

| RESEARCH ARTICLE

Feminine Sound Plural Endings in /ya:t/ and /yya:t/ in Native and Loan Lexemes in Arabic

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| ABSTRACT

A sample of 80 loanwords and 100 native Arabic words ending with /ya:t/ or /yya:t/ were analyzed and compared to find out the conditions under which /ya:t/ and /yya:t/ appear in Feminine Sound plural forms of those words. Results revealed that Arabic speakers pluralize native and loan nouns ending with the glide /y/, which is part of the words, as ناي /na:y/ & قبضاي /qabaDa:y/ (Turkish) by directly adding the feminine plural suffix /-a:t/ to the stem without making any other adaptations (نايات /na:ya:t/ flutes & قبضايات /qabadaya:t/ strong-arm). In native words with a stem ending in the graphemes ي or ي pronounced /a:/ and /i:/, the vowel is shortened and the glide /y/ is added as a liaison consonant as in تمنيات /tmanniya:t/ wishes; مديات /maday:at/ ranges). When the loan stem ends in the syllable يا /ya:/, the final long vowel /a:/ is deleted before the plural suffix /-a:t/ as Arabic phonotactics do not allow a sequence of two long vowels as in بكالوريا /bakalo:rya/ > بكالوريات /bakalory+a:t/ high school diplomas. A geminated glide /yy/ appears in the plural of native words as أدبيات /?adabiyy+a:t/ literature; برمجيات /barmadzjyy+a:t/ software) and plural loanwords as سيديات /si:di:yy+a:t/ CD's; سيلفيات /selfiyy+a:t/ selfies; باربييات /ba:rbi:ya:t/ Barbies; سمفونيات /simfo:ni: +y+a:t/ symphonies. In these examples, there are two explanations of the stem: One assumes that the masculine singular stem ends in a geminated yy, after which the plural suffix /a:t/ is directly added. The second assumes that the stem is a feminine singular noun/adjective ending in a geminated yy followed by the grapheme ta marbouta ة pronounced /a/. /a/ is deleted when the plural suffix /a:t/ is added, as Arabic does not allow the sequence of two vowels. The vowel preceding the geminate yy is shortened in the plural form of native and loanwords in Arabic. The study gives some recommendations for translation and pedagogy and for future studies on Arabic loanword morphology.

| KEYWORDS

Pluralizing loanwords, borrowings in Arabic, morphological borrowing, feminine plural suffix /a:t/, feminine plural ending /ya:t/, feminine plural ending /yya:t/, morphological adaptations, phonological adaptations, grapheme-phoneme adaptations.

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1. Introduction

Borrowing lexical items from other languages is a common linguistic phenomenon in many languages, including Arabic. Arabic has loanwords from ancient as well as modern languages in general and specialized terminology. When words are borrowed in a language, they are either borrowed as they are, or undergo phonological and/or morphological adaptations. There are three levels of morphophonological changes made in loanwords according to the following adaptability scale: loanwords as merely adopted as in *khurasān* 'cement' (Persian); they are partially adapted, as *shatarandj* 'chess' (Persian *chattrang*); or are fully adapted as in *dirham* 'a silver coin' from Greek *dhrahmi* which is analogic to the Arabic C₁C₂C₃aC₄ pattern. The most productive and most numerous ones are those in the third category due to their conformity with the Arabic morphological patterns (Bueasa, 2015). Similarly, the morphological integration of Standard Average European words borrowed in Modern Standard Arabic (MSA) fall into words that do not fit into the root and pattern system of MSA, i.e., the configuration where a verbal root serves as the basis for derivations and inflections produced by altering the internal vowel or consonant. However, words in this group can take Arabic

suffixes. There are also loanwords that can be linked to formal roots as evident from their Broken Plural pattern, proper verbal roots or a combination of both (Gadelii, 2015).

The morphological changes that loanwords undergo have been the focus of numerous studies in the literature, particularly the pluralization of borrowings in foreign languages such as the exception that proves the analogy in Dutch plural inflection of borrowings (Keuleers, Sandra, Daelemans, Gillism, Durieux & Martens (2007); English-origin nouns that pluralize/or do not pluralize in French (Saugera, 2012); morphophonological changes of borrowed words from English to the Lubukusu dialect of Western Kenya (Evans, 2014); zero plurals among the Japanese loanwords in English (Cannon, 1984); recent Japanese borrowings in English (Cannon, 1994); innovative Japanese borrowings in English (Cannon, 1995); Chinese borrowings in English (Yang, 2009) and others.

Another group of studies explored the grammatical borrowing of Arabic plurals in Urdu (Al-Athwary, 2015); the morphology of loanwords in Urdu with Persian, Arabic and English strands (Islam, 2012); Arabic grammatical borrowing in the western Neo-Aramaic language (Arnold, 2007); concurrent cognate and contact-induced plural traits in Amazigh id- and Arabic -at plurals (Bensoukas, 2018); grammatical borrowing of Khuzistani Arabic in Persian (Matras & Shabibi (2007); a word-based comparison of plural formation in Nubi and Arabic (Kihm, 2011) and Arabic loanwords with the feminine ending -a: in Turkish (Perry, 1984) and others.

A third group of studies revealed the types of plural forms of loanwords in a number of Arabic dialects, as in Palestinian and Jordanian Arabic (Laks, 2014), defaultness in Jordanian Arabic Al-Shboul, 2007); an account to n-realization in Standard and Jordanian Arabic (Jaradat, 2022), Mosul Arabic in Iraq (Sa'eed, 2010), Moroccan Arabic (Ziani, 2020), Egyptian Arabic (Yacoub, 2016), Modern Standard Arabic (Boudelaa & Gaskell, 2002; Ibrahim, 2006); revowelling vs affixation in the plural formation of nouns and adjectives and their agreement in Tihami Yemeni Arabic (Shaghi, 2010), the feminine ending-at in Shammari Arabic (Alshammari, 2021); English lexical borrowings in Hadhrami Arabic (Bahumaid, 2015); pattern-and-root inflectional morphology of the Arabic broken plural (Neme, & Laporte, 2013), Greek borrowings in the Arabic dialect of Cyprus (Tsiapera, 1964) and so on.

The pluralization of loan words in Arabic shows some uniqueness in the Arabic plural marking system. Numerous significant differences exist between English and Arabic plural noun markers in terms of syllable count start, patterns of plural nouns in relation to gender, regularity (regular vs irregular plural) and internal vowel change (Himmah & Wahyudi, 2014). In pluralizing loanwords, speakers of Arabic follow a form standardized by Standard Arabic or enforce another form following their dialects and community conventions. There is consistency in assigning number and gender to loanwords by applying native patterns motivated by the frequency of use and the semantics of the referents (Hamdi, 2017). Al-Saidat (2011) added that English words undergo adaptations when they are integrated as loanwords in Jordanian Arabic so that the phonological and morphological systems of Jordanian Arabic are not violated. Thus, all processes of duality and pluralisation are not foreign ones. The native language plays the role of the governor. The English language number system is abandoned as the researcher did not find a single example of an English plural marker in the data. This means that, English loanwords in Jordanian Arabic can be considered as borrowed items rather than codeswitches as they follow the Arabic language system rather than the English language system.

Some of the morphological adaptations that take place in loanwords plural formation in Colloquial Arabic are the changes that take place in the stem before the Feminine Plural suffix. In an extensive study of the insertion of /h/ before the Feminine Suffix /-a:t/ in native and loanwords in Arabic, Al-Jarf (2024) found that Arabic speakers pluralize native nouns/adjectives with a stem ending in /h/ or *ta marbouta* (تاء مربوطة) pronounced /h/ before a pause by simply adding the plural suffix /-a:t/. This means that /h/ is an integral part of the Arabic stem; whereas in loanwords, the /h/ is a liaison consonant between the final long vowel of the stem and the initial long vowel in the /-a:t/ as Arabic phonology does not allow a sequence of two long vowels between a stem and a suffix. In French loanwords, an /h/ is inserted as Arabic speakers connect orthography with phonology as French words ending with final /eɪ/ are spelled in Arabic with a final "ه" as in شاليه, كافيه يوفيه, كليشييه. /h/ is also inserted in stems with a final long vowel as in استديوهات /studio-ha:t/ studios as Arabic speakers are assuming an underlying /h/ at the end of singular stems *baby*, *avenue video*, *studio*, *stereo*. This process is not applied in loanwords with stems containing a final short vowel as in كيلوات and فيتوات and even when all the vowels in the loanword are shortened through a neutralization process. In few cases, the consonant combines with the stem to the suffix to form a syllable. Arabic speakers form plurals intuitively, i.e., Arabic plural formation rules are internalized as a result they pluralize foreign nouns by analogy. Some Feminine Sound Plurals (FSP) of loanwords rhyme with FSP of some native Arabic words as in loanwords /kli:ferha:t/, /bu:ferha:t/, /vituwa:t/, /kiluwa:t/ & Arabic words /safi:ha:t/, /nabi:ha:t/, /nadawa:t/, /falawa:t/, /Salawa:t/. When pluralized, the loanword and native have the same length and the same syllable structure (Al-Jarf, 2024).

In few other studies such as Al-Jarf (2023), the final consonants in the stem was geminated before the Feminine Plural suffix -at when the final consonant in the stem is a plosive or a glide and when the penultimate vowel in the stem is short as in *blogs* بلوجات /blogga:t/; *clicks* كليكات /klikka:t/; *stories* ستوريات /sto:riyya:t/; *غالريات* /galariyya:t/; *Emojis* ايموجيات /imo:dziyya:t/; *بروكسيات* /brokksiyat/

/proksiyya:t/; selfies سيلفيات /selfiyya:t/. In other terms, an /h/ is added to the plural suffix -a:t in stems ending in the long vowel و /u:/ as in studios استديوهات /studio-ha:t/, casinos كازينوهات /kazi:no:ha:t/, radios راديوها /reidy:ha:t/ (Al-Jarf, 2023). In Mushait and Al-Athwary's (2020) study, the insertion of -ya:t in some FSP forms before the attachment of the Feminine Plural suffix -a:t in Saudi Arabic was casually mentioned as the study reported numerous aspects of plural formation of loanwords.

The insertion of a /y/ in the formation of FSP of loanwords and native Arabic words was partially revealed in studies by Al-Jarf (2023) and Mushait and Al-Athwary (2020). This linguistic phenomenon has not been fully investigated by prior studies. Therefore, the current study seeks to explore the insertion of /y/ before the Feminine Plural suffix /-a:t/ in the FSP of native as well as loanwords in Arabic, when /y/ is geminated and when it degeminated before the feminine plural suffix /a:/. It aims to compare the conditions under which /ya:t/ and /yya:t/ appear in the pluralization of native Arabic words, whether in Standard Arabic or in Arabic dialects and in loanwords from other languages.

This study is synchronic as it shows examples of FSPs of loan nouns with the endings /ya:t/ and /yya:t/. It is also diachronic as it sheds light on FSPs of native Arabic words that have existed for centuries and trace their historical development and whether /ya:t/ and /yya:t/ in native and loan nouns occur in native and loan stems with the same features.

This study is significant as it is part of a series of studies by the author on the morphological adaptations that take place in pluralization of loan words in Arabic and the acquisition and translation of English and Arabic plurals as feminine sound plurals with /h+a:t/ in Native and Borrowed Words in Arabic (Al-Jarf, 2024); pluralization of social media loan terminology in colloquial Arabic (Al-Jarf, 2023); difficulties in learning English plural formation by EFL college students (Al-Jarf, 2022a); Issues in translating English and Arabic plurals (Al-Jarf, 2020b); plural acquisition by efl freshman college students (Al-Jarf, 2006).

2. The Feminine Sound Plural in Arabic

The Feminine Sound Plural (FSP) is one of the 4 types of plurals in Arabic, in addition to the Masculine Sound Plural (MSP), Dual and Broken Plural (BP). The FSP, which is a regular plural is formed by adding the feminine plural suffix /-a:t/ to feminine singular nouns and adjectives as in طالبات *female students* (animate); سيارات *cars* (inanimate); اجتماعات *meetings*; استعدادات *preparations*; حصى *stones, pebbles*; عصوات *canes, sticks*; دجاجات *hens* (animal); مسيرات *drones*; مواصفات *specifications*; مطبوعات *printed matter*. Some FSP have no singular form as بيانات *data*; صوتيات *phonetics*; مجوهرات *jewellery*; كيماويات *chemicals*. Some nouns have both a FSP and a Broken Plural called plurals of paucity, multiplicity and/or genus as أبيات *lines of verse*, بيوت *houses*, بيوتات *houses*; تمرينات *a number of exercises*, تمارين *exercises*. Some FSP forms are polysemous, i.e., they have several meanings vis مرئيات *views on something, objects that we see, visuals*. Some have two Feminine Plurals, each having a different usage: سلوكات *behaviors*, سلوكيات *behavior, conduct*; اقتصاديات *economics*, اقتصادات *economies* (Al-Jarf, 2020b; Al-Jarf, 1994a; Al-Jarf, 1994c; Al-Jarf, 2002).

Regarding nouns borrowed in Standard Arabic and/or Arabic dialects from old as well as modern languages such as English (Eng), French (Fr), Turkish (Turk), Farsi, Greek (Gr), and others, they generally take the FSP whether the singular form is masculine or feminine, animate or inanimate, with few exceptions taking the Masculine Sound Plural, the Broken Plural, or no plural. Examples of commonly used FSP of loanwords are اكسسوارات *accessories*; اكسيدات *oxides*; هرمونات *hormones*; بلاطورات *platforms*; بلاجات *plages* (Fr)/beaches; بوتيكات *boutiques*; بولفارات *boulevards*; تكتيكات *tactics*; درونات *deones*; ديكورات *decors*; ريبورتاجات *reportages*; سبايكات *spikes*; سناكات *snacks*; صالات *salles* (It, Fr), terminal (Eng); فولارات *foulards* (Fr); باراشوتات *parachute*; بارومترات *barometer*; بروتوكولات *protocols*; بوليمرات *polymers*; تليغرافات *telegraph*; دينوصورات *dinosaurs*; ترمومترات *thermometer*; جرامات *grams*; فازات *vases*; فونوغرافات *phonographs*; فيتامينات *vitamins*; كتالوجات *catalogs*; كاريكاتورات *caricatures*; كربوريتورات *carburetors*; كريمات *creams*; كومبيوترات *computers*; كوميسيونات *commission*; فيروسات *viruses*; الكترونات *electrons*; لايفات *live*; لمبات *lamps*; لينكات *links*; ماكياجات *make-ups*; نيوترونات *neutrons*; هيلوكبترات *heliocopters*; جراجات *garages*; كاوتترات *counters*; تلفزيونات *televisions*; مليارديرات *Milliardaires* (Fr); مليونيرات *millionaires*; موتورسيكلات *motorcycles*; مونولوجات *monologues*; ميداليات *medals*; ميكروسكوبات *microscopes*; ميكروفونات *microphones*; كاميرات *cameras*; موديلات *models*; بوتيكات *boutiques*; طوربيدات *torpedos*; طوربينات *turbines*; بلاجات *plages* (Fr); مرسيدسات *Mercedes cars*; مانشيتات *manchettes*; فيديوهات *videos*; سيناريوهات *scenarios*; سبايكات *spikes*; افلام *films*; كودات *codes*; فيسبوكيون *Facebook users*; فانزات *fans*; شوزات *shoes*; يوتيوبرز *YouTubers*; هاكرز *hackers* and others (Al-Jarf, 2011; Al-Jarf, 1990).

3. Data Collection and Analysis

A sample of 80 loanwords ending in /ya:t/ or /yya:t/ in their FSP forms was collected. The loan nouns were borrowed from English, French, Italian, Turkish, and Greek. The second sample consisted of 100 native Arabic nouns and/or adjectives ending in /ya:t/ and /yya:t/. They were randomly selected from a corpus of more than 1000 Arabic Feminine Sound Plural forms containing an /y/ or /yy/ before the Feminine Plural suffix /-a:t/. Both samples were collected from some websites such as:

- http://arabicencywords.blogspot.com/2021/08/blog-post_43.html
- <http://kalimmat.com/starts-with/yaaalftaa/1/1/1/>
- <http://wordsarabic.com/words-ات-نتهي-ات/html>

- <https://al-maktaba.org/book/31862/17466>
- [كلمات أعجمية نستخدمها باللغة العربية](#)
- [معجم لبعض الكلمات الدخيلة ومقالاتها بالعربية \(arsco.org\)](#)

The native words in the sample have singular stems that are nouns and adjectives, refer to animate and inanimate, used in Colloquial and/or Standard Arabic, and general and specialized contexts, are all single words and are all spelled and pronounced in isolation.

The author made a list of all the native Arabic words and another of all the loanwords. The environments in which a /y/ or /yy/ is added before the Feminine Plural suffix /a:t/ in words on both lists were analyzed. Words on the Arabic list were categorized according to the final phoneme/grapheme of the singular stem, whether the stem is a noun or an adjective as adjectives in Arabic are also marked for number and gender. On the other hand, loanwords were categorized according to the pronunciation of the final phoneme of the singular stem before the Feminine Plural suffix /a:t/. The words were also classified according to the source language from which the words were borrowed.

The author verified all FSPs of the loanwords in the sample by searching for the plural forms in Google. In addition, the analysis was verified by two professors of Arabic and Linguistics. Disagreements were solved by discussion.

4. Results

4.1 Feminine Sound Plural in Native Arabic Words with ending /ya:t/ and /yya:t/

Arabic native words ending in /ya:t/ and /yya:t/ were categorized into 5 cases rank-ordered in terms of complexity regardless of the percentage of occurrence in the sample. Each is described below.

(A) Stems With the Final Grapheme *ى* الف مقصورة Pronounced /a:/

In 16% of the words in the Arabic sample, the singular stem is a common noun ending in a grapheme called *ى* الف مقصورة which is pronounced /a:/ as the grapheme *ا* "ألف مد". Here, the glide /y/ is inserted before the feminine plural suffix /-a:t/ as a liaison consonant as Arabic does not allow the sequence of two vowels, i.e., in stem final position and suffix initial position. In *مديات* /mada+y+a:t/ ranges, the singular stem /mada:/ ends with the graphemes *ى* which is pronounced as a long vowel /-a:/ . When the liaison consonant /y/ is added, the final vowel in the stem is shortened to /i/ and a change in the syllable structure takes place. Here /y/ combines with the suffix /-a:t/ to form the syllable /ya:t/ which carries the primary stress in the word as it contains the long vowel /a:/ . The same adaptations take place in the following FSPs *بُشريات* /buʃra+y+a:t/ tiding, good news; *حُبليات* /ħubla+y+a:t/ pregnant; *حُلويات* /ħulwa+y+a:t/ dessert; *حُميات* /ħumma+y+a:t/ fevers; *فُضليات* /fuɖla+y+a:t/ esteemed; *مُحتويات* /muħtawa+y+a:t/ contents; *مُستثنيات* /mustaθna+y+a:t/ excluded (Fem, pl); *مُستويات* /mustawa+y+a:t/ levels; *مُسميات* /musamma+y+a:t/ names, *مُشتريات* /muʃtara+y+a:t/ purchases; *مُصليات* /muʃalla+y+a:t/ prayer rooms; *مُقتضيات* /muqtaɖa+y+a:t/ requirements; *مُلتقيات* /multaqa+y+a:t/ meetings; *مُنتديات* /muntada+y+a:t/ symposia; *مُنتقيات* /muntaqa+y+a:t/ selectors.

(B) Stems With Final Grapheme *ي* /i:/ and a Penultimate Geminated Consonant

In 11% of the native Arabic words in the sample, /y/ is inserted before the feminine plural marker /a:t/ as a liaison consonant when the masculine stem ends in the final grapheme *ي* which is pronounced /i:/ as in *تجليات* /taɖzali+y+a:t/ revelations; *تحديات* /taħɖadi+y+a:t/ challenges; *تمنيات* /tamani+y+a:t/ wishes; and *مقويات* /muqawwi+y+a:t/ fortifying, invigorating. As in the words in section (A) above, the final vowel in the stem is shortened to /i/ and /y/ combines with the suffix /-a:t/ to form the syllable /ya:t/ which carries the primary stress in the word as mentioned in (A). In all the examples, the consonant *ل* the final syllable of the stem is geminated.

(C) Stems With Open Initial Syllable with a Long Vowel in, Final grapheme *ي* /i:/ + Ta Marbouta

In 28% of the data, the Arabic words have a single /y/ before the feminine suffix /-a:t/. In these examples, a singular masculine stem with a final graphemes *ي* pronounced /i:/ is changed to feminine singular by adding the feminine singular suffix (grapheme) *ة* *ta marbouta* تاء مربوطة, which has 2 allomorphs: one pronounced /t/ when vowelized in the flow of speech and the other pronounced /ah/ or just /a/ before a pause or in isolation as in all the Arabic examples in the current study. Since Arabic phonology and orthography are connected, a change in pronunciation takes place when adding the final *ta marbouta* *ة* to a masculine stem. The final long vowel in the masculine singular stem /i:/ is shortened when the glide *y* is inserted before /a:t/ as a liaison consonant, and a shift in the syllable structure takes place by which the glide forms a syllable with /-a:t/. For examples, *باقيات* /ba:qiya+a:t// remainders consists of the singular masculine stem /ba:qi:/ + /y/ as a liaison consonant + تاء مربوطة /a/ (singular feminine suffix). The final vowel /i:/ is shortened and becomes /i/ when *y* is added and it forms a final syllable with /ya:t/. Other similar examples in which a single /y/ is inserted before the feminine singular marker /a:t/ are *داقيات* /daʔiya+a:t/ female preachers;

دَارِيَات /ðā:riya+a:t/ winds; رَاسِيَات /ra:siya+a:t/ unshakable mountains حَامِيَات /ħamiya +a:t/ protectors, hot; بَاكِيات /ba:kiya+a:t/ crying.

In أمْنِيَات /umniya+a:t/ wishes; حَكَايَات /ħika:ya+a:t/ tales; آيَات /ʔa:ya+a:t/ signs, verses of the Quran; أُعْطِيَات /ʔuʔTiya+a:t/ gifts, the stems أمنية wish; حكاية tale; آية verse, sign; أَعْطِيَة gift, donation are already feminine nouns ending in /y/ + تاء مَرْبُوطَة ta marbouta pronounced /a/. In this case, the final vowel in the stem /a/ is deleted as Arabic does not allow the sequence of two vowels. No insertion of /y/ is involved as /y/ here as an integral part of each word.

In all the examples in this section, the initial syllable or the middle syllable in each stem has a long vowel.

(D) Singular Feminine Stems Ending With A Geminated yy + تاء مَرْبُوطَة

In 34% of the Arabic words in the date, the feminine plural suffix /-a:t/ is preceded by a geminated /yy/ as in أَوْلِيَات /ʔawlaiyya+a:t/ priorities; بَدِيهِيَات /badi:hiyya+a:t/ axioms; بَرْمَجِيَات /barmadzaiyya+a:t/ software; تِسْعِينِيَات /tisʕi:niyya+a:t/ nineties; رِبَاعِيَات /rubā:ʔiyya+a:t/ quartettes; رِخْوِيَات /raxawiyya+a:t/ Mollusks, moluscoïdes; سَرْدِيَات /sardiyya+a:t/ narratives; سَمْعِيَات /samʕiyya +a:t/ audio; صَدْفِيَات /Sadafiyya+a:t/ shellfish; طَفِيلِيَات /Tufayliyya+a:t/ parasites; عَظْمِيَات /ʔaðʕmiyya+a:t/ Teleostei; فُطْرِيَات /fiTriyya+a:t/ fungi; مَعْنَوِيَات /maʕawiyya+a:t/ morale(s) pl; أَثْرِيَات /ʔaθariyya+a:t/ antiquities; حَدْسِيَات /ħidsiyya+a:t/ intuitions; عُمُومِيَات /umumiyya+a:t/ generalities; مَحَلِّيَات /maħaliyya+a:t/ localities; هَوَائِيَات /hawaʕiyya +a:t/ aerals; نَقْلِيَات /naqliyya+a:t/ transportation service; مَرْبِيَات /murabbiya+a:t/ nannies; اَدْبِيَات /ʔadabiyya+a:t/ literature; فَيْرُوزِيَات /fayru:ziyya+a:t/ Fairouz collection; لُغَوِيَات /luħawiyya+a:t/ linguistics; بَصْرِيَات /baSariyya+a:t/ optics; نِيَات /niyya+a:t/ intentions.

In the above FSP forms, two explanations exist. In some words, the singular stem in a masculine adjective, ending in a geminated yy as in عُمُومِي /ʔumu:miyy/ general, public; بَدِيهِي /badi:hiyy/ axiomatic (Mas); بَرْمَجِي /barmadzaiyy/ related to software or programs; مَحَلِي /maħaliyy/ local (Mas); لُغَوِي /luħawiyy/ linguistic; لِسَانِي /lisa:niyy/ linguistic and so on. Such masculine adjectives obligatorily end in a geminated adjective-forming suffix /yy/ in Standard Arabic or a single /y/ in spoken Arabic with another underlying /y/ assumed by Arabic speakers, i.e., a double yy. In this case, the stem is pluralized by just adding the feminine plural suffix /a:/.

In the second explanation, multiple adaptations take place if we assume that stem is the singular feminine form where the grapheme ta marbouta ة (pronounced /a/ in Spoken Arabic) is added to the masculine singular adjective with a geminated yy as in عُمُومِيَة /ʔumu:miyy+a/ generality; بَدِيهِيَة /badi:hiyy+a/ axiomatic; بَرْمَجِيَة /barmadzaiyy+a / software; مَحَلِيَة /maħaliyy+a/ local; لُغَوِيَة /luħawiyy+a / related to Fairouz; لِسَانِيَة /lisa:niyy+a/ linguistic and so on. When the FSP suffix /-a:t/ is added to the feminine singular stem, the final vowel /a/ in عُمُومِيَة /ʔumu:miyya/ is deleted before the suffix /-a:t/ as Arabic does not allow the sequence of 2 vowels. The geminated yy is broken into 2 glides: one remains as part of the stem and the other combines with the suffix to form the syllable /ya:t/ as in عُمُومِيَات /ʔumu:miy+ya+a:t/ generalities with a geminated glide before the feminine plural suffix /a:t/.

It is noteworthy to say that syllable structure and vowel length in the stem play an essential role in the gemination or degemination of the glide /y/. In section (C) above, the final /ya:t/ is preceded by a long vowel /a:/ and the final /yya:t/ in words in section (D) is preceded by a short vowel. In both sets of words, the suffix /-a:t/ carries the primary stress. However, the syllable preceding the /-a:t/ in words in section (C) carries the secondary stress as the stem contains a long vowel in the initial syllable, whereas all the syllables preceding the suffix /-a:t/ in plurals in section (D) have short vowels and a weak stress.

On the contrary, جَدَارِيَات /dzida:riyya+a:t/ murals; فَعَالِيَات /faʕa:liyya+a:t/ functions; نِهَائِيَات /niha:ʔiyya+a:t/ finals; أُسَاسِيَات /ʔasa:siyya +a:t/ basics; اِقْطَاعِيَات /ʔiqʔa:ʕiyya+a:t/ fiefdoms; حُبَارِيَات /ħobariyya+a:t/ Otididae; حَذَارِيَات /ħaðariyya +a:t/ precautions; كِيمَاوِيَات /ki:mawiyya+a:t/ chemicals; اِقْتِصَادِيَات /iqtisa:diyya+a:t/ economics; اِنْسَانِيَات /ʔinsa:niyya+a:t/ humanities; رِيَاذِيَات /riyaDiyya+a:t/ mathematics; لِسَانِيَات /lisa:niyya +a:t/ linguistics have a geminated yy before the suffix /-a:t/ although they contain another long vowel in the stem, but this long vowel is in the medial syllable of the stem, whereas in plurals with a single /y/ دَاعِيَات /daʕi:ya+a:t/ female preachers; دَارِيَات /ðā:riya+a:t/ winds; رَاسِيَات /ra:siya+a:t/ unshakable mountains حَامِيَات /ħamiya +a:t/ protectors, hot; بَاكِيات /ba:kiya+a:t/ crying, the long vowel is in the initial syllable of the stem. In both sets of words, the suffix carries the primary stress, and the initial and medial syllables carry the secondary stress which means that stress may not be a factor in germinating or degeminating the glide /y/.

(E) Stems With Various Endings

In 11% of the data, the stem has different endings. In نَائِي /na:y/ flute, the stem ends in the glide y preceded by the long vowel /a:/ and the FSP suffix /-a:t/ is simply added to the stem to form نَائِيَات /na:y+a:t/ flutes.

In another example, the stem ends with the long vowel /a:/ ألف مد as ثريا. This long vowel is deleted before /-a:t/ in ثريات /θurayya+a:t/ *chandeliers* as Arabic does not allow a sequence of the same two long vowels, one in stem final position and the other in suffix initial position.

In FSP's as ماورائيات /ma:wara:ʔi/ metaphysics and برماتيات /barrma:ʔiyya+a:t/ *amphibia*, the masculine singular noun stems برماء /barrma:ʔ/ *land-water* and ما وراء /mawara:ʔ/ *beyond* end with a final glottal stop preceded by the long vowel /a:/. These are changed to masculine singular adjective by adding the grapheme ي in Arabic orthography which is pronounced as a single glide /y/ in Spoken Arabic and as a geminated glide /yy/ in Standard Arabic. To change the feminine singular adjective to FSP, the plural suffix /a:t/ is added without making any changes.

On the contrary, when the feminine plural suffix /a:/ is added to the stem مومياء /mumya:ʔ/ *mummy* which ends in ألف مد /a:/ followed by a glottal stop, the glottal stop is deleted and replaced by the glide /w/ in مومياوات /mumya+w+a:t/ *mummies* as adding the glide y as it is the case, in other words, will result in a sequence of ya: +ya: in (mu:mya:+ya:t/ is not acceptable in Arabic phonotactics.

Similarly, in changing the disyllabic singular feminine nouns وفاة & فتاة which end with the grapheme ألف مد pronounced /a:/ followed by *ta marbouta* ة. The long vowel /a:/ in the final closed syllable is shortened, the *ta marbouta* is deleted, and the glide /y/ is added as a liaison consonant before the feminine plural suffix /a:t/, which will result in فتيات /fata+y+a:t/ *girls* & وفيات wafa+y+a:t/ *deaths*. However, in the case of حياة /ħaya:t/ *life*, adding /-a:t/ to the stem will result in the plural form حيوات /ħaya+w+a:t/ in which the liaison consonant is /w/ as the consonant preceding the *ta marbouta* ة is the glide /y/, i.e., the sequence ya: +ya: in /ħa: ya: +ya:t/ is not acceptable in the Arabic phonotactics. Likewise, no y is inserted in pluralization of هامة /hama/ *head* which ends in *ta marbouta* ة. Here, the *ta marbouta* ة pronounced /a/ is deleted and the plural suffix /a:t/ is directly added to form the FSP هامات /ham+a:t/ to avoid the sequence of two vowels.

4.2 Feminine Sound Plural of Loanwords Ending in /ya:t/ and /ya:/

Results of the data analysis showed that in some loanwords from English (Eng), French (Fr), Italian (It), and Turkish (Tur), the FSP ends in a /ya:t/ or /yya:t/. The conditions under which each is used are explained below.

A.

(1) Loanwords with Stems Ending in /y/ and /o:/

In شاي /ʃaj/ *tea*, (Çay) from Turkish, the plural form is شايات /ʃa:y+a:t/ *teas* and قبيضاي kabadayi (Turk) > قبيضايات /qabaDay+a:t/ *strong-arm* are formed by directly adding the feminine plural suffix /-a:t/ to the stem without making any adaptations. This is similar to the Arabic word ناي flute & نايات /na:ya:t/ *flutes* mentioned above.

In the loanword cadeau /kado:/ *gift*, which is borrowed from French, a glide /y/ is inserted before the feminine plural suffix /-a:t/ and the final vowel /o:/ in the stem is shortened in كادويات /kado+y+a:t/ *cadeaux* (Fr) *gifts*. /y/ is inserted as a liaison consonant as Arabic does not allow the sequence of two vowels.

(2) Loanwords with Stems Ending in /ya:/

In 26% of the loanwords, the stems end in the syllable يا /ya:/ whether in the source word or in the Arabized form. In these examples, the final long vowel /a:/ is deleted before the feminine plural suffix /-a:t/ as Arabic phonotactics do not allow the sequence of two long vowels a:a: in the plural forms as in باكوريا /bakalo:rya/ > باكوريات /bakalory+a:t/ *high school diplomas*; كافيتيريا /kafiterya/ *cafeteria* > كافيتيريات /kafitir+ya:t/ *cafeterias*; بوية /bo:ya:/ > بويات /boy+a:t/ *paints*; ميليشيا /mili:ʃya/ > ميليشيات /miliʃ+ya:t/ *militias*; ميثولوجيا /miθolo:dʒya:/ > ميثولوجيات /miθolodʒ+ya:t/ *mythology* (pl); شمبانيا /ʃampa:nya/ *champagne* > شمبانيات /ʃampan+ya:t/ *champagnes*; فاميليا /fami:lya/ *famiglia* > فاميليات /famil+ya:t/ *famiglia* (It); بلهارسيا /bilha:rsya/ > بلهارسيات /bilhars+ya:t/ *belharsia* (pl); كازورينيات /kazurin+ya:t/ *Casuarina flowers*; ديموغرافيا /dimoyra:fya:/ > ديموغرافيات /dimoyraf+ya:t/ *demographics*; خواجهية /xawadʒa:ya/ *European lady* > خواجهيات /xawadʒa+ya:t/ *European ladies*; كوميديات /kumi:dya/ *comedies*; اثنولوجيا /iθnolo:dʒya/ *ethology* > اثنولوجيات /iθnolodʒ+ya:t/ *ethnologies*; تراجيديات /tradʒi:d+ya/ *tragedy* > تراجيديات /tradʒid+ya:t/ *tragedies*. In all of these loanwords, all long vowels in the initial or medial syllables of the stem are shortened, i.e., all the vowels in the stem are neutralized.

(3) Loanwords with Stems Ending in Grapheme ي Pronounced /i:/

As in the Arabic native examples in the sections above, the stem in loanwords as تاكسي /taksi:/ *taxi*, which is a noun, ends with the long vowel /i:/ which is orthographically represented by the grapheme (glide) ي. When adding the feminine plural suffix /-a:t/, Arabic speakers are assuming a geminated glide /yy/ by analogy with native Arabic words having the same stem length and same final phoneme as عمومي /ʔumu:mi/ *generality*, ادبي /ʔadabi:/ *literary*, اقتصادي /iq tiSa:di:/ *economic*, انساني /ʔinsa:ni:/ *human* and so on. In other words, the Feminine plural suffix /-a:t/ is added to the loan stem, whereby the result is تاكسيات /taksi:y+ya:t/ (*Taxis*) as in similar Arabic native plural words in section (D). This process is applied to 44% of the loanwords in the sample as the stem

ends in the grapheme ي that is pronounced /i:y/ + an underlying geminate /yy/ after which the feminine plural suffix /a:t/ is added as in سيديات /si:di:yy+a:t/ CD's; سيلفيات selfies /selfiyy+a:t/; فلوبيات /flobiyy+a:t/ floppy disks; كناريات /kana:riyy+a:t/ canaries; انميات /animiyy+a:t/ Animes; ايموجيات /imo:dziyy+a:t/ Emojis; بارتيات /partiyy+a:t/ parties; بروكسيات /proksiyy+a:t/ proxy; بيبسيات /pepsiyy+a:t/ Pepsi(s); بيوتيات /byu:tiyy+a:t/ beauté; تروليات /trolliyy+a:t/ trolley; توفيات /to:fiyy+a:t/ toffee (Eng); جوانتيات /gwantiyy+a:t/ guanti (It); جاكوزيات /dza:ku:ziyy+a:t/ jacuzzi; ديفديات /di:vi:diyy+a:t/ DVD's; راليات /ra:liyy+a:t/ rallies; ستوريات /sto:riyy+a:t/ story; سوشيات /su:fiyy+a:t/ Sushi; غالريات /galariyy+a:t/ galleries; غانديات /gandiyy+a:t/ Ghandis; كروكيات /kru:kiyy+a:t/ croquis (Fr); لوبيات /lu:biyy+a:t/ lobbies; لوريات /lu:riyy+a:t/ Lorries; كاكيات /ka:kiy+ya:t/ khaki (urdu), kaki (It); مارشيات /marjeiyy+a:t/ marches (Fr); روتينيات /ru:ti:niyy+a:t/ routines.

In راديكاليات /radikaliyy+a:t/ radical; ماكسيات /ma:ksiyy+a:t/ long dress; لوجستيات /lu:dzi:siyy+a:t/ logistics; كلاسيكيات /kla:si:kiyy+a:t/ classics; باربيات /ba:rbi:yy+a:t/ Barbies; سمفونيات /simfo:ni:yy+a:t/ symphonies and others, where the stem is a singular feminine noun/adjective that ends with a geminated yy (according to Standard Arabic) followed by the grapheme *ta marbouta* ة which is pronounced /a/ as in the Arabic native examples in section (D). The second explanation applies to the loanwords herein. The final vowel of the stem /a/ is deleted when the feminine plural suffix /a:t/ is added as Arabic does not allow the sequence of two vowels.

(4) Loanwords with Stems Ending in a geminated /yy/ Only or /yy/ + Final Ta Marbouta Pronounced /a/

In 30% of the loanwords in the data, the stems is a feminine singular noun or adjective that ends in a geminated glide yy followed by the grapheme *ta marbouta* ة which is pronounced /a/ as in the nouns بطاريات /baTTariyya+a:t/ batteries; بوبيات /bubiyya+a:t/ pupees (Fr) روبيات /rubbiyya+a:t/ rupees; مكرميات /makramiyya+a:t/ Macrame (Fr); ميداليات (from the Arabized singular ميدالية) /mida:liyya+a:t/ medals; تكيات /takkiyya+a:t/ tekiyye (Turkish) where the grapheme ية (phoneme /yya/) is original in those words. In this case, the vowel /a/ is deleted when the feminine plural suffix is added to the word to avoid the sequence of two vowels.

Similarly the process of pluralizing loanwords as ابرشيات /abrafiyya+a:t/ Parish (Gr); اريستقراطيات /aritoqra:Tiyya+a:t/ aristocracies; استراتيجيات /istra:ti:dziyya+a:t/ strategies; اكاديميات /akadi:miyya+a:t/ academies; بوهيمييات /bu:helmiyya+a:t/ (bohemian (pl adj); ديموقراطيات /di:muqra:Tiyya+a:t/ democracies; ديناميات /di:na:miyya+a:t/ dynamics; رومانسيات /rumansiyya+a:t/ romances; فيدراليات /fidira:liyya+a:t/ federal states; كاتدرائيات كاتدرائية /katidra:fiyya+a:t/ cathedrals; ايديولوجيات /idyolo:dziyya+a:t/ ideologies; ديناميكيات /dinamikiyya+a:t/ dynamics; بيبليوغرافيات /bibliogra:fiyya+a:t/ bibliographies; تكنولوجيات /tiknilo:dziyya+a:t/ technologies; بيروقراطيات /bi:ruqraTiyya+a:t/ bureaucracies can be explained in two ways with relation to the stem to which the feminine plural suffix is attached. The first explanation assumes that the stem is a masculine singular adjective ending in the geminate glide ي /yy/, similar to that of Arabic native words mentioned in Section (D). These loanwords are pluralized by just adding the feminine plural suffix /a:t/. The second explanation assumes that the stem is a feminine noun or adjective ending in a geminate glide /yy/ followed by the grapheme *ta marbouta* ة which is pronounced /a/. When such loanwords are pluralized, the final vowel /a/ is deleted before the suffix /a:t/ because Arabic does not allow a sequence of two vowels.

5. Discussion and Conclusion

The current study compared Feminine Sound Plurals ending /ya:t/ and /yya:t/ in native and loanwords in Arabic. Results showed that Arabic speakers pluralize native and loanwords Arabic language pluralization rules. When stems are nouns ending with the glide /y/ which is an integral part of the word as in قباياي *strong arm* & ناي *flute*, the feminine plural suffix /-a:t/ is directly added to the stem without making any adaptations as in نايات /na:ya:t/ flutes & kabadayi (Turkish) > قباياي /qabaDay+a:t/ *strong-arm*. In native words with a stem ending in the graphemes ي or ي pronounced /a:/ and /i:/, the vowel is shortened and the glide /y/ is inserted as a liaison consonant in between the final vowel of the stem and the initial vowel in the suffix as in تمنيات /tamaniya:t/ wishes; مديات /madayat/ ranges. A single /y/ also appears in native words with feminine singular stems with an initial open syllable with a long vowel and a final /i:/ as in باقيات /ba:qiya:t/ remainders, lasting; باكيات /ba:kiya:t/ crying) by inserting the glide y as a liaison consonant, shortening the final vowel in the stem before the suffix /a:y/. The same applies to loanwords in this category. When the loan stem ends in the syllable يا /ya:/, and the middle syllable has a long vowel, the final long vowel /a/ is deleted before the suffix /-a:t/ as Arabic phonotactics do not allow a sequence of two long vowels as in بكالوريا /bakaloriya/ > بكالوريات /bakaloriya+a:t/ high school diplomas. However, in Feminine Sound Plurals of native words as ادبيات /?adabiyy+a:t/ literature; برمجات /barmadziyy+a:t/ software) and loanwords as سيديات /si:di:yy+a:t/ CD's; سيلفيات selfies /selfiyy+a:t/; باربيات /ba:rbi:ya:t/ Barbies; سمفونيات /simfo:ni: +y+a:t/ symphonies, there are two explanation for the geminate /yya:t/. In one explanation, the stem is a masculine singular adjective ending in a geminated glide (yy). Here, the plural suffix /a:t/ is added directly and the vowel preceding the geminate yy is shortened in the plural form. The second explanation assumes that the stem is a feminine singular noun or adjective stem ending in the final grapheme *ta marbouta* ة pronounced /a/ which is deleted before the suffix /a:t/ as the Arabic phonotactics do not allow a sequence of two vowels.

It is noteworthy to say that Arabic speakers form plurals by analogy. Some Feminine Sound Plurals of loanwords (ستوريات /sto:riyy+a:t/ *story*; سوشييات /su:fiyy+a:t/ *Sushi*; غالريات /galariyy+a:t/ *galleries*; غانديات /yandiyy+a:t/ *Ghandis*; كروكيات /kru:kiyy+a:t/ *croquis (Fr)*; لوبيات /lu:biyy+a:t/ *lobbies*; لوريات /lu:riyy+a:t/ *Lorries*) rhyme with Feminine Sound Plurals of some native Arabic words as اجتماعيات /ʔidʒtima:ʔiyya+a:t/ *social studies*; كيماويات /ki:mawiyya+a:t/ *chemicals*; اقتصاديات /iqtisadiyya+a:t/ *economics*; انسانيات /ʔinsa:niyya+a:t/ *humanities*; رياضيات /riya:diyya+a:t/ *mathematics*; لسانيات /lisa:niyya+a:t/ *linguistics*. The native Arabic plural words and the pluralized loanwords have the same length and the same syllable structure (Al-Jarf, 1994b; Al-Jarf, 1994).

These findings are consistent with findings of prior studies in the Arabic literature such as Mushait & Al-Athwary (2020) who indicated that the final vowel of the singular noun stem and the long vowel /a:/ of the feminine plural suffix require the insertion of a /y/ as the occurrence of a two-vowel sequence is not allowed in Arabic phonology. No other explanations were given by Mushait & Al-Athwary. By comparison, this study gave 5 explanations that were mentioned above.

Moreover, when adding /y+a:t/ or /yy+a:t/ in the Feminine Sound Plural of loanwords in Arabi, Arabic speakers are following the phonotactics of the Arabic language. In this respect Saiegh-Haddad, Hadieh and Ravid (2012) indicated that the Feminine Sound Plural formation of loanwords is affected by familiarity with the singular noun stem. Hamdi (2017) emphasized that speakers follow a form that is standardized by Modern Standard Arabic or that enforces another form following their dialects and community conventions. Consistency in assigning numbers and gender to loanwords by applying native patterns motivated by frequency of use and the semantics of the referents.

Adult Arabic speakers and even children pluralize words intuitively, spontaneously and automatically. They follow a form that is standardized by Standard Arabic or enforce another form following their local Arabic dialects. There is consistency in assigning number and gender to loanwords by applying native patterns motivated by the frequency of use and the semantics of the referents (Hamdi, 2017). Al-Saidat (2011) added that English words undergo changes when used as loanwords in Jordanian Arabic so that they do not violate the phonological and morphological systems of Jordanian Arabic. Thus, all processes of duality and pluralisation are not foreign ones. The native language phonology and morphology play the role of the governor. The English language number system is abandoned as not examples of English plural marker were found in the data. This means that, English loanwords in Jordanian Arabic can be considered as borrowed items rather than codeswitches as they follow the Arabic language phonological and morphological systems rather than the English system.

To help language, linguistics and translation students of all levels find the plural form of loanwords borrowed in Arabic, this study recommends that a monolingual and/or bilingual plural dictionary be compiled to show students which loanwords have a plural form, which ones have no plural and which ones have multiple plurals together with their meanings. The loanword plural dictionary can be online or in the form of an app. The students can also compile their own categorized glossaries of loanword plurals in Arabic, Arabic Feminine Sound Plurals and English Plurals for comparison purposes. Student translators may be receive training in translating foreign plurals and substituting them by native Arabic words and plurals (Al-Jarf, 2022b; Al-Jarf, 2020a; Al Jarf, 2014; Al-Jarf, 2022a; Al-Jarf, 2006).

Finally, other aspects of loanword morphology in comparison with native Arabic word morphology with respect to plural formation such as geminating the final consonant of the stem when adding the Arabic Feminine Plural suffix /-a:t/ to loan nouns and adjectives as in كلييات /kippa:t/ *clips* and بلوجات /blogga:t/ *blogs* have not been fully explored yet. In addition, studies that show how Arabic loanwords borrowed in other languages are adapted morphologically as in English, Spanish, French, Farsi, Turkish, Bahasa, Urdu and others and whether they retain their Arabic inflectional endings or not are still open for further investigation by future studies (Al-Jarf, 2009; Al-Jarf, 2021).

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