes are the morphological and phonological changes, alterations, amd variations that take place in a single word due to such processes as plural, case, tense, and gender. These changes feature an interconnection between phonology and morphology. The current paper seeks to elaborate on this interconnection from an Arabic perspective, by considering the issue of morphophonemic changes in Standard Arab as a process that involves significant changes, particularly in the various irregular patterns of plural. The paper draws on the structure of Arabic mainly phonology and morphology, and therefore it focuses on irregular plural which has many forms. First, the paper introduces plural in Arabic, by elaborating on its various forms. Then, the paper classifies irregular plural. Finally, the paper suggests a few conclusions and recommendations.

Key words: Standard Arabic, Morphology, Phonology, Plural, Irregular plural, Broken plural, morphophonemic changes, Morphophonology.

1. Introduction and Definition

Morphophonemic changes are the morphological and phonological changes, alterations, and variations that take place in a single word due to such processes as plural (pl.), case, tense, and gender. These changes feature an interconnection between phonology and morphology. Gussmann (1985) emphasized the interconnections between phonology and morphology by focusing on the significance of morphological alterations on the phonological irregularities. Matthews (1974:156) defined morphophonemic processes as transitional between morphology and phonology. Yet, he considered transitional fields are often the hardest to delimit, adding that there is no simple way to determine what belongs to morphophonemics and what belongs to morphology or phonology proper. Morphophonemic processes are thus transitional between morphology and phonology.

Morphophonemics is an intermediary level of analysis between phonology and morphology in which the phonological regularities in the framework of morphology, especially the systematic phonological variants of morphemes (allomorph) and the conditions of their occurrence, are described (e.g. the two phonetic variations of the past tense morpheme -ed in *stayed* [ste:d] vs *heaped* [hi:pt]). This concept of an abstract phonological level underlying the concrete expressive form was first developed by Trubetzkoy (1929) and (1931) and further developed by Chomsky (Chomsky and Halle, 1968) in his transformational grammar, in which rules are posited that guarantee the transfer of an abstract morphophonological (deep) structure (deep

structure) (=a systematic phonemic level) into the concrete phonetic realization of the surface structure. In natural generative grammar, morphophonological variants are stored in the lexicon.

Jensen (1990:7) maintained that "Morphophonemics refers to the changes in the shape of morphemes in different environments. Some such changes occur in purely phonological environments, as in the regular pl. suffix in English, which has the form [iz] after sibilants (s; z, š, ž, ch, j), the form [s] after voiceless consonants (other than s, š, ch), and the form [z] in all other environments". Hockett (1947) suggested several techniques of analysis that are applicable in any morphophonemic analysis, these including notation, transcription, and re-transcription to reach accurate formations about the language studied. He held that no morphophonemic analysis can be simple as there are several forms that determine not only the number of morphs, but also the possible shapes of words.

2. Elaboration and Similar Studies

Chomsky (1951) tackled morphophonemic changes and alterations in Hebrew by considering pl. and noun formation. He (ibid.) viewed these changes as regular processes that are representative of original forms. Chomsky's account of Hebrew morphophonemics is one of the prominent classical accounts in the field of morphophonemics. Martin (1952) analyzed derivation and number in Japanese by investigating the morphophonemic changes in that language. He elaborated on the importance of phoneme and syllable as the sources of alteration. Martin (1952) held that morphemes in general are much more complicated than it is thought when it comes to asymmetry and complementation in consonant movement. McCarthy (1979:335) emphasized the importance of consonant slots in irregular plural being representative of the all the processes occurring in the word especially metathesis. He added that the roots of the singulars are changeable according to the lexical ambient of the word, and therefore sometimes even consonants are elided if they are quinquiliteral in roots, that is, having five consonants. Bybee and Brewer's (1980) study accounted for morphonemic changes in some Romance dialects and languages that are spoken in Spain and France through an analysis of number and tense. They argued that there is a persistent change in Romance languages because of autonomy rules especially in some Spanish dialects.

McCarthy (1983:300-301) raised the issue of consonant insertion in the Arabic broken pl. whereby *w-* is inserted in such pls.s as *jamuus → jewamees* 'buffaloes', and *qanuun→qewaneen* 'laws'. According to him, there is a context of transformation in certain pls.s in trilateral nouns that require the insertion of *w-*. He added that such context is triggered by the fact that trilateral

nouns undergo root change and thus rendered as quadriliteral in pl. Köpcke (1988) presented a different account of morphophonemic changes as he shed light on the role of native speakers in constructing the pl. of certain words. He found that native speakers tend to formulate pls.s that are analogus with certain words. Köpcke based his study on pre-defined rules or schemas that account for lexical as well as phonological basis. Oztaner's (1996) study is a detailed account of the grammar of Turkish in terms of morphophonemic rules. Oztaner formulated a morphophonological framework of analysis whereby words are analyzable. He (ibid.) concluded that morphtactic models are not enough to analyse words or sentences, and that further phonological and morphological investigations are necessary to understand the morphophonological components underlying such models. Haddad (2008) investigated pseudometathesis in SA Arab through an analysis of three broken pl. templates. He concluded that metathesis is a significant morphophonemic change that triggers irregular or broken pl.

3. Irregular Plural in SA

The plural in SA, henceforth SA, along with the phonological and morphological alterations accompanying it, has been a prominent area of investigation and analysis by grammarians, linguists, as well as those who are interested in Semitic phonology and morphology. As for the classification of irregular pls.s, there has not been any sort of consensus on the patterns of these pls. Forbes (1863:48) listed twenty four patterns of irregular pl. that realize possible broken pls.s in SA. He proposed a relationship between the root of the root and the type of irregular pl., concluding that modelling occupies a key position in the formation of such pls.

Palmer (1874:132-134) designated nine main patterns or forms of irregular pl.: *fu99al, fu9lan, fu9uul, fu9ela?, fewa9il, fu9at, fe9lan, fewa9eel,* and *fi9al*. He (ibid.) insisted that not all pls.s are possible, and some are derived from some other ones. Cowan (1958:200ff) have listed thirty patterns of irregular pl. in SA. He based his classification on the trilateral roots of the verb in SA. Haywood and Nahmad (1965:51-57) suggested eleven categories of irregular pl. as follows; *ef9al, fu9uul, fi9al, fu9ul, ef9al, fu9ela?, ef9ila?, fu9lan, fe9alil, fe9aleel,* and *fe9alile*. They (ibid) maintained that irregular plurals are too variant that they must be learned rather than inferred. Murtonen (1964:62-68) and Levy (1971:33f) proposed a criterion-based model for the classification of irregular plural forms in SA in which the vowel quality is the main core. Their model classifies irregular plural forms according to percentages or numbers assigned to these plurals. For example, the plural of *ǧurfe* is *ǧuref* (rooms). In terms of percentages, this is expressed as: *CVCCE 4→ CVCVC 6*, where 4 indicates the total number of vowels in the

singular and in the plural, while 6 the final addition of vowels. Moscati (1980:88-92) listed six main categories of irregular pl., adding that the internal change is the common alternation in all of these categories. He claimed that these six categories are the most common form of irregular, whilst the others are minor or rare.

عبد الجليل (1998) listed fifteen categories of irregular pl.. He stated that all irregular pls.s fall into two main classes of formation; insertion of extralexical vowels or sounds, or deletion of a vowel. Holes (2004:168) believed that semantic extension and metathesis play a significant role in the formation of irregular pl. in SA. He also added that sometimes irregular pls. are extended in order to avoid ambiguity especially in relation to dual or to fem. يعقوب (2004) listed nineteen patterns of irregular pl. used in SA. He based his classification on the templatic form of the singulars. However, there are two main classifications of irregular pl. in SA that are considered as the main source of broken pls.s to date; they are those proposed by Wright (1974) and McCarthy and Prince (1990). In fact, McCarthy and Prince's (1990) classification is an extended model of that proposed by Wright (1974), with a few modifications and alterations. The lists below show these two classifications along with examples.

1. Wright (1974:200-231)

 Wright (1974) classified irregular pl. into thirty one categories. Wright's (1974) classification is considered the most comprehensive account of irregular pl. in Standard Arabic, as it covered all the possible categories of pl. that are not regular or sound. These categories are 1.Fu9ul; *rusul "messengers"* / 2.Fi9el; *khiyem "tents"* / 3.Fi9al; *rijal "men"* / 4.Fu9uul; *muluuk "kings"* / 5.Fu99el; *9uzzel "unarmed ones"* / 6.Fu99al: *tujjar "traders"* / 7.Fe9ele; *qetele "killers"* / 8.Fu9at; *junat "criminals"* / 9.Fi9ele; *dibebe* "bears" / 10.Ef9el: *ewjuh* "faces/aspects" / 11. Ef9al: *eqdam* "legs" / 12.Ef9ile: *e9mide* "pillars" / 13.Fewa9il: *khewatim* "rings" / 14.Fe9a?il: *jeza?ir* "islands" / 15.Fee9lan: *ħeetan* "whales" / 16.Fi9lan: *śibyan* "boys" / 17.Fu9ela?: *jubena?* "coward ones" / 18.Ef9ila?: *eğniya?* "rich people" / 19.Fu9lan: *fursan* "knights" / 20.Fe9la: *merđa* "sick people" / 21.Fe9al: *śeħar* "deserts" 22.Fe9ala: še*kawa* "complaints"/ 23.Fe9aya: *hedaya* "presents" / 24.Fe9eel: *9ebeed* "slaves" / 25.Fu9uule: *numuure* "tigers" / 26. Fe9ale: *śeħabe* "companions"/ 27.Fe9el: *khedem* "servants"/ 28. Fi9el: *rikeb* "riders"/ 39.Fe9alil: *kewakib* "planets"/ 30.Fe9aleel: *sekakeen* "knives"/ 31.Fe9alile: *esatiðe* "masters/professors"

2. McCarthy and Prince (1990:213)

  McCarthy and Prince (1990) limited irregular pl. forms to thirty one categories. They based their classification on Wright's (1974) categories and thus they put these categories into four

main classes of irregular pl. according to syllabification or stresss. Additionally, they classed only the possible or common categories, after labeling the other ones as rare. *Iambic* class includes the pls. that consist of single unstressed syllables followed by stressed syllables. This class includes the categories 1 to 9. *Trochaic* class includes the pls. that consist of long syllables followed by short syllables. This class includes the categories 10 to 14. *Monosyllabic* class includes the pls. that consist of one syllable, or C3 roots with single vowel (V). This class includes the categories 15 to 29,and *Others* including pls. are those that are based on gemination, especially the C3 roots with single vowels.These include the categories 30 to 31.

4. Remarks on Notation and Transcription

For convenience, all the exemplary data used in this paper are written in the phonetic notation, hence; *rejul*, *kitab, sefeene* and so on, with meaning enclosed in brackets *(man), (book)*, and *(ship)*. The sound notation used is partly IPA, as in /ð/ and /ħ/ and partly some English sounds, as in /j/, /y/, /b/, in addition to a few designed symbols, such as /š/ or /9/, in order to represent all sounds, especially short vowels (Vs) which are not represented or spelt in orthography or lexicon, should these nouns are written in SA, and to show the ultimate pronunciation as accurately as possible. Abbreviated symbols containing Cs and Vs denote the pattern of the noun or that of the pl., as in CvCC for *qelb* (heart). Root symbols with overt sounds represent extra sounds, those which are not part of the noun in pl. pattern, as well as the precise form of the noun, as in CaCee for *qaďee* (judge). Patterns with voiced Cs, as in (?) in CuCeCa? or (m) in meCCeC, represent the addition of external or non-root Cs to the original root pattern. As for SA templates, they are represented by various forms such as *Fa9il, Fewa9il,* etc. Based on three main root Cs (f-9-l), taken from the word فعل (to do) in SA, templates are given these terms in order to represent the structural roots of the word from which these sing. nouns are derived.

5. Discussion and Analysis

Generally, there are two types of pl. in SA; sound or regular pl., and irregular or broken pl. Sound pl. is marked by two suffixes, each according to the gender of the word. Thus, *-at* is used with fem. nouns, whereas *–uun/-een* is used with masc. nouns. Further, there are a few words in SA that can be pluralized with both regular and irregular pl. As for irregular pl., there is no single specific form or affix that marks such pl. Rather, there are many irregular pl. forms that feature various processes or changes in the words related. Moreover, some of these forms are applicable to both fem. and masc.

6. Categories of Irregular Pl.*

Categories of irregular pl. are classed according to commonness, and hence beginning from the commonly used forms to the less used or rarely used ones. Irregular pls. are discussed in terms of three main aspects; pattern, template, and alternation. Pattern is the phonological, or roughly the consonantal as well as the vocal, structure of the word, represented by C for C. As for Vs, they are either written. e.g. *i/e/u*, or they represented by *v* only. Template stands for the word structure in SA based on the roots ف/ع/ل. Alternation is concerned with all the phonological and morphological changes that take place in a word when it is pluralized.

1. ef9al   cvcvc → vccvc

Ef9al is one of the common irregular forms of pl. in SA, as there are many bilateral and trilateral nouns pluralized in this form. The formation of this pl. involves the addition of (e) at the beginning of the noun as well as the insertion of the long V (a) before the final C. Hence, the pl. is roughly eCCaC. The nouns related are based in sing. on CeCeC, CeCC, CiCC, and CuCC. As for bilateral nouns, they often take CvC, where (v) may be (uu), (ee) or (ou).

Pattern: CeCeC → eCCaC   **Template: Fe9el**

Alternation: 1. Prefixation of a V   2. Elision of the first internal V (e)   3. Lenghthening of the second internal V (e) → (a)

qelem (pen)→eqlam (pens)/ ħedeth (event)→eħdath (events)/ kheber (an item of news) →ekhbar (news)/ tebeq (dish)→etbaq (dishes)/ qedem (foot)→eqdam (feet)/ mereďʼ (disease)→emraďʼ (diseases)/ beden (body)→ebdan (bodies)/ qedeħ (glass)→eqdaħ (glasses)/ qemer (satellite)→eqmar (satellites)/ neseb (lineage)→ensab (lineages)/ qeder (destiny)→eqdar (destinies)/ teref (party)→etraf (parties)/ methel (proverb)→emthal (proverbs)/ 9elem (flag)→e9lam (flags)/ sebeb (reason)→esbab (reasons)/ beśer (sight)→ebśar (sights)/ neďer (vision)→enďar (visions)/ leqeb (surname)→elqab (surname).

Pattern: CeCC → eCCaC   **Template: Fe9l**

Alternation:

1. Prefixation of a V (e)   2. Elision of the internal V (e)   3. Breaking the final CC by infixing a V (a)

nehr (river)→enhar (rivers)/ ferd (individual)→efrad (individuals)

Pattern: CiCC → eCCaC

Template: Fi9l

Alternation: 1. Prefixation of a V (e)   2. Elision of the internal V (i)   3. Breaking the final CC by infixing a V (a)

šikl (shape)→eškal (shapes)/ ši9r (verse)→eš9ar (verses)/ śifr (zero)→eśfar (zeroes)/ thiql (weight)→ethqal (weights)/ milħ (salt)→emlaħ (salts)/ qiśt (installment)→eqśat (installments)/ jism (body)→ejsam (bodies)/ kišk (kiosk)→ekšak (kiosks)/ ribħ (profit)→erbaħ (profits)/ tifl (child) →etfal (children).

Pattern: CuCC→ eCCaC   **Template: Fu9l**

Alternation: 1. Prefixation of a V (e)   2. Elision of the internal V (u)   3. Breaking the final CC by infixing a V (a)

śubĝ (paint)→eśbaĝ (paints)/ 9umq (deep)→e9maq (deeps)/ 9ušb (grass)→e9šab (grasses)/ bu9d (dimension)→eb9ad (dimensions)/ qurś (disc)→eqraś (discs)/ juz? (part)→ejza? (parts)/ 9umr (age)→e9mar (ages)/ qutb (pole)→eqtab (poles)/ burj (tower)→ebraj (towers) / khulq (moral)→ekhlaq (morals).

   In this form of pl., there is a significant change that occurs when the noun is changed from sing. to pl. It is the change of the type of root as to the number of Cs contained in this root. C3 roots become bilateral; this is especially in nouns beginning with (w). In this respect, (w) is changed to a V (ou), which eventually changes the type of the root from trilateral to bilateral, as a C has been removed. Thus, the template *CvCvC* becomes *vCvC* in pl.; **w**e*ten (home)→**ou**tan (homes)/ **w**eled (boy)→**ou**lad (boys)/ **w**eter (string)→**ou**tar (strings)/ **w**erem (tumor)→**ou**ram (tumors)/ **w**eqt (time)→**ou**qat (times)/ **w**ezn (weight)→**ou**zan (weights)/ **w**eśf (description→**ou**śaf (descriptions)/ **w**eħl (mud)→**ou**ħal (mud).*   On the other hand, bilateral roots are changed in template, too. In bilateral nouns, based on CvC, the medial V is changed to (y), if this V is (ee) or (ei) in the sing. root. The pl., therefore, is eCCaC, while it is CvC in sing, as in: *k**ee**s (bag)→ek**y**as (bags)/ d**ee**n (religion)→ed**y**an (religions)/ j**ee**l (generation)→ej**y**al (generations)/ 9**ee**d (day)→e9**y**ad (days)/ m**ee**l (mile)→em**y**al (miles)/ t**ei**f (specter)→et**y**af (specters)/ 9**ei**n (notable)→e9**y**an (notables)/ b**ei**t (verse of poetry)→eb**y**at (verses of poetry).*

   And, if the medial V is (ou), (uu) or (a), it is changed to (w) in pl.; *k**uu**kh (cottage)→ ek**w**akh (cottages)/ r**uu**ħ (soul)→er**w**aħ (souls)/ s**uu**q (market)→es**w**aq (markets)/ s**uu**r (wall)→es**w**ar (walls)/ q**ou**s (bow)→eq**w**as (bows)/ d**ou**r (role)→ed**w**ar (roles)/ k**ou**n (universe)→ek**w**an*

*(universes)/ l**ou**n (colour)→el**w**an (colours)/ q**ou**l (saying)→eq**w**al (sayings)/ n**ou**9 (type)→en**w**a9 (types)/ t**ou**r (phase)→et**w**ar (phases)/ š**ou**q (longing)→eš**w**aq (longings).*

   The addition of the pre-initial (e) may as well be affected phonetically by the sort of the first C in the sing. root, and hence, (e) becomes (ei), because that C is (y). Such behaviour can only be accounted for by the fact that (y) is a vowel-like sound; *youm (day)* → **ei***yam (days)*. Yet, in bilateral nouns where the medial V is neither of the above Vs, it is (a) as in these two examples, (w), rather than (y), is inserted between the first C and the medial V; *ħal (condition)→eħwal (conditions) = CaC → eCWaC/ mal (money/property)→emwal (monies/ properties) = CaC→ eCWaC.*

2. ef9ile

   This pl. form is used to derive sing. mas. nouns. The sing. nouns included in this pl. are based on a C3 root (three Cs with two internal Vs). The first V is a short voiced non-spelled V (كسرة، فتحة،ضمة), whereas the other V is a long orthographic V. In pl., the short orthographic V (fetħe) is inserted at the beginning and at the end of the noun. Additionally, the first internal short V is elided, while the second long spelled V becomes a short voiced V only. Hence, the change from sing. to pl. involves the prothesis of (e) in a pre-initial C root, the syncope of the first V, the alternation of the second long V to a short one (i), and the addition of (e). The final pl. form of the word will be based on the root v+CCvC+v, where plus-marked Vs denote Vs inserted pre- and post-lexically.

  e+CCiC+e

The following fig. shows the pluralization of the word *mithal* (example) into *emthile* (examples):
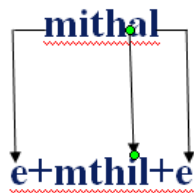
Nouns pluralized in this form are based on CiCaC, CeCaC, and less frequently CuCaC and CeCeeC.

Pattern: CiCaC → eCCiCe   **Template: Fi9al**

Alternation: 1. Prefixation of a V (e)   2. Elision of the short V (i) 3. Shortening of the internal V (a) → (i)

4. Suffixation of a V (e)

qina9 (mask)→eqni9e (masks)/ siyaj (fence)→esyije (fences)/ ħizam (belt)→eħzime (belts)/ silaħ (arm)→esliħe (arms)/ 9itad (ammunition)→e9tide (ammunitions)/ jihaz (device)→ejhize (devices)/ šira9 (sail)→ešri9e (sails)/ niđam (system)→enđime (systems)/ qimaš (fabric)→eqmiše (fabrics).

Pattern: CeCaC →eCCiCe

Template: Fe9al

Alternation: 1. Prefixaion of a V (e) 2. Elision of the short V (e) 3. Shortening of the internal V (a) → (i) 4. Suffixation of a V (e)

šerab (beverage)→ešribe (beverages)/ demaĝ (brain)→edmiĝe (brains)/ mekan (place) →emkine (places)/ nešat (activity)→enšite (activities)/ te9am (food)→et9ime (foods)/ zeman (time)→ezmine (times)/ semad (fertilizer)→esmide (fertilizers)/ jewab (answer)→ejwibe (answers).

Pattern: CeCeeC→ eCCiCe   **Template: Fe9eel**

Alternation: 1.Prefixation of a V (e)   2.Elision of the short V (e) 3. Shortening of the internal V (ee) → (i) 4.Suffixation of a V (e)

reśeed (credit)→erśide (credits)/ reśeef (sidewalk)→erśife (sidewalks)/ šereet (stripe)→ešrite (stripes)/ ďereeħ (shrine)→eďriħe (shrines).

Pattern: CuCaC → eCCiCe   **Template: Fu9al**

Alternation: 1.Prefixationof initial V (e)   2.Elision of the short V (u) 3.Shortening of the internal V (a)→ (i) 4.Suffixation of a V (e)

fu?ad (heart)→ef?ide (hearts)/ su?al (question)→es?ile (questions)/ turab (sand)→etribe (sands)/ bukhar (vapor)→ebkhire (vapors).

If third C in the root is (?), it is replaced by a the semi-vowel (y), to separate the two Vs and to avoid V sequence; *du9a? (prayer/ plea)→ed9iye (prayers/pleas)/ ĝiđa? (food)→ eĝđiye (foods)/ ħiđa? (shoe)→eħđiye (shoes)/ bina? (structure/ building)→ebniye (structures/ buildings)/ liwa? (banners)→elwiye (banners)/ dewa? (drug)→edwiye (drugs)/ ĝita? (cover)→eĝtiye (covers).*

Words which are bilateral (have two Cs standing as a root) undergo shift in the final V. Thus, /y/ is inserted after the two Cs to separate the short Vs; ***nadee*** *(club) [2 Cs; n/d]* → ***endiye*** *(clubs) [3 Cs' n/d/y].* Therefore, this bilateral noun becomes trilateral in pl.

Another change occurs in this form represented by the shift in root quality. Here, the C (w) is changed to a V (ou), and the trilateral noun becomes bilateral in root accordingly; ***we****reed (vein)*→***ou****ride (veins)/ **w**isam (insignia)*→***ou****sime (insignias)/ **w**i9a**?** (enclosure)*→***ou****9iye (enclosures).* Notwithstanding this remarkable change in the sing. root, a noun may not change in root, even if this change involves the elision of a C. The noun *wadee* (valley) is bilateral in root, consisting of (w) and (d) as a root, but in pl., (y) is inserted finally to separate the two final short Vs (i) and (e), and thus this new C replaces the elided (w) in pl. *oudiye* (valleys), (d) and (y).

3. fu9uul

This form includes principally C3 roots, in addition to a few bilateral ones. The C3 root of sing. nouns is commonly CvCC. The internal V is a short voiced sound only (كسرة or فتحة). In pl., this root becomes CvCvC. The first internal V, whatever be that V, alternates to a short voiced V (ضمة). More importantly, such irregular form results in breaking the final C cluster in the sing. by inserting a long V in between. Therefore, the root can best be represented as CvCuuC, to emphasize the insertion of a long V. The fig. below illustrates the change of a sing. noun to pl. in this form through as exemplified in the word *qelb* (heart):
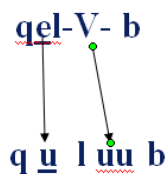
qel-V- b

q u̲ l u̲u̲ b

Fig. (3) Change of *qelb* (heart) to pl. *quluub* (hearts) where the underlined Vs denote sound alternation.

Most nouns pluralized in this form are mas, but they are turned into fem in pl.

Pattern: CeCC → CuCuuC   **Template: Fe9l**

Alternation: 1. Internal V mutation (e) → (u)   2. Breaking the final CC by infixing a V (uu)

Animals, birds; *nesr (eagle)* →*nusuur (eagles)/ fehd (leopard)*→*fuhuud (leopards)*

Tools; *ke?s (cup)→ku?uus (cups) / fe?s (axe)→fu?uus (axes)*.

Bilateral words are doubled in the second C; *def (drum)→dufuuf (drums)*

Bodily parts; *re?s (head)→ru?uus (heads)/ enf (nose)→unuuf (noses)*

If the word is bilateral or CvC, the second C is doubled; *kef (palm)→kufuuf (palms)*

Groups; *še9b (people)→šu9uub (peoples)/ wefd (delegation)→wufuud (delegations)*.

Landscape and weather; *sehl (plain)→suhuul (plains)/ thelj (snow)→thuluuj (snows)/ merj (prairie) →muruuj (prairies)/ kehf (cave)→kuhuuf (caves)*.

Places, institutions; *benk (bank)→bunuuk (banks)*

Periods; *šehr (months) →šuhuur (months)/ 9eśr (era)→9uśuur (eras)*.

Miscellaneous: *bend (chapter/clause)→bunuud (chapters/clauses)/ še?n (affair)→šu?uun (affairs)/ qeśr (palace)→quśuur (palaces)/ qebr (grave)→qubuur (graves)/ 9erš (throne)→9uruuš (thrones)/ ħerb (war)→ħuruub (wars)/ beħr (poetic meter)→buħuur (poetic meters)/ 9eql (mind)→9uquul (minds)/ ders (lesson)→duruus (lessons)/ kenz (treasure)→kunuuz (treasures).* The second C in bilateral roots is doubled in pl.; *ref (shelf)→rufuuf (shelves)/ śef (class)→śufuuf (classes)/ fel (remain)→fuluul (remains) / ħeb (grain)→ħubuub (grains)*.

Pattern: CiCC → CuCuuC   **Template: Fi9l**

Alternation: 1. Internal V mutation (i) → (u)   2. Breaking the final CC by infixing a V (uu)

9itr (odor)→9utuur (odors)/ qird (ape)→quruud (apes)/ śinf (class)→śunuuf (classes)/ sijn (prison)→sujuun (prisons)/ qidr (pot)→quduur (pots)/ jild (skin)→juluud (skins)/ 9ijl (calf)→9ujuul (calves) / qišr (peel)→qušuur (peels).

Pattern: CeCeC or CeCiC→ CuCuuC   **Template: Fe9el**

Alternation: 1. Internal V mutation (e) → (u) 2. Internal V Lenghthening (i) → (uu)

esed (lion)→usuud (lions) / śeter (line)→śutuur (lines)/ melik (king)→muluuk (kings)/ nemir (tiger)→numuur (tigers)

Pattern: CeiC→ CuyuuC   **Template: Fei9**

Alternation: 1. Internal V shortening (ei) → (u) 2. Infixation of the C (y) 3. Infixation of the V (uu)

In bilateral roots, the internal V is a diphthong. In which case it is deleted and /y/ is inserted instead to separate the two Vs and to avoid V sequence; *jeiš (army)→juyuuš (armies)/ 9ein (eye)→9uyuun (eyes)/ teir (bird)→tuyuur (birds)/ beit (house)→buyout (houses)/ jeib (pocket)→juyuub (pockets)/ seif (sword)→suyuuf (swords)/ zeit (oil)→zuyuut (oils)/ ðeil (tail)→ðuyuul (tails).*

4. fe9alee/ fewa9il

Fe9alee is the irregular pl. form that is used to pluralize mas as well fem nouns. It is used with C3 root words. However, the pl. root is quadriliteral (a four C root) in the form of CvCVCvC. If the first internal V is a long one, it will be replaced by (e+w). Hence, this (w) will be the four C added to the root of the sing. noun. The fig. below demonstrates the morphophonemic change in *9amil* (factor) to *9ewamil* (factors);

9 a mil

9 ewa mil

The following examples show this replacement;

Pattern: CaCiC→ CewaCiC   **Template: Fa9il → Fewa9il**

Alternation: 1. Infixationof a V (e)   2. Infixation of a C (w)

hatif (telephone)→hewatif (telephones)/ tabi9 (stamp)→tewabi9 (stamps)

In this category, there are a few words that denote places; *jami9 (mosque)→jewami9 (mosques)/ šari9 (street)→šewari9 (streets)/ šahid (monument)→šewahid (monuments)/ tabiq (floor)→tewabiq (floors)*. Also, there are words that are water-related; *sa?il (liquid)→sewa?il (liquids)/ rafid (river branch)→rewafid (river branches)/ saħil (coast)→sewaħil (coasts)/ qarib (boat)→qewarib (boats)*. The above replacement helps to change the root of the noun from trilateral in sing. to quadriliteral in pl., having added (w) to the root of the noun. In all these words, the only change occurring is the replacement of the first internal V (a) with (e+w).

In fem. nouns, those ending with the suffix (-e), the same rule applies, except that the said suffix is elided. These nouns involve various senses, such as tools; *tabi9e (printer)→tewabi9 (printers)/ barije (warship)→bewarij (warships)/ qafile (caravan)→qewafil (caravans)/ bakhire (steamship)→bewakhir (steamships)/ śariye (mast)→śewaree (masts)/ ma?ide (table)→mewa?id (tables)/ ja?ize (prize)→jewa?iz (prizes),* and places; *nafiðe (window)→newafið/ qa9ide (base)→qewa9id (bases)/ 9aiśme (capital city)→9ewaśim (capital cities).* Miscellaneous; *ša?ibe (impurity)→šewa?ib (impurities)/ fakihe (fruit)→fewakih (fruits)/ jariye (maid)→jewaree (maids)/ qafiye (rhyme)→qewafee (rhymes)/ 9a?ile (family)→9ewa?il (families).*

If the first V is short and the second one is long, and the word ends with (-e), the second V is replaced by (a) and the glottal C (?) is inserted to prevent the sequence of (a) and (i). As for the fem. suffix (-e), it is deleted. This is common in fem. nouns, as in; *fereeđe (religious duty)→fera?iđ (religious duties).*

Pattern: CeCeeCe→ CeCa?iC

Template: Fe9eele → Fe9a?il

Alternation: 1. Internal V mutation (ee) →(a)   2. Infixation of a C (?) 3.Infixation of a V (i)

4. Elision of the final V (e)

qeśeede (poem)→qeśa?id (poems)/ reheene (hostage)→reha?in (hostages)/ keteebe (battalion)→keta?ib (battalions)/ qebeele (tribe)→qeba?il (tribes)/ jezeere (island)→jeza?ir (islands)/ še9eere (rite)→še9a?ir (rites)/ medeene (town)→meda?in (towns)/ šeteere (sandwich)→šeta?ir (sandwiches)/ feteere (pie)→feta?ir (pies).

Here, the exception is the word *risale* (message), which has already (a) as a second V, and thus (?+i) is inserted in pl.; *resa?il* (messages). Nouns which are quadriliteral in root (consisting of four Cs), undergo internal V mutation, in addition to the anaptyxis of (a) relating to the pl. form, as in; *funduq (hotel) →fenadiq (hotels)/ zilzal (quake)→zelazil (quakes)/ 9esker (troop)→9esakir (troops).* The fem. suffix (-e) is elided to correspond to the pl. form; *belbele (confusion) →belabil (confusions)/ mehzele (farce)→mehazil (farces).*

The behavior of Vs varies in words, due to the different Vs contained in these words. Words ending with long V (ee) may have an insertion of (a) between the second and the final C root, as in *kursee* (chair)→*kerasee* (chairs). On the other hand, an orthographically similar word, like *nadee* (club), undergoes only insertion of (e+w) after the first C, and thus it is pluralized as

newadee (clubs). Interestingly, such behavior can be noticed even in C3 root nouns. Here, a different set of sounds is introduced, represented by (e+y+a) instead of (e+w). This is confined to the nouns the first internal V of which is the diphthong (ei); *heikel (skeleton)→heyakil (skeletons)/ beideq (pawn)→beyadiq (pawns)/ beireq (banner)→beyariq (banners)/ neizek (meteor)→neyazik (meteors).*

  There are many words in SA which begin with the suffix *me-*, taking this type of pl. This prefix is non-root C, .i.e., it is not original in the root, and it is added to these words to give the meaning of " a place where something is done", as such prefix is not in the C3 root of these words. It is the C3 root that implies the meaning of the stem, rather than the non-root C (*me-*). Hence, for example, in *mekteb* (office), the C3 root *k-t-b* implies the meaning of 'writing', from which that word takes its final meaning ' a place for writing.'

  Additionaly, a few pls. share the same template and form. Such words are animal, bird, or insect-related; *9ašib (herbivorous)→9ewašib (herbivouroses)/ zaħif (reptile)→zewaħif (reptiles)/ qariđ (rodent)→qewariđ (rodents)/ beheeme (beast)→beha?im (beasts)/ senjab (squirrel)→senajib (squirrels)/ sulħefat (turtle)→selaħif (turtles)/ 9eqreb (scorpion)→9eqarib (scorpions)/ newres (seagull)→newaris (seagulls)/ jariħ (bird of prey)→jewariħ (birds of prey)/ ħewafir (hoofs)/ qewadim (forelegs)/ laħim (carnivorous)→lewaħim (carnivorouses).*

Pattern: meCCeC → meCaCiC   **Template: mef9el → mefa9il**

Alternation: 1. Breaking the medial CC by infixing a long V (a) 2.Internal V mutation (e)→ (i)

Most words here imply 'a place where something is done'; *me9hed (institute)→me9ahid (institutes)/ merfe? (harbor)→merafi? (harbors) / merkez (center)→merakiz (centers)/ mesreħ (theatre)→mesariħ (theatres) /mel9eb (stadium)→mela9ib (stadiums)/ menjem (mine)→menajim (mines)/ mesken (residence)→mesakin (residences)/ menfeð (outlet)→menafið (outlets)/ mesbeħ (swimming pool)→mesabiħ (swimming pools)/ mekhzen (store)→mekhazin (stores)/ meśref (bank)→meśarif (banks)/ metbekh (kitchen)→metabikh (kitchens)/ meśne9 (factory)→meśani9 (factories)/ meštel (nursery)→mešatil (nurseries)/ mešjeb (hut stand)→mešajib (hutstands)/ metjer (department store)→metajir (department stores)/ me9bed (temple)→me9abid (temples)/ mekhfer (police post)→mekhafir (police posts)/ meshĝel (workshop)→meshaĝil (workshops)/ mekhbe? (cache)→mekhabi? (caches)/ melje? (shelter)→melaji? (shelters)/ merqed (shrine) meraqid (shrines)/ met9em (restaurant)→meta9im (restaurants)/ meśder (source)→meśadir (sources)/ me9reď(fair)→me9ariď (fairs)/ medrej (airdrome)→medarij (airdromes)/ meś9ed (elevator)→meśa9id (elevators)/ menbe9 (water spring)→menabi9 (water springs)/ mekhbez*

(bakery)→mekhabiz (bakeries)/ mekteb (office)→mekatib (office)/ meħfel (congregation)→ meħafil (congregations)/ mefqes (hatchery)→mefaqis (hatcheries)/ moutin (home)→mewatin (homes).

A place through which something passes; *me9ber (crossing)→me9abir (crossings)/ medkhel (entrance)→medakhil (entrances)/ mekhrej (exit)→mekharij (exits)/ menfeð (outlet)→menafið (outlets).* Miscellaneous references; *me9lem (monument)→me9alim (monuments)/ merkeb (boat)→merakib (boats)/ meqleb (trick)→meqalib (tricks).*

For fem. nouns, the suffix (-e) is deleted; *menteqe (area)→menatiq (areas)/ mezre9e (farm)→mezari9 (farms)/ medrese (school)→medaris (schools)/ meqbere (cemetery)→meqabir (cemeteries)/ me9reke (battle)→me9arik (battles)/ melħeme (epic)→melaħim (epics)/merħele (stage)→meraħil (stages)/ meħkeme (court)→meħakim (courts)/ metħene (mill)→metaħin (mills).* In C2 roots, the final V is changed to (ee). Again, here the sense has to do with place; *mešfa (hospital)→mešafee (hospitals)/ meśfa (refinery)→meśafee (refineries)/ meqha (café)→meqahee (cafes)/ mersa (marina)→merasee (marinas)/ melha (cabaret)→melahee (cabarets)/ mebna (building)→mebanee (buildings)/ mes9a (effort)→mesa9ee (efforts)/ merma (goal)→meramee (goals)/ mer9a (pasture)→mera9ee (pastures)/ mejra (stream)→mejaree (streams).* Exceptions in sense and in gender; *leila (night)→leyalee (nights).*

There are a few words have the pre-final V as /i/ rather than /e/, with a locative sense, including; *mejlis (session)→mejalis (sessions)/ mesjid (mosques)→mesajid (mosques)/ menzil (house)→menazil (houses)/ mouqif (situation)→mewaqif (situations)/ mouqid (fireplace)→mewaqid (fireplaces)/ mouqi9 (site)→mewaqi9 (sites)/ mouďi9 (position)→ mewaďiď (positions).* Exceptions; *mourid (resource)→mewarid (resources)/ mousim (season)→mewasim (seasons).*

Some words denote tools, instruments, equipment, .etc; *melbes (cloth)→melabis (clothes)/ medfe9 (cannon)→medafi9 (cannons)/ merjel (boiler)→merajil (boilers)/ mikbes (button)→mekabis (buttons)/ mekbeħ (brake)→mekabiħ (brakes)/ mi9oul (pickax)→me9awil (pickaxes)/ me9den (mineral)→me9adin (minerals)/ mekhleb (claw)→mekhalib (claws)/ medfe?e (heater)→medafi? (heaters)/ mitfe?e (extinguisher)→metafi? (extinguishers)/ meknese (vacuum cleaner)→mekanis (vacuum cleaners)/ metreqe (hammer)→metariq (hammer)/ merweħe (fan)→merawiħ (fans).* However, if the third C is (y) or (?), it is elided along with the preceding and the following V and it will be replaced by the V (ee); *umniye (wish)→emanee*

(wishes)/ uħjiye (riddle)→eħajee   (riddles)/ uĝniye (song)→eĝanee   (songs)/ uđhiye (offering)→eđaħee   (offerings)/ ina? (pot)→ewanee (pots)/ yed (hand)→eiyadee (hands).

Animals; *seħliye (lizard)→seħalee   (lizards)/ ef9a (snake)→ efa9ee (snakes)*. Landscapes; *śeħra? (desert)→śeħaree (deserts)/ ber (wild)→beraree (wilds)*.

   It is worth mentioning that in all of these above words, if the first internal V is not a short one, it is also elided and (e+w) is inserted instead; *z**ou**be9e (storm)→z**ew**abi9 (storms)/ ś**ou**me9e (silo)→s**ew**ami9 (silo)/ q**ou**qe9e (shell)→q**ew**aqi9 (shells)/ k**ou**keb (planet)→k**ew**akib (planets)/ n**ou**res   (seagull)→ne**w**aris (seagulls)/ j**ou**here (gem)→ j**ew**ahir (gems)*.

5. fu9ela?

   This form is used to derive irregular pl. for trilateral nouns that are mas. as a whole. The C3 root consists of three Cs and two Vs. The first V is a short or long V, but the second V is a long one. However, the pl. here is quadriliteral in root, as another C, that is (?), is added at the end of the sing. noun when pluralized. The final pl. form is: CvCvCvC or more precisely as CuCeCa?. The example below shows how *šeheed* (martyr) is pluralized as *šuheda? (martyrs)*;

šeh*ee*d

ŭ e

*šuh*ed +a?
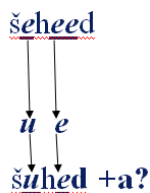
In pl., the quality of the first V is not changed (short to short);

Pattern: CeCeeC → CuCela?   **Template: Fe9eel → Fu9ela?**

Alternation: 1. Mutation of the first internal V (e) → (u) 2. Shortening of the second internal V (ee) → (e) 3. Suffixation of (-a?)

Most nouns here denote positions, occupations, and the like; *re?ees (president)→ru?esa? (presidents)/ emeen (secretary)→umena? (secretaries)/ 9eđeem (great)→ 9uđema? (greats)/ sefeer (ambassador)→sufera? (ambassadors)/ emeer (prince)→ umera? (princes)/ edeeb (man of letters)→udeba? (men of letters)/ fereeq (rival)→fureqa? (rivals)/ 9emeed (dean)→9umeda? (deans)/ kheteeb (orator)→khuteba? (orators)/ ħeleef (ally)→ħulefa? (allies)/ wekeel (agent)→wikela?(agents)/ wezeer (minister)→wuzera? (ministers)/ mudeer (manager)→mudera? (managers)/ šereek (partner)→šureka?(partners)/ neqeeb (captain)→nuqeba?(captains)/ wejeeh (notable)→wujeha? (notables)/   9ereef*

(sergeant)→9urefa?(sergeants)/ ze9eem (leader)→zu9ema? (leaders)/ 9eqeed (colonel)→9uqeda? (colonels)/ zemeel (fellow)→zumela? (fellows)/ kheleefe (caliph/successor)→khulefa? (caliphs/successors)/ khebeer (expert)→khubera? (experts)/ feqeeh (jurist)→ fuqeha? (jurists).

Additionally, there are nouns that imply some temporary or permanent adjectives; *ĝereeb* (stranger)→*ĝureba?* (strangers)/ qedeem (ancient)→qudema? (ancients)/ bekheel (miser)→bukhela? (misers)/ neđeer (counterpart)→nuđera? (counterparts)/ kereem (generous)→kurema? (generous ones)/ leteef (nice)→lutefa? (nice ones)/ se9eed (happy)→su9eda? (happy ones)/ nebeel (noble)→nubela? (nobles)/ ħekeem (wise)→ħukema? (wise ones)/ feqeer (poor)→fuqera? (poor ones).

Pattern: CaCiC → CuCela?   **Template: Fa9il → Fu9ela?**

Alternation:

1. Shortening of the first internal V (a) → (u) 2. Mutation of the second internal V (i) → (e)

3. Suffixation of (-a?)

ša9ir (poet)→*šu9era?* (poets)/ *9alim* (scholar)→*9ulema?* (scholars)/ *ba?is* (miserable)→*bu?esa?* (miserable ones)/ *jahil* (ignorant)→*juhela?* (ignorant ones)/ *jeban* (coward)→*jubena?* (cowards).

6. fe9aya

Fe9aya is an irregular pl. form used to pluralize fem. sing. nouns that are C3 or C2 in root, of which the root is CvCvCv. The pl. root is also CvCvCv. The morphophonemic representation of this pl. is CeCaya, as manifested in this Fig:

kh e l i y e

a   a
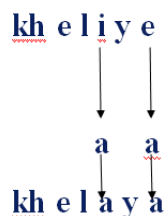
kh e l a y a

In *kheliye* (cell), the second and the final unwritten short Vs become orthographically written long Vs. Hence; *khelaya* (*cells*). The majority of nouns related are pluralized through this change;

**Pattern: CeCiye → CeCaya**   **Template: Fe9iye → Fe9aya**

Alternation: 1. Lenghthening of the second internal V (i)→ (a) 2.Lenghthening of the second internal V (e) → (a)

weśiye (will)→weśaya (wills)/ re9iye (subject)→re9aya (subjects)/ hediye (gift)→hedaya (gifts)/ šeđiye (fragment)→šeđaya (fragments)/ śebiye (lass) śebaya (lasses)/ qeďiye (issue)→qeďaya (issues)/ sejiye(character)→sejaya (characters)/ beliye (distress)→belaya (distresses)/ beqiye (remain)→beqaya (remains)/ 9etiye (donation)→9etaya (donations)/ seriye (brigade)→seraya (brigades)/ đeħiye (victim)→đeħaya (victims)/ meniye (death)→menaya (deaths)/ metiye (riding animal)→metaya (riding animals)/ zawiye (corner)→zewaya (corners).

   If the final C is (?), it is changed to (y) in pl.; *khetee?e (sin) →khetaya (sins)/ khebee?e (hidden thing)→khebaya (hidden things)/ rezee?e (calamity)→rezaya (calamities)/ mir?a (mirror)→ meraya (mirrors)/ 9eđa?e (lizard)→9eđaya (lizards).* Words which are bilateral in root or which end with (y) or V, have this (y) or V deleted and (*-aya*) is affixed instead; *beĝee (prostitutes)→beĝaya (prostitutes)/ sebee (captive)→sebaya (captives)/ neeye (intention)→newaya (intentions)/ meeze (merit)→mezaya (merits).* Some nouns are already in pl. e.g. *seħaya (meningitis).*

7. fi9el

   Fi9el is a pl. form used to pluralize sing. fem. nouns, that are C2 or C3 in root. Nouns pluralized in this form can be classified into three main subtypes. The first subtype includes the bilateral nouns that consist of a C followed by a geminate, morphemically represented as CvCgv, where Cg stands for Consonantal Gemination. Gemination is the doubling of a single or certain C in the word. The Fig. below explains how such sing. nouns are pluralized;
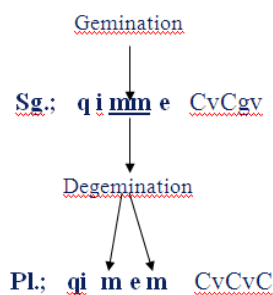
   What happens here is a degemination of the doubled C, and therefore the word *qimme* (summit), for example, becomes *qimem* (summits) in pl., by inserting a short unwritten V in

between. Most nouns pluralized in this form take the form of CiCeC. As for the final lexical V in the sing. noun, it is elided in pl.;

Pattern: CiC²e   **Template: Fi99e → Fi9e9**

Alternation: 1. Degemination of the second root C by infixing a V (e) 2. Elision of the final V

qitte (cat)→qitet (cats)/ 9ille (cause)→9ilel (causes)/ ðimme (protection)→ðimem (protections)/ ville (villa)→vilel(villas)/ himme (determination)→himem (determinations)/ qiśśe (story)→qiśeś (stories)/ šiqqe (apartment)→šiqeq (apartments)/ mille (sect)→milel (sects)/ suune (tradition)→sunen (traditions)/ 9udde (equipment)→9uded (equipments)/ juththe (dead body)→jutheth (dead bodies)/ ħujje (pretext)→ħujej (pretexts).

  The most significant morphophonemic change here is that bilateral root words become trilateral. Words can be unilateral (mono-consonantal); *umme (nation) →umem (nations)*. Some nouns are always used in pl.; *ħimem (lavas)*. But, if the word is already C3 in root, then only a short V is infixed to separate the final Cs.

Abstract or ideational traits;   *ħikme (wisdom)→ħikem (wisdoms)/ 9ibre (moral)→9iber (morales)*. Jobs and occupations;   *mihne (job)→mihen (jobs)/ ħirfe (profession)→ħiref (professions)*. Collective groups or entities; *furqe (band)→fureq (bands)/ kutle (bloc)→kutel (blocs)/ usre (family)→user (families)*. Miscellaneous; *nisbe (portion)→niseb (portions)/ ibre (needle)→iber (needles)/ jumle (sentence)→jumel (sentences)/ kulfe (cost)→kulef (costs)/ 9utle (holiday)→9utel (holidays)/ ĝurfe (room)→ĝuref (rooms)/junħe (felony)→juneħ (felonies)/ werše (workshop)→wireš (workshop)/ ni9me (grace)→ni9em (graces)/ sil9e (good)→sile9 (goods)/ birke (pond)→birek (ponds)/ miħne (trial) →miħen (trials).*

   (y) or (w) is inserted in the bilateral nouns containing long Vs or diphthongs in the middle, to separate the surrounding short Vs and to avoid V sequence. Also, the final (-e) fem. suffix is deleted. Hence, such words are changed in root from bilateral in sing. to trilateral in pl.; *kheime (tent)→khiyem/ śeeĝe (format)→śiyeĝ (formats)/ seere (biography)→siyer (biographies)/ qeeme (value)→qiyem (values)/ šeeme (trait)→šiyem (traits)/ jeefe (carrion)→jiyef (carrions)/ doule (state)→duwel (states)/ suure (verse)→suwer (verses)/ śuure (photo)→śuwer (photos).*

8. fe9aleel

 This is a pl. form used to derive the pl. of many mas. as well fem. sing. nouns that are C3 or C4 in root. The root of the pl. is quadriliteral; CvCvCvC, or more precisely as CeCaCeeC, for
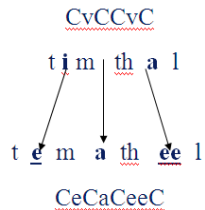
quadriliteral sing. nouns, and CeWaCeeC for trilateral sing. nouns. This pl. root is shown in the Fig. below:

Sing. noun in C3 root;

CvCvC

q a m **uu** s

q **e w a** m **ee** s

CeWaCeeC
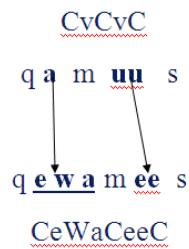
qamuus (dictionary) to pl. *qewamees* (dictionaries)

Sing. noun in quadriliteral root;

CvCCvC

t **i** m th a l

t **e** m a th **ee** l

CeCaCeeC

timthal (statue) to pl. *tematheel* (statues)

Pattern: MiCCaC → MeCaCeeC   **Template: Mif9al → Mefa9eel**

Alternation: 1. mutation of the first internal V (i) → (e)   2. Infixation of a long V (a) 2. Mutation of the second internal V (a) → (ee)

Nouns pluralized here mostly denote tools, equipment, devices, and the like; *miśbaħ (lamp)→meśabeeħ (lamps)/ finjan (cup)→fenajeen (cups)/ mizmar (pipe)→mezameer (pipes)/ miħrar (thermometer)→meħareer/ mismar (nail)→mesameer (nails)/ minshar (saw) menasheer (saws)/ miqdar (measure)→meqadeer (measures).* Included in this are a few fem. nouns; *qaruure (glass)→qewareer (glasses)/ masuure (pipe)→mewaseer (pipes)/ ṭaħuune (mill)→tewaħeen (mills).* Others denote animals; *sinjab (squirrel)→senajeeb (squirrels)/ timsaħ (crocodile)→temaseeħ (crocodiles).* Some other nouns may refer to written things; *teśreeħ (permission)→teśareeħ (permissions)/ tefseer (interpretation)→tefaseer (interpretations)/ teqreer (report)→teqareer (reports)/ tewqee9 (signature)→tewaqee9 (signatures)/ tareekh (date)→tewareekh (dates).* Natural or emotional aspects; *i9śar (storm)→e9aśeer (storm)/ iħsas (feeling)→eħasees (feelings).*

Pattern: CaCuuC → CewaCeeC   **Template: Fa9uul → Fewa9eel**

Root: C3→ C4

Alternation: 1. Infixation of the syllable (ew) 2. Mutation of the second internal V (uu) → (ee)

  Again, some nouns here are concerned with tools, devices, or equipment; *tabuut (coffin)→tewabeet (coffins)/ śaruukh (missile)→śewareekh (missiles)/ ħasuub (computer)→ħewaseeb (computers)/ fanuus (lantern)→fewanees (lanterns)/ ibreeq (kettle)→ebareeq (kettles)/ sikkeen (knife) →sekakeen (knives)*. Abstract laws, regulations, or non-animate aspects; *kabuus (nightmare)→kewabees (nightmares)/ namuus (laws of nature)→newamees (laws of nature)/ qanuun (law)→qewaneen (laws)*. Animate attributes; *taĝuut (tyrant)→tewaĝeet (tyrants)/ śindeed (valiant)→śenadeed (valiant ones)/ jasuus (spy)→jewasees (spies)/ tilmeeð (pupil)→telameeð (pupils)*. Birds or animals; *tawuus (peacock)→tewawees (peacocks)/ betreeq (penguin)→ betareeq (penguins)*. Imaginary entities or creatures; *tinneen (dragon)→tenaneen (dragons)/ 9ifreet (demon)→9efareet (demons)*. Activities or actions; *timreen (exercise)→temareen (exercises)/ ikleel   (wreath)→ekaleel (wreaths)*. Locative references; *tabuur (queue)→tewabeer (queues)/ iqleem (region)→eqaleem (regions)*.

  In SA, there are certain nouns are always used in pl.; *metarees (barricades)/ teraweeħ (nightly prayers at Ramadan)/ te9aleem (teachings)/ tefaśeel (details)/ te9abeer (expressions)/ tebašeer (good or early news)/ ħeðafeer (sides)/ esareer (facial lineaments)/ eqaweel (telltales)*. In trilateral nouns with the first internal V is a long one (ei) or (ee), this long V is shortened to (e) and (ya) is infixed. As for the second internal V, it is mutated to (ee); *meidan (square)→meyadeen (squares)*. Most words here have to do with measurement or the related senses; *meezan (scale)→mewazeen (scales)/ mee9ad (appointment)→mewa9eed (appointments)/ meeqat (appointed time)→mewaqeet (appointed times)/ deenar (dinar)→denaneer (dinars)*.

  Some nouns are borrowings; *sirdab (vault)→seradeeb (vaults)/ fustan (dress)→fesateen (dresses)/ dihleez (vestibule)→dehaleez (vestibules)/ bintal (trousers)→benateel (trousers)/ sirwal (pants)→seraweel (pants)/ derweesh (dervish)→deraweesh (dervishes)/ bermeel (barrel)→berameel (barrels)/ dulfeen (dolphin)→delapheen (dolphins)*.

Pattern: CuC^{2}aC   **Template: Fu99al → Fe9a9eel**
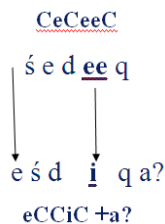
Root: C4

Alternation: 1. Mutation of the first internal V (u) → (e)   2. Degemination of the internal C geminate by infixing a V (a)   3. Mutation of the second internal V (a) → (ee)

   Animals, birds, or insects; *thu9ban (snake)→the9abeen (snakes)/ 9uśfuur (sparrow)→9eśafeer (sparrows)/ dubbuur (hornet)→debabeer (hornets)*. Animate or human attributes; *rubban (captain)→rebabeen (captains)/ śultan (sultan)→śelateen (sultans)/ menduub (envoy)→menadeeb (envoys)/ jumhuur (public)→jemaheer (publics)/ śu9luuk (pauper)→ śe9aleek (paupers)*. Locative references; *šubbak (window)→šebabeek (windows)/ bustan (garden)→besateen (gardens)*. Natural aspects or phenomena; *ukhduud (groove)→ekhadeed (grooves)/ uħfuur (fossil) →eħafeer (fossils)/ burkan (volcano)→berakeen (volcanoes)*. Tools or equipment; *unbuub (pipe)→enabeeb (pipes)/ śunduuq (box)→śenadeeq (boxes)/ dubbuus (pin)→(debabees)/ śunbuur (faucet)→śenabeer (faucets)/ uśtuul (fleet)→eśateel (fleets)*. Written works; *9unwan (address)→9enaween (addresses)/ dustuur (constitution)→desateer/ utruuħe (thesis)→etareeħ (theses)*. Spiritual, religious, or mythical associations; *qurban (offering)→qerabeen (offerings)/ uśtuure (legend)→eśateer (legends)/ te9weeðe (charm)→te9aweeð (charms)/ terneeme (hymn)→teraneem (hymns)*.

9. ef9ila?

   Ef9ila? is an irregular form for mas. nouns. Nouns pluralized in this form are C2 or C3 in root, formed as CvCv or CvCvC. In pl., two suprafixes, which are not lexically found in the sing. root, are added. The first is an initial V (prothesis) and the second one is the V (a) + the C (?). As for the internal changes, they are mostly restricted to the change of the long V to a short unwritten one, and the elision of the first short V. The word *śedeeq* (friend) becomes *esdiqa?* (friends) through this morphophonemic change:

CeCeeC
ś e d **ee** q

e ś d **i** q a?
eCCiC +a?

   Hence, words which are trilateral in sing. become quadriliteral in pl., as another C is added to the root. The following are examples of such words, that undergo the same change in pl.;

Pattern: CeCeeC → eCCiCa?

Template: Fe9eel → ef9ila?

Root: C3 → C4

Alternation:

1.Prefixation of a V (e)   2.Elision of the first internal V (e)   3.Shortening of the final V (ee)→ (i)   4. Suffixation of (ya?)

Attributes; *beree? (innocent)→ebriya? (innocents)/ qereeb (relative)→eqriba? (relatives)*

   In nouns where the last two root Cs are identical, they are merged into a single C geminate. Most words of this category are either nouns; *reqeeq (slave)→eriqqa?   (slaves)/ deleel (guide)→edilla? (guides)/ tebeeb (doctor)→etibba? (doctors)*, or attributes; *šedeed (tough)→šhidda? (tough ones)/ 9ezeez (dear)→e9izza? (dear ones)/ ħebeeb (beloved) →iħibba? (beloved ones).* Further to the above, there are several nouns that are bilateral in root (containing two Cs in sing. case), which also become trilateral in pl. The said words are often CvCv, or CeCee. In pl., the first short V is elided, while the second V at the end, which is usually a diphthong, is not only elided, but is also replaced by a short V and then followed by (y) to avoid sequence with the following V;

Pattern: CeCee →eCCiya?   **Template: Fe9ee →ef9iya?**

Root: C2 → C4

Alternation: 1. Prefixation of a V (e)   2. Elision of the internal V (e) 3. Final V shortening (ee) → (i)   4. Suffixation of the syllable (ya?)

   Except for the noun *nebee (prophet)→enbiya? (prophets),* most nouns here denote attribute animate adjectives; *theree (rich)→ethriya? (rich ones)/ ðekee (smart)→eðkiya? (smart ones)/ ĝebee   (stupid)→eĝbiya? (stupid ones)/ ĝenee (rich)→eĝniya? (rich ones)/ šeqee (wretched)→ešqiya? (wretched ones)/ qewee (strong)→eqwiya? (strong ones).*   Moreover, if the first C in the root is (w), it is substituted by the long V (ou);***w****eśee (custodian)→**ou**śiya? (custodians)/ **w****elee (patron)→**ou**liya? (patrons)/ **w****efee (loyal)→**ou**fiya? (loyal ones).*

10. fu99al

   This an irregular pl. form to change sing. mas nouns into pl. Such nouns are C3 in root, mostly as *Fa9il,* or CvCvC (CaCiC). In addition, the second C in the root is doubled to form an internal gemination. A given pl. can be represented as follows;

CaCiC

k a *i* b

k u *tt* a b

CuCgaC
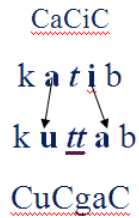
In this Fig., *katib* (writer) is changed to *kuttab* (writers). In brief, the change from sing. to pl. involves an internal mutation of Vs; the first long V becomes a short unwritten V, and the second short unwritten V becomes a long written V, plus the doubling of the medial C.

Pattern: CaCiC →CuC ^{2}aC   Template: Fa9il → Fu99al

Root: C3

Alternation: 1. Internal V shortening (a) → (u)   2. Gemination of the internal C 3. Internal V lenghthening (i) → (a)

In general, the majority of nouns here suggest the sense of 'one who does or performs', hence; *ħaris (guard)→ħurras (guards)/ ħakim (ruler)→ħukkam (rulers)/ qari? (reader)→qurra? (readers)/ naqid (critic)→nuqqad (critics)/ đabit(officer)→đubbaṭ (officers)/ malik (owner)→mullak (owners)/ śani9 (maker)→śunna9 (makers)/ rakib (passenger)→rukkab (passengers)/ sakin (resident)→sukkan (residents)/ qati9 tereeq (highwayman)→qutta9 turuq (highwaymen)/ sariq (stealer)→surraq (stealers).* Permanent or temporary attributes; *9azib (bachelor)→9uzzab (bachelors)/ 9ašiq (lover) →9uššaq (lovers)/ fajir (wanton)→fujjar (wantons)/ 9aðil (blamer)→9uððal (blamers)/ kafir (disbeliever)→kuffar (disbelievers).* Positions or occupations; *kahin (priest)→kuhhan (priests)/ tajir (tradesman)→tujjar (tradesman)/ wa9iđ (preacher)→wu99ađ (preachers)/ talib (student)→tullab (students)/ 9amil (worker)→9ummal (workers).* There is also a sense of over-performing of things, duties, or jobs, as in; *zahid (ascetic)→zuhhad (ascetic)/ 9abid (worshipper)→9ubbad (worshipper).* If the second C is (?), it is changed to (w) in pl.; *za?ir (visitor)→zuwwar (visitors)/ ra?id (pioneer)→ruwwad (pioneers)/ sa?iħ (tourist)→suwwaħ (tourists)/ na?ib (deputy)→nuwwab (deputies).*

The few words which are bilateral in root become trilateral in pl. The form of these words in sing., which is (CaC), becomes CuCCan. The internal long V (a) becomes a short unwritten one (u), the second C is doubled, and thus forming a gemination, and (a+n) is added at the end; *šab (youngman)→šubban (youngmen).* Notwithstanding this change which is limited to a very few

words in SA, there is a similar word that shows a slightly minor change to the above; *ħaj (pilgrim)→ħujjaj (pilgrims)*.

11. Fe9alile

  This is quite uncommon form of irregular pl. being restricted to quadriliteral or quinqeliteral words or words borrowed from other languages.

Pattern: CeCCeCee→ CeCaCiCe   **Template: Fe9lelee → Fe9alilie**

Root: C4

Alternation: 1. Breaking the medial CC by infixing a V (a) 2. Internal V mutation (e) → (i)

3. Shortening of the final V (ee) → (e)

Words here are either positions or attributes; *śeidelee (pharmacist)→śeyadile (pharmacists)/ 9ebqeree (genius)→9ebaqire (geniuses)*.

Pattern: CuCCan → CeCaCiCe   **Template: Fu9lan → Fe9alilie**

Root: C4

Alternation: 1. Internal V mutation (u) → (e)   2. Breaking the medial CC by infixing a V (a)

3. Shortening of the internal V (a) → (i)   4. Suffixation of a V (e)

Positions or occupations; *qurśan (pirate)→qeraśine (pirates)/ rubban (captains)→rebabine (captains)/ ustað (master/professor)→esatiðe (masters/professors)/ duhqan (chief)→dehaqine (chiefs)*. Included in this are the nouns which are Arabicized or loanwords; *feilesuuf (philosopher)→felasife (philosophers)/ duktor (doctor)→dekatire (doctors)/ qubtan (captain)→qebatine (captains)/ jillouz (policeman)→jelawize (policemen)/ zibnee (keeper of order)→zebaniye (keepers of order)/ simsar (broker/ agent)→semasire (brokers/ agents)*.

 Some nouns are always in pl.; *sewasiye (equals)* from *sewa? (equal)*.

  Compound nouns, or nouns which are C5 (consisting of five Cs as a root), which is very rare in SA; *9ebdullah (Abdullah) →9ebadile* (persons called *Abdullah*)

Ethnic groups; *śihyonee (Zionist)→śehayine (Zionists*

Imaginary or unreal creatures; *9imlaq (giant)→9emaliqe (giants)/ jebbar (titan)→jebbabire (titan)*.

Nouns borrowed from Greek or Latin that refer to the titles of kings, monarchs, rulers, etc.; *imberator (emperor)→ebatire (emperors)/ kisra (Chosroe)→ekasire (Chosroes)/ qeiśer (Caesar)→qeyaśire (Caesars)/ fir9oun (Pharaoh)→fera9ine (Pharaohs)*.

Miscellaneous; *śoulejan (scepter)→śewalije (scepters)/ niśtoori (Nestorian)→neśatire (Nestorians)*.

Of which are the words that refer to religious ranks, positions, etc, whether they are SA in; *qes (vicar)→qesawise (vicars)/ usquf (bishop)→esaqife (bishops)/ khuuree (vicar)→khewarine (vicars)/ shemmas (deacon)→shemamise (deacons)*, or borrowed from other languages, such as; *kardeenal (cardinal)→keradile (cardinals)/ metran (archbishop)→metarine (archbishops)/ betreerik (patriarch)→betarike (patriarch)*.

The words *kardeenal* and *betreerik* are pluralized as *keradile* and *betarlike* respectively, by eliding the final or the pre-final C in the sing. root. This is due to the fact that the above words are C5 in root, and having a five C root is not a possible sequence in SA. However, in *imberator*, which is C5 in root too, the pl. is *ebatire*, as two Cs have been elided to model the required form of pl. sequence *Fe9alile*.

There are the nouns that refer to ethnic or historical groups, peoples, nationalities, including religious or political groups or entities and the like. Such nouns are often quadriliteral and are used almost in pl.; *menaðire (Muntherids)/ beramike (Barmakids)/ ye9aqibe (Jacobeans)/ ħenabile (Puritans)/ ye9arube (Yarubids)/ śeqalibe (Slavs)/ betalime (Ptolemaics)/ qebariśe (Cypriots)/ efariqe (Africans)/ meĝaribe (From the Maghreb countries)/ belašife (Bolsheviks)/ menašife (Mensheviks)/ selajiqe (Seljuks) /ĝesasine (Ghassanids)/ qeramite (Carmatians)/ mewarine (Maronites)/ ezariqe (Ezariqids)/ Eĝalibe (Aghlabids)*. In addition, some words which denote extraordinary qualities or characters, such as; *jehbeð (great sscholar)→jehabiðe (great scholars)/ berberee (Barbarian)→berabire (Barbarians)/ jebbar (giant)→jebabire (giants)/ melak (angel)→mela?ike (angels)*.

12. Fe99ale

Fe99ale is a pl. form used to pluralize a few mas. nouns that are C3 in root. In changing from sing. to pl., the only change that occurs in these nouns is the addition of the short V (e) at the

end, as the sing. form is already Fe99al (CvCgvC), the first V is a short unwritten one, whilst the second V is a long orthographic one. Hence;

Pattern: CeC²aC → CeC²aCe   **Template: Fe99al → Fe99ale**

Root: C3

Alternation: 1. Elision of the final V (e)

Mostly positions or occupations; *keššaf (scout)→keššafe (scouts)/ kheyyal (horseman) →kheyyale (horseman)/ hejjan (camel rider)→hejjane (camel riders)/ reħħal (globetrotter)→reħħale (globetrotters)/ beħħar (sailor)→beħħare (sailors)/ qennaś (sniper)→qennaśe (snipers).*

13. Fa9e

  This is a very minor type of irregular pl., since the words pluralized through it are handful. These words are C3 in root; based on Ca?iC. In pl., the medial C (?) is elided along with the following short V, and only the first and the final Cs are kept, and the short orthographic V (e) is suffixed at the end.

Pattern: Ca?iC → CaCe   **Template: Fa?i9 → Fa9e**

Root: C3→ C2

Alternation: 1. Elision of the internal C (?)   2. Elision of the internal V (i) 3. Suffixation of a V(e)

  Mostly positions or occupations or the sense of one who does something; *ba?i9 (salesman)→ba9e (salesmen)/ qa?id (leader)→qade (leaders)/ śa?iĝ (goldsmith)→śaĝe (goldsmiths)/ sa?is (header)→sase (headers).* Where the medial C is a long V or (y) followed by V, this sequence, including (y), is elided with the final C is retained; *seiyid (mister)→sade (misters).*

14. Fu9a

Fu9a is a rarely used form to derive irregular pl. Only a few words, fem. trilateral nouns, are pluralized through this form.

Pattern: CeCye →CuCa   Template: Fe9ye → Fu9a

Root: C3→ C2

Alternation: 1. Mutation of the first internal V (e) → (u)   2. Elision of the prefinal C (y)

3. Lenghthening of the final V (e) → (a)

qerye (village)→qura (villages)/ ru?ye (vision)→ru?a (visions)/ dumye (doll)→duma (dolls)/ kunya (cognomen)→kuna (cognomens)/ ruqye (spell)→ruqa (spells)/ bunye (structure)→buna (structures).

Pattern: CuCwe → CuCa   **Template: Fu9we → Fu9a**

Root: C3 → C2

Alternation: 1. Elision of the final C (w)   3. Lenghthening of the final V (e) → (a)

9urwe (bond)→9ura (bonds)/ quwwe (force/power)→quwa (forces/powers).

Pattern: CiCye → CiCa   **Template: Fi9ye → Fi9a**   **Root: C3 → C29a**

Alternation: 1. Elision of the final C (y)   3. Lenghthening of the final V (e) → (a)

fidye (ransom)→fida (ransoms)/ jizye (tax)→jiza (taxes)/ 9iduu (enemy)→9ida (enemies)/ nuwat (nucleus)→newa (nuclei).

15. F(i/u)9lan

A form of irregular pl. to pluralize trilateral mas. nouns.

Pattern: CiCC → CiCCan   **Template: Fi9l → Fi9lan**

Root: C2/ C3→ C4

Alternation: 1. Internal V mutation (e) → (i)   2. Suffixation of (an)

Animals or birds; *jirð (rat)→jirðan (rats)/ fe?r (mouse)→fi?ran (mice)/ ĝurab (crow)→ĝirban (crows)/ ĝezal (deer)→ĝizlan (deer).*

Miscellaneous; *jidar (wall)→jidran (walls)/ śebee (boy)→śibyan (boys).*

Pattern: CaCiC → CuCCan   **Template: Fa9il → Fu9lan**

Root: C3→ C4

Alternation: 1. Shortening of the first internal V (a)→ (u)   2.Elision of the second internal V (i)

3. Sufixation of (an)

šati? (beach)→šut?an (beaches)/ faris (knight)→fursan (knights)

Pattern: C(u/i/e)CaC → CiCCan　　　　**Template: Fu9al → Fu9lan**

Root: C3→C4

Alternation: 1. Internal V mutation (u) → (i)   2. Elision of the second internal V (a)

3. Suffixation of (an) to the end of the noun

šuja9 (brave)→šij9an (braves)/ ĝulam (boy)→ĝilman (boys).

Pattern: CeCeeC → CuCCan　　　**Template: Fe9eel → Fu9lan**

Root: C3→ C4

Alternation: 1. Internal V mutation (e) → (u)   2. Elision of the second internal V (ee)   3. Suffixation of (an)

ketheeb   (sandhill)→kuthban   (sandhills)/   qemeeś   (shirt)→qumśan   (shirts)/   qeďeeb (rod)→quďban (rods)/ kheleej (gulf)→khuljan (gulfs).

Pattern: CeCeC→ CuCCan　　　　**Template: Fe9el → Fu9lan**

Root; C3→ C4

Alternation: 1. Internal V mutation (e) → (u)   2. Elision of the second internal V (e)   3. Suffixation of (an)

weled (boy)→wuldan (boys)/ beled (country)→buldan (counties). Some include nationalities: *siryan (Syriacs)/ tilyan (Italians)/ elman (Germans).* This also includes bilateral nouns: *wadee (valley)→widyan (valleys).*

16. Fe9el

Fe9el is an irregular pl. form used to derive the pl. of a few mas. nouns, most of which are C3 in root.

Pattern: CaCiC → CeCeC　　　　**Template: Fa9il → fe9el**

Root: C3

Alternation: <u>1</u>. Shortening of the first internal V (a) → (e)   2. Internal mutation of the second V (i) → (e)

Positions or occupations; *khadim (servant)→khedem (servants, mas. & fem.)/ ħaris (guard)→ħeres (guards)/ khefeer (sentinel)→khefer (sentinels).*

Pattern: CeCeCee → CeCeC   **Template: Fe9elee → Fe9el**

Root: C3

Alternation: <u>1</u>. Elision of the final V (ee)

9erebee (Arab)→9ereb (Arabs)/ ĝejeree (Gypsy)→ĝejer (Gypsies)/ bešeree (human being)→bešer (human beings)/ teteree (Tartar)→teter (Tartars)/ hemejee (barbaric)→hemej (barbaric ones). Collective nouns (nouns that refer to pl. non-animate entities regardless of gender or number); *šejer (tree), semek (fish), śekher (rock), ħejer (stone), beqer (bovines), ĝenem (sheep), beje9 (swans),* and *wereq (paper)* are also included in this category.

17. Fe9eel

This form is used to pluralize a few mas. trilateral or bilateral nouns.

Pattern: CaC →CeCeeC^{X}   **Template: Fa9 →Fe9ee9**

Root: C2→ C3

Alternation: <u>1</u>. Shortening of the internal V: (a) → (e)   2. Infixation of a V (ee)

3. Reduplication of the second root C

ħaj (pilgrim)→ħejeej (pilgrims)

Pattern: CeCC → CeCeeC   **Template: Fe9l → Fe9eel**

Root: C3

Alternation: 1. Breaking the final CC by inserting the epenthetical V (ee)

9ebd (slave)→9ebeed (slaves)

Pattern: Change: CiCaC → CeCeeC   **Template: Fi9al → Fe9eel**

Root: C3

Alternation: 1. Internal V mutation; (i) → (e)/ (a) → (ee)

ħimar (donkey)→ħemeer (donkeys)

18. Fe9ele

Fe9ele is a pl. form to pluralize trilateral mas. nouns.

Pattern: CaCiC → CeCeCe   **Template: Fa9il → Fe9ele**

Root: C3

Alternation: 1. Shortening of the first internal V (a) → (e)   2. Mutation of the second internal V (i) → (e)   3. Suffixation of a V (e)

Positions; *talib (students)→telebe (students, mas. & fem.)/ sadin (keeper)→sedene (keepers)/ saħir (magician)→seħere (magicians)/ 9ajiz (disabled)→9ejeze (disabled people)/ kasib (wage-earner)→kesebe (wage-earners).* Permanent or temporary attributes; *qatil (murderer)→qetele (murderers)/ kha?in (traitor)→khewene (traitors)/ mahir (skilled)→mehere (skilled ones)/ warith (inheritor)→werethe (inhereitors)/ safil (mean)→sefele (mean ones)/ jahil (ignorant)→jehele (ignorant ones).*

19. Ef9ul

Ef9ul is a form of irregular pl. to pluralize mas. and fem. trilateral nouns.

Pattern: CeCC→ eCCuC   **Template: Fe9l → ef9ul**

Root: C3

Alternation: 1.Prefixation of a V (e)   2.Elision of the internal V (e)   3.Breaking the final CC by infixing a short V (u) between the final Cs.

nefs (self)→enfus (selves)/ nehr (river)→enhur (rivers)/ ħerf (letter)→eħruf (letters)/ fer9 (branch)→efru9 (branches)/ śetħ (roof)→eśtuħ (roofs)/ šehr (month)→ešhur (months)/ wejh (look)→oujuh (looks).

Pattern: CiCaC→ eCCuC   **Template: Fi9al → ef9ul**

Root: C3

Alternation: 1.Prefixation of a V (e)   2.Elision of the internal V (i) 3.Shortening of the seond internal V (a) → (u)

Bodily parts; *lisan (tongue)→elsun (tongues)/ ðira9 (arm)→eðru9 (arms)/ 9ein (eye)→e9yun (eyes)/ rijl (leg)→erjul (legs),* in addition to body-related actions; *yemeen (oath)→eimun (oaths).* Miscellaneous; *śeter (line)→eśtur (lines).*

20. Fee9al

   Fee9al is a very rare type of irregular pl. in SA. It is used to pluralize mas as well as fem. bilateral nouns. In bilateral nouns based on CvC template, the medial V is altered to (ee), and (-*an*) is added to the end of the noun. The following table explains this alteration.

Pattern: CaC → CeeCan   **Template: Fa9 → Fee9an**

Root: C2 →C3

Alternation:

1. Internal V mutation (a) → (ee) 2. Suffixation of (an)

Sing. root template	alternation	ultimate pl. template
CvC	**C[v~ee]C+an**	**CeeCan**
saq (leg)	s-**a~ee**-q	seeqan (legs)
nar (fire)	n-**a~ee**-r	neeran (fires)
jar (neighbor)	j-**a~ee**-r	jeeran (neighbors)
qa9 (seabed)	q-**a~ee**-9	qee9an (seabed)
bab (door)	b-**a~ee**-b	beeban (doors)
taj (crown)	t-**a~ee**-j	teejan (crowns)
9uud (stick)	9-**uu~ee**-d	9eedan (sticks)
duud (worm)	d-**uu~ee**-d	deedan (worms)
ĝuul (ghoul)	ĝ-**a~ee**-l	ĝeelan (ghoul)

ħuut (whale)	ħ-**uu~ee-**t	ħeetan (whales)
thour (bull)	th-**ou~ee-**r	theeran (bulls)
śuuś (chick)	ś-**uu~ee-** ś	śeeśan (chicks)

If the noun is C3 in root, the same alterations occur, except that the medial C, along with the following V, is elided: *ħa?it (wall)→ħeetan (walls)*. Accordingly, both (?) and (i) are elided in this example.

21. Fi9ele

A rarely used form of irregular pl. *Fi9ele* is used to pluralize mas. bilateral, as well as trilateral, nouns.

Pattern: CiCeCe   **Template: Fi9ele**

Root: C2→ C3

Alternation: 1. Internal V mutation: (u) → (i)   2. Infixation of a short V (e)   3. Reduplication of the second root C 4. Suffixation of a V (e)

Mostly animals and birds; *dub (bear)→dibebe (bears)/ hir (cat)→hirere (cats)/ qird (ape)→qirede (apes)/ feel (elephant)→fiyele (elephants)/ deek (cock)→diyeke (cocks).*

22. Fi9ee

A rarely used form of irregular pl. *Fi9ee* is used to pluralize fem. bilateral as well as trilateral nouns.

Pattern: CiCee   **Template: Fi9ee**

Alternation: 1. Internal V mutation: (e)→ (i)   2. Final V mutation: (a) →(ee)

9eśa (stick/cane)→9iśee (sticks/canes)/ ħulye (jewel)→ħilee (jewels).

23. Efi99e

Efi99e is a form of irregular pl. This pl. is used with trilateral mas. nouns. In changing from sing. to pl., the root loses the second long V in favor of a medial gemination between the second and the final C. Further, two Vs are affixed to the noun; initially and finally. The few sing. nouns pluralized in this form are based either on CvCeeC or CvCaC.

Pattern: CeCeeC → eCiC²e   **Template: Fe9eel → efi99e**

Root: C3→ C2

Alternation: 1. Prefixation of a V (e) 2. Mutation of the first internal V (e) → (i) 3. Elision of the second internal V (ee) and thus an internal C geminate is formed   4. Suffixation of a V (e)

jeneen (fetus)→ejinne (fetuses)/ ħebeeb (sweet)→eħibbe (sweets)/ sereer(bed)→esirre (beds)/ deleel (evidence)→edille (evidences).

Pattern: CiCaC → eCiC²e

Template: Fi9al

Root: C3→ C2

Alternation: 1.Prefixation of the V (e)   2.Elision of the second internal V (a) and thus an internal C gemination is formed   3.Suffixation of the V (e)

hilal (crescent)→ehille (crescents)/ imam (Imam)→e?imme (Imams)/ šu9a9 (ray)→ eši99e (rays).   In *e?imme* (Imams), the epenthetical (?) is inserted between the intrusive (e) and the following C so as to prevent V sequence, whereas the two Cs are reduced into a C geminate. This is because the noun is bililteral and thus another C is needed to model the pl. pattern.

24. Fu9uul

Fu9uul is a form of pl. that is used to pluralize bilateral mas. nouns.

Pattern: CeC → CuCuuCˣ   Where (Cˣ) is a reduplicated C;

Template: Fe9 → Fu9uu9

Root: C2→ C3

Alternation: 1. Internal V mutation (e) → (u)   2. Infixation of a long V (uu)   3. Reduplication of the second root C

Bodily parts and physical portions; *kef (palm)→kufuuf (palms)/ fek (jaw)→fukuuk (jaws)/ šeq (crack)→šuquuq (cracks)/ khed (cheek)→khuduud (cheeks)/ feś (stone)→fuśsuuś (stones)/ fel (remain)→fuluul (remains).* Other senses; *ħel (solution)→ħuluul (solutions)/ fen (art)→funuun (arts)/ šer (evil)→šuruur (evils)/ neś (text)→nuśuuś (texts)/ red (reply)→ruduud (replies)/ šek (doubt)→šukuuk (doubts)/ sed (dam)→suduud (dams)/ khet̲ (line)→khut̲uut̲ (lines).*

Pattern: CiC → CuCuuC^X **Template: Fi9 → Fu9uu9**

Root: C2→ C3

Alternation: 1. Internal V mutation (i) →(u) 2. Infixation of a long V (uu) 3. Reduplication of the second root C

sim (poison)→sumuum (poisons)/ liś (thief)→luśuuś (thieves).

25. Ef9al

  Ef9al is a form of irregular pl. All words pluralized in this form is bilateral, and are based on CvC template. The medial V is short, and hence in pl. it is deleted. A new sound is added at the beginning, the first C is put with the second C, which is doubled. Therefore, the template of pl. becomes vCCaC^2, where C2 symbolizes the repetition of the second C in the sing. root.

Pattern: CeC → eCCaC^X **Template: Fe9 → ef9a9**

Root: C2→ C3

Alternation: 1.Prefixation of a V (e) 2.Elision of the internal V (e) 3.infixation of a V (a)

4.Reduplication of the second root C

reb (god)→erbab (gods)/ ned (rival)→endad (rivals)/ ten (ton)→etnan (tons).

Pattern: CiC → eCCaC^X **Template: Fi9 → ef9a9**

Root: C2→ C3

Alternation: 1.Prefixation of a V (e) 2.Elision of the internal V (i) 3.Infixation of a V (a)

4.Reduplication of the second root C

sin (tooth)→esnan (tooth)/ sir (secret)→esrar (secrets)/ zir (button)→ezrar (buttons).

26. Fu99el

This is a pl. form used in words as; *9uzzel (unarmed ones)*

Pattern: CuC^{X}el **Template: Fu99el**

Root: C3

Alternation: 1.Mutation of the first internal V → (u)   2.Reduplication of the medial root C

The words here suggest incompleteness, lack, or disadvantage; *e9zel (unarmed)→9uzzel (unarmed ones)/ khedeej (premature baby)→khuddej (premature babies)/ saðej (naive)→suððej (naïve ones).*

27. Fi9al

As in; *rijal*

Pattern: CeCC → CiCaC   **Template: Fe9l → Fi9al**

Root: C3

Alternation: 1.Internal V mutation (e) → (i)   2.Breaking the final CC by infixing a long V (a)

Animals, masc. and fem.; *kelb (dog)→kilab (dogs)/ seb9 (predatory animal)→siba9 (predatory animals)/ jewad (horse)→jiyad (horses)/ kheruuf (ram)→khiraf (ram)/ ne9je (ewe)→ni9aj (ewes)/ jerou (cub)→jira? (cubs)/ ferkh (young bird)→firakh (young birds).* Weapons, tools; *sehm (arrow)→siham (aarrows)/ rumħ (spear)→rimaħ (spears)/ ħebl (rope)→ħibal (ropes).* Miscellaneous; *rejul (man)→rijal (men)/ 9eđm (bone)→9iđam (bones).*

Pattern: CeCeC → CiCaC   **Template: Fe9el → Fi9al**

Root: C3

Alternation: 1.Mutation of the first internal V (e) → (i)   2.Lenghthening of the second internal V (e) → (a)

jebel (mountain)→jibal (mountains)/ jemel (camel)→jimal (camels)

 Some are fem.; *qil9e (castle)→qila9 (castles).*

  There are a few pls. that share a common, regardless of gender, sing. form, or attribution, mainly when they are considered in their pl. form only; *sigar (little/young ones)/   kibar (adult ones)/ 9iyal (family members)/ riyah (winds)/   jiya9 (hungry ones)/ dima? (bloods).* The word *imre?e* has two, irregular and completely different, pls.; *nisa?* and *niswe* (*women*).

28. Fu9ul

Pattern: CeCeeCe → CuCuC   **Template: Fe9eele → Fu9ul**

Root: C3

Alternation:

1.Internal V mutation (e) → (u)   2.Shortening of the second internal V (ee) →(u)   3.Elision of the final V (e) (fem. marker)

sefeene (ship)→sufun (ships)/ jezeere (island)→juzur (islands)/ śeħeefe (newspaper)→śuħuf (newspapers)/medeene (city)→mudun (cities)/ tereeqe (method)→turuq (methods). There are also a few mas. nouns pluarized in this pattern, exercising the same alternations: *resuul (messenger)→rusul (messengers).*

Pattern: CiCaC → CuCuC   **Template: Fe9eele → Fu9ul**

Root: C3

Alternation: 1.Mutation of the first internal V (i) → (u)   2.Shortening of the second internal V (a) →(u)

šihab (shooting star)→šuhub (shooting stars)/ kitab (book)→kutub (books)/ niđam (system/regime)→nuđum (systems/regimes).

29. Efa9il

Pattern: eCaCiC   **Template: efa9il**

Root: C3

Alternation:

1.infixation of a V (a)   2.Lenghthening of the first internal V (e)→ (a)   3.Muation of the second internal V : (e)→ (i)

ejnebee (foreigner)→ejanib (foreigners)/ qereeb (relative)→eqarib (relatives)/ erneb (rabbit)→eranib (rabbits).

30. Fu9ala

Pattern: CeCCa →CuCaCa   **Template: fe9la →fu9ala**

Root: C3

Alternation: 1. Breaking the medial CC by infixing a long V (a)

Temporary or permanent attributes; *thekla (mother bereaved of her child)→thekala (mothers bereaved of their children)/ sikkeer (drunken)→sukara (drunken ones)/ ĝeyuur (zealous)→ĝeyara (zealous ones)/ yeteem (orphan)→yetama (orphans).* Ideas or attitudes; *fetwa (formal opinion)→fetawa (formal opinions)/ šekwa (complaint)→šekawa (complaints).* Miscellaneous; *neśranee (Christian)→neśara (Christians).*

31. Afa9

  Afa9 is a pl. form for pluralizing mas. bilateral sing. nouns. The two short voiced Vs are replaced by long ones.

vCvC → aCaC

Pattern: eCeC → aCaC   **Template: efe9 → afa9**

Root: C2

Alternation: 1. Mutation: Lenghthening of the internal Vs (e/u) → (a)

Expectations or prospects; *ejel (term)→ajal (terms)/ emel (hope)→amal (hopes)/ ufuq (horizon)→afaq (horizons).* Measurement or quantity; *eħed (one)→aħad (units)/ elf (thousand)→alaf (thousands).* Miscellaneous; *ether (trace)→athar (traces)/ elem (pain)→alam (pains)/ ithm (sin)→atham (sins).* The same applies if the noun has a single short V. In addition to the replacement of this single V with a long one, another long V will be inserted between the two Cs; vCC → aCaC

  For words which are trilateral, or which are CvCC in root, the medial C is elided, and the root will be vCvC; *bi?r (well)→abar (wells).*

32. Fu9at

  Fe9at is a pl. form used to pluralize bilateralor trilateral mas nouns. The (-*at*) suffix added in pl. here is not that of sound fem. pl., as in *qarre* (continent)→*qarrat* (continents), because in these

words the form of the word is not changed, while in this pl. form, the form of the word undergoes changing. All the nouns here denote a profession or position.

Pattern: CaCee → CuCat   **Template: Fa9ee → Fu9at**

Root: C2→ C3

Alternation: 1. Shortening of internal V (a) → (u)   2. Elision of final V (ee)   3. Suffixation of (-at)

Positions; *qaďee (judge)→quďat (judges)/ rawee (narrator)→ruwat (narrators)/ walee (governor)→wulat (governors)/ ramee (shooter)→rumat (shooters)/ sa9ee (courier)→su9at (couriers) /ĝazee (raider)→ĝuzat (raiders)/ banee (builder)→bunat (builders)/ mašee (walker)→mušat (walkers)/ jabee (collector)→jubat (collectors)/ tahee (cook)→tuhat (cooks)/ janee (felon)→junat (felons)/ jabee (collector)→jubat (collectors).* In unmarked mas nouns, the final fem. suffix (-e) is elided in pl., along with the third root C (y); *taĝiye (tyrant)→tuĝat (tyrants)/ da9iye (caller)→du9at (callers)/ dahiye (artful)→duhat (artful ones)/ rawiye (relator/narrator)→ruwat (relators/narrators).*

33. Fe9la

  Fe9la is a pl. form used to pluralize bilateralor trilateral mas. nouns. Nouns pluralized through this pattern often have some features in common. Firstly, they are all based on CeCeeC in sing., except for *eseer* (captive) and *eħmeq* (fool), and they become CeCCa in pl. Secondly, they usually denote physical or bodily qualities or disadvantages, especially those related to bodily injury or accidents;

Pattern: CeCeeC → CeCCa   **Template: Fe9eel → Fe9la**

Root: R3

Alternation: 1. Elision of the second V (ee)   2. Suffixation of (-a)

qeteel (murdered)→qetla (murdered ones)/ jereeħ (wounded)→jerħa (wounded ones)/ mereď (sick)→merďa (sick ones)/ śeree9   (fallen)→śer9a (fallen ones)/ ĝereeq (drowned)→ĝerqa (drowned ones)/ eseer (captive)→esra (captives). The only exception to the above pattern is the word *meiyit* (dead). Though C3 in root, CvCvC, seemingly like the words discussed above, but it

is phonotactically different being CeiCit. Yet, this word becomes bilateral in pl.; *mouta* (dead people), as the medial C (y) is elided and a V (ou) is inserted instead.

34. Fe9al

Fe9al is a pl. form used to pluralize bilateral or trilateral mas and fem. nouns. The nouns related are mostly bilateral. Insertion of an internal V plus a C (w), and the deletion of the final V, if any; *šað (odd)→šewað (odds)*. In nouns where the second C is a geminate, it is degeminated (it becomes a single C);

Pattern: CaC²e→ CewaC   **Template: Fa99e → Fewa9**

Root: C2→C3

Alternation: 1. Infixation of a syllable (ew)   2. Degemination of the final geminate   3. Elision of the final V (e)

ħasse (sense)→ħewas (senses)/ madde (material)→mewad (materials)/ dabbe (pack animal)→dewab (pack animals)/ 9ammee (layman)→9ewam (laymen).   If the noun is C3, which is quite rare, the final C as well as the following Vs are elided, in order to correspond to the pl. pattern;

CaC²iCe   **CewaC**

khaśśiye (characteristic)→khewaś (characteristics).

35. Ef9a?

This is a pl. form used in pluralizing a few sing. nouns, most of which are bilateral. The very name of this pl. form indicates its morphological form (eCCa?) for unilateral nouns (consisting of a single C plus one or two Vs) and eCCa? for bilateral nouns. The change includes the addition of the syllable (a?) to the end of the sing. root, and the V (e) at the beginning of that noun. If the internal V is (ei), it is altered to C (y) in pl.; *šei? (thing)→ ešya? (things)*.

Pattern: Cei→ eCya?   **Template: Fei → efya?**

Root: C1→C3

Alternation: 1.Prefixation of a V (e)   2.Mutation of the V to C (ei)→(ya) 3.Suffixation of (a?)

zei (fashion)→ezya? (fashions)/ ħei (living)→eħya? (the living)

If the internal V is (ou), it is deleted and replaced with the C (w). Here, C1 roots (single C words) become bilateral, as in;

vC   aCa?

eb (father)→aba? (fathers)

or trilateral by changing the V (ou) to a C (w), as in; *jou (atmosphere/ mood)→ejwa? (atmospheres/ moods)*

Cv   vCCvC

C2 roots become C3, too; *đou? (light)→eđwa? (lights)*

CvC   vCCvC

nou? (rain) → enwa? (rains)

CvC   vCCvC

Pattern: CeCee → eCCa?   Template: Fe9ee → ef9a?

Alternation: 1. Prefixation of a V (e)   2. Mutation of the final V (ee) → (?) 3. Suffixation of (?)

me9ee (intestine) →em9a? (intestines)/ re?ee (opinion)→ara? (opinions).

Pattern: CeCuu→eCCa?   Template: Fe9ee → ef9a?

Root: C2→C3

Alternation: 1. Prefixation of a V (e)   2. Mutation of the final V (ee) → (?) 3. Suffixation of a C (?)

neħuu (direction)→enħa? (directions)/ šiluu (dismembered part)→ešla? (dismembered parts).

Pattern: CeCa → eCCa?   Template: Fe9a → ef9a?

Root: C2→C3

Alternation: 1. Prefixation of a V (e)   2. Elision of the internal V (e) 3. Suffixation of a C (?)

hewa (affection/inclination)→ehwa? (affections/inclinations)/ śeda (echo)→eśda? (echoes)/ reja (area)→erja? (areas)/ ibn (son)→ebna? (sons).

In sum, the pls. here can fall into one of these aspects; weather-related references; *đou?/ nou?/ jou?*, bodily parts; *šiluu/ me9ee*, relations; *eb/ ibn*, attitudes; *re?ee/ hewa*, or phenomena; *đou?/ śeda.*

36. Mufte9ile

The formation of pl. involves the addition of the V (e) to the end of the sing. noun;

Pattern: MuCteCiC → MuCteCiC

Template: Mufte9il → Mufte9ile

Root: C5

Alternation: 1. Suffixation of a V (e)

mu9tezil (Mu'tazilid)→mu9tezile (Mu'tazilids)/ murteziq (mercenary)→murteziqe (mercenaries).

37. Fi9ye

The alteration of the final V to a C (y) plus a short V (e);

CeCee   CiCye

śebee (boy) →śibye (boys)

CeCa   CiCye

feta (youngman)→fitye (youngmen).

38. Fe9ale

A very rare form for irregular pl.. It involves V mutation:

CeCaCee → CeCaCe

As in; *śeħabee (companion)→śeħabe (companions)* and *ħejer (stone)→ħijare (stones)*

39. Fa99e

A very rare form of irregular pl. that involves a reduplication of the final C and the addition of a short V (e); *mar (passer-by)→marre (passers-by)*.

40. Fu9we

A rare form of irregular pl. There are two words in SA that feature such pl.; *ekh (brother)→ukhwe (brothers)* and *imre?e (woman)→niswe (women)*.

41. Fu9wan

A rarely used form of irregular pl. in SA and the word *ekh (brother)→ukhwan (brothers)* is the only example of such form.

42. Fe9aleeye

A rare irregular pl. form in which the final long V is changed into two short Vs;

CvCvCv   CeCaCiye

ħeramee (robber)→ħerameeye (robbers)/ la adree (agnostic)→la adreeye (agnosticism).

43. Fu9l

 A rare form of irregular pl. in SA, that is based on CvCC. The related words suggest physical disadvantageness, as in; *eśem (deaf)→śum (deaf ones)* and *ebkem (dumb)→bukm (dumb ones)*, or colours in general; *khuđr (green ones)/ ħumr (red ones)/ śufr (yellow ones)* and *zurq (blue ones)*.

44. Fu99el

 This is a rarely used form of irregular pl.. There two words only in SA that exemplify this form of pl.; *sajid (prostrator)→sujjed (prostrators)* and *raki9 (kneeler)→rukke9 (kneelers)*. In these words, there is a sense of overdoing,.i.e., to do something excessively and more it should be done.

7. Epilogue

  The key point of this research is the multiplicity of irregular pls. and how these pls. are marked. More importantly, the research questions whether irregular pls. in SA are predictable or not. As far as morphophonemic changes, the research elaborates on various forms of affixation,

including prefixes, suffixes, infixes, and circumfixes. In addition, there are other changes which words undergo in irregular pl., such as sound change, gemination, de-gemination, declustering, etc. Following the discussion stated above, irregular pls. can be formed through;

1. Infixation involving the insertion of a medial V
2. Suffixation (with/without a V movement) of a final sound(s) added to the end of the word
3. Prefixation (with/without a V movement) of a V appended to the word
4. Circumfixation (with/without a V movement) by adding prefixes and suffixes to the same single word
5. Elision (with/without a V movement) of an initial, medial, or final sound
6. Insertion (with/without a V movement) of an initial, medial, or final sound
7. Internal V change e.g. *melik* " king" → *miluuk* "kings"

2. Vs, whether short or long, play a remarkable role in the formation of irregular pls. in SA, as no irregular pl. is formed in SA without adding, deleting, or replacing Vs. Besides, some irregular pl. feature   V change from short to long or vice versa.

3. In certain irregular pls., vowel-to-consonant shift occurs. e.g. *jou* "air" → *ejwa*? "airs", where the V *ou* undergoes shift to consonant *w.*

4. Some irregular pls. are formed depending on the root of the related word. e.g. in *wezeer* "minister" → *wizra?* "ministers", the pl. *wizra?* consists of the verb *wezr* "to be a minister" plus the pl. suffix *–a?.*

5. Consonant gemination and degemination and clustering and declustering

7. Processes that involve adding, eliding, replacing, or transferring Vs in the same word.

   As for the morphophonemic changes that take place in irregular pls., they can be summarized as follows:

1. Internal V Change   e.g. r*eju*l "man" → r*ija*l "men"

2. Infixation   e.g. menzil "house" →   men*a*zil "houses"

3. Suffixation   e.g. keššaf "scout" → keššaf*e* "scouts"

4. Prefixation   e.g. qelem "pen" → *e*qlam "pens"

5. Circumfixation e.g. mithal "example" → *e*mthil*e* "examples"

6. Doubling e.g. śe*f* "class" → śu*fuuf* "classes"

7. Gemination e.g. ka*t*ib "writer" → ku*tt*ab "writers"

8. Apocope (final elision) e.g. nuwa*t* "nucleus" → newa "nuclei"

9. Infixation + Suffixation e.g. melak "angel" → mela*ʔi*k*e* "angels"

10. External V Change e.g. ruʔ*ye* "vision" → ruʔ*a* "visions"

11. Prefixation + Doubling e.g. si*n* "tooth" → *e*sn*a*n "teeth"

12. Syncope (internal elision)+ Suffixation e.g. ba*ʔi*9 "seller" → ba9*e* "sellers"

13. Cross-lexical V Change e.g. hed*iye* "gift" → hed*aya* "gifts"

There are a few subchanges that take place within most of the above pl. forms. These include V change, V shortening and/or lengthening, sound shift, gemination, de-gemination, de-clustering, and epenthesis. In this respect, short Vs change to long Vs e.g. $u \rightarrow a$. Long Vss change to short Vss e.g. $a \rightarrow u$. Sound shift involves the change of Cs e.g. $ʔ \rightarrow w$. De-gemination involves the breaking of geminates into two Css e.g. *qimme* "summit"→*qimem* "summits". De-clustering involves the breaking of internal or final consonant clusters.

8. Results and Conclusions

1. The paper finds that irregular pl. forms in Standard Arabic are such multiple that each form has its own structure. While some pls. are predictable, others are not.

2. Unlike the previous studies, this research finds that there are 44 forms of irregular pl. in SA, which is higher than the pl. forms given in the previous studies. According to Murtonen (1964), and Wright (1971:191-233), there are 31 types of irregular pl. However, in later investigations, such as that of Levy (1971) and McCarthy and Prince (1990), irregular pl. forms are categorized into fewer classes.

3. Predicting the sort of irregular pl. for a single word is quite difficult. The research finds that some irregular pls. are predictable, while some others are not. Nevertheless, there are a few aspects and factors that can help predict which pl. form applies to a single word such the template (the so-called تفعيلة, as in فاعل،فُعل،...الخ), the pattern (C-V sequence), and the root (C2, C3, C4, .etc). Also, the spacio-temporal scope of the word may be helpful sometimes in

determining the proper irregular pl. form. Hence, for example, quadriliteral words denoting place, setting, or position, especially those prefixed with *m-*, are pluralized through infixation, as in *mesjid→mesajid*, *mekteb→mekatib*, *mejlis→mejalis*,..etc.

4. It has been found that Vs and V quality are significant factors in the formation of irregular pl. as seen in certain pl. forms with internal change only. Thus, a V change from short to long or vice versa may determine the type of such pls.

5. The paper has found that the root of the word (Cs) is sometimes used in pl. Such root represents the origin of all the related derivations and words. e.g. *wezeer* "minister", the root *w-z-r*, rather than the sing. form, is used in pl., hence *wizra?* "ministers". Similarly, in words such as *qeteel, jeree, eseer*, the roots, rather than the sing. words, are pluralized; *qetla*=murdered ones (*qetl*=murdering), *jerħa* wounded ones (*jerħ*=wounding), and *esra*=captives (*esr*=captivity).

6. The paper has found that there is a relationship between the type of the word and the animate vs. non-animate, human vs. non-human status, which also determines the sort of the irregular pl. For example, trilateral masc words of the template *fe9eel* denoting positions, ranks, or posts related to animate or human features are pluralized with *-a?* as in *sefeer→sufera?* "ambassadors", *khebeer→khubera?* "experts", *wekeel→ wikela?* "agents", wherase trilateral masc. words of the same template denoting non-animate, non-human entities, are pluralized with *–an* as in *qemees→qumsan* "shirts", *qeđeeb →quđban* "shafts", and *kheleej→khuljan* "gulfs".

7. Also, the gender of the word governs sometimes the irregular pl. of that word. For example, trilateral masc. nouns that are pluralized with the fem suffix *–e*, have the medial C elided in order not to be assimilated or confused with the sing. fem form of these words; *qa?id* "leader"*→qade* "leaders" rather than *qa?ide* "female leader" and *ba?i9* "salesman" *→ba9e* "salesmen" rather than *ba?i9e* "saleswoman."

8. Short Vs are found to be the weak area of alteration and change in irregular pls., considering the significant changes that involve this type of Vss. Moreover, in the majority, if not all, irregular pl., Vs could be elided, inserted, or replaced, while Css are altered or re-inserted, with an exception to a few or handful of words whereby the final C is elided in pl.. e.g. *seferjel* and *9enkebuut*.

9.The *-an/en* suffix used in certain irregular pls. (such as *buldan, ukhwan, fityan, seeqan*, and a few others) may indicate that the original regular masc. pl. in SA, which is denoted by *–een/-uun*, is related to this suffix, or it could have been derived from it in a way or another.

10. In pls. where the change is a suffix, most suffixes are vC, as in *–a?, -an,* and *-at.*

11. The present paper sums up an overall account of all irregular pls. with emphasis on morphophonological changes.

9. Further Areas of Research

1. A contrastive study can be conducted on morphophonemic changes in both English language and Arabic language.

2. There are several morphophonemic changes in Standard Arabic that need a further analysis and investigation including diminutives, tense marking, derivation, and the like.

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*All the examples given in this research are generated from the researcher's knowledge, unless otherwise the original source is credited.